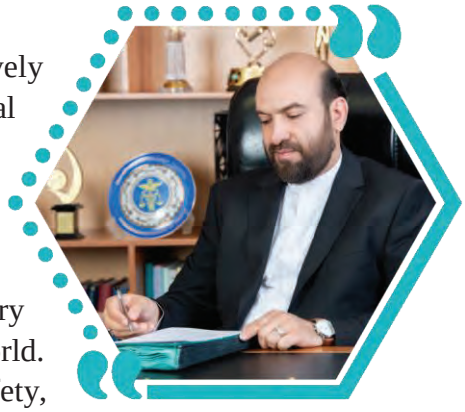
ریاست جمهوری

سازمان ملی استاندارد ایران

WIDELY USED NATIONAL STANDARDS OF I.R.IRAN IN CROSS-BORDER TRADE

In The Name of God

Introduction



Standards are developed inclusively and consensually to set technical specifications and quality criteria for goods and services. As validated commercial documents, standards provide requirements for creating a safe and non-discriminatory market for manufacturers in the world. Along with public health and safety, national standards are the vital safe infrastructure.

The standardization system of Iran National Standards Organization (INSO) utilizes various references for developing national standards including the findings of research studies, the adopted international standards such as ISO, IEC, OIML, CODEX, and the standards of the other reputable and recognized Standard Developing Organizations. In this regard, the Deputy Department for Development and Promotion of Standards take the measure for translating the scope, and tables of technical specifications of the feature-based standards into the official language of the international standardization i.e. English as per the policies of INSO for facilitating trade activities of merchants around the world amid helping the implementation of standards in their commercial exchanges with the Islamic Republic of Iran. Accordingly, through a simple subject search, the national standards and technical specifications of the products are available to the users and merchants.

This booklet includes the scope and technical specifications of 124 standards pertaining to the frequently traded products and services. It is hoped that the course will lead to flourishing the commercial exchanges aligned with achieving the goals of a powerful Iran.

Dr. Mahdi Eslampanah
President of the INSO

Widely Used National Standards of I.R.IRAN in Cross-Border Trade

Contents

INSO 6849:2003

Animal feeding stuffs - Citrus pulp - Specifications and test methods

Scope

This standard specifies physical and chemical, sampling, packaging, labelling requirements and, test methods for storage of citrus pulp.

Specifications and test methods

No.	Specifications	Limite(S)	Test Method(s)
1	Crude fiber	Max 20	INSO3718
2	Crude protein	Max 6	INSO 10703-1
3	Crude fat	Max 3	INSO3718
4	Moisture	max 12	INSO 321
5	Total ash	Max 20	INSO 232
6	ADF (acid insoluble fiber))	Max 20	INSO 520
7	NDF (insoluble fiber in neutral detergent)	Max 24	INSO 520
8	Calcium	Max 3	INSO 571

INSO 2513:2010

Animal feeding stuffs – Di calcium phosphate - Specifications and test methods

Scope

This standard specifies physical, chemical, sampling, packaging and labelling requirements and, test methods for Di calcium phosphate, intended for livestock, poultry and aquatic feed.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Moisture	Max 3	INSO 8784
2	Acid insoluble ash	Max 1/5	INSO 11485
3	Calcium	Min 21 Max25	INSO 2513
4	Total phosphorus	Min 17	INSO 513
5	Soluble Phosphorus in Citric acid	Min 85 by total phosphorus	INSO 11485
6	soluble phosphorus in Alkaline ammonium	Min 85 total phosphorus	INSO 8784
7	Fluorine	1800 mg/kg	INSO 8924
8	pH	Min 4 Max 7	INSO 8784
9	Urea and non-protein nitrogen	free	INSO 8784

INSO 5718:2016

Animal feeding stuffs - Limeston - Specifications and Test methods

Scope

This standard specifies physical and chemical requirements and test methods for limestone used in poultry and aquatic feed.

Specifications and test methods

No.	Specifications	Limit(s)				Test method(s)
1	Classification of limestone	Min ca ($caco_3$)	Max mg ($Mgco_{3)}$	Min mg ($Mgco_3$)	Max moisture	INSO 5718
2	Calcium	95	5	--	0.5	INSO 4736
3	Magnesium	60	35_a	5	0.5	INSO 4736
4	Dolomite	49	46_a	35	0.5	INSO 4736
a:The high amount of magnesium in this substance limits its use in some foods.						

INSO 1445:2018

Animal feeding stuffs - Maize grain - Specification test methods

Scope

This standard determines the specifications, test methods, methods of sampling, packaging and labelling of maize grain .

This standard applies to packaged or not packaged maize grain, intended for livestock, poultry and aquatic feed

Specifications and test methods

Acceptable limits of physical specifications

No.	Specifications	Limit(s)	Test method(s)
1	Bulk density	min60 kg per hectolitre	INSO 1445
2	Broken kernels	Max 10 grams per 100 grams	INSO 1445
3	damaged kernels	max10grams per 100 grams	INSO 1445
4	foreign matters	max3grams per 100 grams	INSO 1445
5	other grains	max2 grams per 100 grams	INSO 1445
6	total defects	max15 grams per 100 grams	INSO 1445

Acceptable limits of chemical specifications

No.	Specifications	Limit(s)	Test method(s)
1	Moisture	Max 14	INSO 321
2	Total Ash	Max 1/5	INSO 414
3	Insoluble ash	Min 0/1	INSO 11485
4	Crude fiber	Max2/7	INSO 520

INSO 800:2015

Animal feeding stuffs - Soybean meal - Specifications and test methods

Scope

This standard specifies physical, chemical and microbial, sampling, packaging and labelling requirements and test methods for soybean meal.

Specifications and test methods

No.	Specifications	Limit(s)		Test method(s)
		With hull	without hull	
1	Crude fiber(weight percentage)	3/5-7	Max3/5	INSO 520
2	Crude protein(weight percentage)	Min42	Min46	INSO 10703-1
3	Crude fat(weight percentage)	0/5-3/5	0/5-1/5	INSO 415-1
4	Moisture(weight percentage)	Max 12		INSO 321
5	Whole ash(weight percentage)	Max 7		INSO 11143
6	insoluble ash in acid(weight percentage)	Max 1		INSO 11485
7	Urease activity(unit increase PH)	0/05-0/3		INSO 3896

INSO 2342:2016

Animal feeding stuffs - Wheat bran - Specifications and test methods

Scope

This standard specifies physical, chemical and microbial, sampling, packaging and labelling requirements and test methods for wheat bran (for livestock, poultry and aquatic feeding).

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Crude fiber (%)	Max 11	INSO 520
2	Crude protein[a](%)	Min 13	INSO19052
4	Moisture (%)	Max 12	INSO 2705
5	Total ash (%)	Max 6.2	INSO 2706
6	Acid insoluble ash (%)	Max 0.2	INSO 37
7	Insects, pests and animal excrements	free	INSO 2342
8	Visible signs of mold	free	INSO 2342
9	Color	Cream until light brown	INSO 2342
10	Odour	Natural	INSO 2342
11	Abnormal odor	Free	INSO 2342
12	Appearance	Rough and without lumps/plate	INSO 2342
13	Extraneous matters	Free	INSO 2342
14	a: Kjeldal coefficient is 6.25.		

INSO 6275:2016

Animal feeding stuffs – Zeolite - Specifications and test methods

Scope

This standard specifies the production method, physical, chemical and biological specifications, requirements for sampling, labelling, packaging and storage conditions and test methods for zeolite used in livestock, poultry and aquatic feed as a mineral supplement.

Specifications and test methods

No.	Specifications		Limit(s)	Test method(s)
1	Color and odor		White to light green odorless	INSO 6275
2	Particle size	calf	Less than 50 µm	INSO 6275
		poultry	1- 2.5 millimeter	
		Other animal	Less than 1 millimeter	
		aquatic	Less than 50 µm	
3	Density		0.9- 1.15 kg/m^3	INSO 6275
4	Impurity		Less than 15%	INSO 6275

INSO 2577:2007

Baker's yeast – Specification and test methods

Scope

This standard specifies sampling, packaging, labelling requirements and test methods for all kinds of Baker's yeast which are used in producing flat, semi voluminous and voluminous bread, cakes and cookies.

Specifications and test methods

No.	Specifications	Limit (s)			Test method(s)
		Compressed yeast/ fresh yeast	Active dried yeast	Instant active dried yeast	
1	Moisture (%)	65-75	6-9	3-6	INSO 2577
2	Dispersibility in water	acceptable	acceptable	acceptable	INSO 2577
3	Min. Co_2 production capacity (ml)	350	250	300	INSO 2577
4	Min. dough raising capacity (% of initial volume)	145	110	135	INSO 2577
5	Max. total ash (% , on dry matter base)	7.5	7.5	7.5	INSO 2577
6	pH	4.5-6.5	4.5-6.5	4.5-6.5	INSO 2577

INSO 37:2019

Biscuit - Specifications and test methods

Scope

This standard determines the physical, chemical, microbial properties, sampling, test methods, packaging and marking of all types of packaged biscuits.

This standard specifies to all types of biscuits (according to paragraph 3) that are prepared and packaged in production units and by industrial methods, ready to use.

Specifications and test methods

No.	Specifications	Limit(s)								Test method(s)
		Flavoured	Sandwich / Creamy	Cocoa	Filled	Coated	Whole wheat	Free sugar	No added sugar	
1	Moisture (%)	Max4.5	Max 10	Max 10	Max 10	Max 10	Max 7	Max4.5	Max4.5	INSO 2705
2	pH	Max 7.8	Max 7.8	Max 7.8	Max 7.8	Max 7.8	Max 7.8	Max 7.8	Max 7.8	INSO 37
3	Peroxide (%)	Max 2	Max 2	Max 2	Max 2	Max 2	Max 2	Max 2	Max 2	INSO 37
4	Krise	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	INSO 37
5	Acidity (%)	Max 0.6	Max 0.6	Max 0.6	Max 0.6	Max 0.6	Max 0.6	Max 0.6	Max 0.6	INSO 37
6	Total sugar (%)	Max 23	Max 35	Max 35	Max 35	Max 35	Max 23	Max 0.5	Max 4	INSO 37
7	Acid insoluble ash (%)	Max 0.05	Max 0.05	Max 0.05	Max 0.05	Max 0.05	Max 0.05	Max 0.05	Max 0.05	INSO 37
8	Trans fatty acid (%)	According to INSO 156-1								
9	Additive color	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative	INSO 2634
10	Fat (%)	Max 22	Max 22	Max 22	Max 22	Max 22	Max 22	Max 22	Max 22	INSO 37
11	Fiber (%)	-	-	-	-	-	Min 2	-	-	INSO 3105
12	Broken pieces(%)	Max 10	Max 10	Max 10	Max 10	Max 10	Max 10	Max 10	Max 10	INSO 37

INSO 12505-1:2016

Bitumen and bituminous materials - Penetration-graded asphalt cement-Specification

Scope

1-1 This standard covers asphalt binder for use in the road construction.

NOTE-The use of asphalt cement based on the degree of penetration while complying with the requirements of relevant standards in other industries is unrestricted.

2-1 This standard describes the characteristics of asphalt cement, which is classified according to the degree of penetration according to Tables 1 and 2.

NOTE - For asphalt binders graded by viscosity at 60°C, see Specification INSO 12505-2. For performance-graded asphalt binder, see SpecificationINSO 12505-3.

Table1-Specifications of Asphalt Cement classified by degree of penetration

Equipment	Test method	Penetration									
		40-50		60-70		85-100		120-150		200-300	
		Min	Max	Min	Max	Min	Max	Min	Maxi	Min	Max
Penetration at 25°C, 100 g, 5 s	INSO2950	40	50	60	70	85	100	120	150	200	300
Softening Point, °C	INSO3868	49	-	46	-	42	-	38	-	32	-
Flash point, °C (Cleveland open cup)	INSO1175	230	-	230	-	230	-	220	-	175	-
Ductility at 25°C], 5 cm/min, cm	INSO3866	100	-	100	-	100	-	100	-	100	-
Solubility, %	INSO2953	99.0	-	99.0	-	99.0	-	99.0	-	99.0	-
Density $25^0C/25^0C$	INSO3872	To be reported		To be reported		To be reported		To be reported		To be reported	
Retained penetration after thin-film oven test, %	INSO2950	55	-	52	-	47	-	37	-	37	-
Ductility at 25°C], 5 cm/min, cm after thin-film oven test	INSO3866	-	-	50	-	75	-	100	-	100	-

Equipment	Test method	Penetration									
		40-50		60-70		85-100		120-150		200-300	
		Min	Max	Min	Max	Min	Max	Min	Maxi	Min	Max
Change of mass	INSO2957	-	0.8	-	0.8	-	1.0	-	1.3	-	1.5
Stain test:											
Standard Naphtha solvent	INSO2949	Negative for all bitumens									
Xylene solvent - naphtha, % xylene	INSO2949	Negative for all bitumens									
Xylene solvent - heptane, xylene %	INSO2949	Negative for all bitumens									

A-if ductility at 25°C [77°F] is less than 100 cm, material will be accepted if ductility at 15°C [60°F] is 100 cm minimum at the pull rate of 5 cm/min.
B- Solubility in N- propyl bromide can be used as an alternative to solubility in trichloroethylene.
C-Mass change can be positive or negative.

Table2-Specifications of Asphalt Cement classified by degree of penetration

Equipment	Test method	Penetration															
		20-30		30-40		35-50		40-60		50-70		70-100		100-150		160-220	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
Penetration at 25°C, 100 g, 5 s	INSO 2950	20	30	30	40	35	50	40	60	50	70	70	100	100	150	160	220
Softening Point, °C	INSO 3868	55	63	52	60	50	58	48	56	46	54	43	51	39	47	35	43
Flash point, °C	INSO 1175	240≤		240≤		240≤		230≤		230≤		230≤		230≤		220≤	
Solubility, %	EN 12592	99.0≤		99.0≤		99.0≤		99.0≤		99.0≤		99.0≤		99.0≤		99.0≤	
Density $25^0C/25^0C$	INSO 3872	To be reported		To be reported		To be reported		To be reported		To be reported		To be reported		To be reported		To be reported	
Penetration,%	EN 12607-1	55≤		53≤		53≤		50≤		50≤		46≤		43≤		37≤	
		8≥ OR 10≥		8≥ OR 11≥		8≥ OR 11≥		8≥ OR 11≥		8≥ OR 11≥		8≥ OR 11≥		8≥ OR 12≥		8≥ OR 12≥	
Change of mass ,%		0.5≥		0.5≥		0.5≥		0.5≥		0.5≥		0.8≥		0.8≥		1.0≥	
Penetration index	EN 12607-1	NR or +0.7 to -1.5		NR or +0.7 to -1.5		NR or +0.7 to -1.5		NR or +0.7 to -1.5		NR or +0.7 to -1.5		NR or +0.7 to -1.5		NR or +0.7 to -1.5		NR or +0.7 to -1.5	
Fraass	INSO 3867	NR		-5≥ or NR		-5≥ or NR		-7≥ or NR		-8≥ or NR		-10≥ or NR		-12≥ or NR		-15≥ or NR	

Table2-Specifications of Asphalt Cement classified by degree of penetration

Equipment	Test method	Penetration							
		250-330		330-430		500-650		650-900	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
Penetration at 25^{0C}or$15^{0}C$	INSO 2950	250	330	-	-	-	-	-	-
	EN1426	70	130	90	170	140	260	180	360
Viscosity ratio at $60^{0}C$ or Softening point	EN12596	18≤		12≤		7.0≤		4.5≤	
	INSO3868	30	38	-		-		-	
Flash point	EN ISO 2719	180≤		180≤		180≤		180≤	
Solubility	EN12592	99.0≤		99.0≤		99.0≤		99.0≤	
Density $25^{0}C/25^{0}C$	INSO 3872	To be reported		To be reported		To be reported		To be reported	
Viscosity ratio at $60^{0}C$ or Increase in softening point	EN 12607-1	4.0≥		4.0≥		4.0≥		4.0≥	
		11≥		-		-		-	
Change of mass (absolute value)		1.0≥		1.0≥		1.5≥		1.5≥	

INSO 13964:2010

Black caraway and blond caraway (*Carum carvi Linnaeus*), whole- Specifications and test methods

Scope

This standard specifies the quality characteristics of the whole fruit of black cumin and the light fruit of the genus *Carum carvi Linnaeus*, which are biennial and annual plants, respectively (whole fruit of the genus *Bulbocastanum* is excluded).

Specifications and test methods

No.	Specifications for annual bright yellow cumin	Limit(s)	Test method(s)
1	moisture	Max 12%	INSO 1196
2	Total ash	Max 9%	INSO 1197
3	Insoluble ashes in acid	Max 2%	INSO 1253
4	Volatile oil	Min 1.3% ml/100gr	INSO 1818
5	Extraneous matters	1 m/m	INSO 1818

No.	Specifications for biennial black cumin	Limit(s)	Test method(s)
1	moisture	Max 13%	INSO 1196
2	Total ash	Max 8%	INSO 1197
3	Acid insoluble ash	Max 1.5%	INSO 1253
4	Volatile oil	Min 2.5 ml/100gr	INSO 1818
5	Extraneous matters	1 m/m	INSO 1818

INSO 623:2014

Black tea - Specifications and test methods

Scope

This standard specifies to black tea that is not decaffeinated

NOTE 1- This standard does not apply to aromatic black tea.

NOTE 2- For aromatic tea, refer to INSO 17226.

Specifications and test methods

TABLE 1- Physical properties of black tea cultivars

No.	Specifications	Limit(s)	Test method(s)
1	Appearance of dry tea (view)	Orthodox tea:Uniform, sophisticated and clean Ctc tea :Uniform, sophisticated and clean	INSO 5608
2	Color of dry tea particles	Orthodox tea: black or grayish black Ctc tea: black or brownish black	INSO 5608
3	foreign material	Without any foreign materials	INSO 5608
4	Unwanted set of components (odor-damper-thick blade-unconventional stem) based on weight (in percent)	Maximum 1	INSO 5608
5	Deficiencies (mold)	Without any signs of mold	INSO 5608

TABLE 2- Sensory properties of black tea drink

No.	Specifications	Limit(s)	Test method(s)
1	Tea drink color	Red and clear	INSO 5608
2	The color of the pulp	Messi to light green	INSO 5608
3	The scent of pulp	No additive fragrance and has a natural aroma of tea	INSO 5608
4	The taste of soda	Tasteless, old, burnt, moldy, sour, smelly and rot	INSO 5608

TABLE 3- Chemical properties

No.	Specifications	Limit(s) (Mass percentage)	Test method(s)
1	Humidity	3-8	INSO 3276
2	Whole ash	4-8	INSO 3273
3	Water-soluble ash compared to total ash	Minimum 45	INSO 3275
4	Unsolvent ashes in acid	Maximum 0.6	INSO 3278
5	Alkalinity of water soluble ash in terms of KOH	1-3	INSO 3274
6	Aqueous extract: 1-Pure domestic tea 2-Pure foreign tea and mixed 3-Domestic tea-foreign tea	Minimum 30 Minimum 32 Minimum 32	INSO 3320

No.	Specifications	Limit(s) (Mass percentage)	Test method(s)
7	Crude fiber	Maximum 16.5	INSO 3394
8	Caffeine	Minimum 2	INSO 3393/10244
9	Total polyphenols	Minimum 9	INSO 8986-1

NOTE 1- All numbers given in the acceptable column are based on dried tea at a temperature of 103±2 degrees Celsius in accordance with Iranian National Standard No. 3276.

NOTE 2- If the alkalinity of water-soluble ash is measured in millimoles of potassium hydroxide KOH per 100 g of dry sample, the acceptable limit is 17.8-53.6.

NOTE 3- Measurement of total polyphenols (row 9) is not required at this time.

TABLE 4 -Metal contaminants in black tea

No.	Specifications	Limit(s)	Test method(s)
1	Arsenic	Minimum 0.15	INSO 9215
2	Mercury	Minimum 0.02	INSO 6123
3	Lead	Minimum 1	INSO 9266
4	Cadmium	Minimum 0.1	INSO 9266
5	Copper	Minimum 50	INSO 9266

INSO 116:2016

Canned pickled cucumbers – Specifications and test methods

Scope

This standard specifies the quality characteristic, grading, sampling, packaging and labelling requirements and test methods for pickled cucumber.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	fullness	Max 90%	INSO 116
2	Acidity	Max 1%	INSO 116
3	Extraneous matters	Negative	INSO 116
4	Salt	Max 5%	INSO 116
5	pH	Max 4.3%	INSO 116
6	Benzoic acid	Negative	INSO 116
7	Drainage weight	Min 4.8%	INSO 116

INSO 761:2016

Canned tomato paste – Specifications and test methods

Scope

This standard specifies physical, chemical, contaminant and microbiological, sampling, packaging and labelling requirements and testing methods for canned tomato paste.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Fullness	Max 90%	INSO 761
2	Acid insoluble ash	Max 0.3 %	INSO 761
3	Brix	Min 25%	INSO 761
4	Salt	Max1.5%	INSO 761
5	pH	Max 4.3%	INSO 761
6	broken seeds(number)	Max10 %	INSO 761
7	Benzoic acid	Negative	INSO 761

INSO 2870:2018

Canned tuna fish in oil - Specifications and test methods

Scope

This standard specifies the quality characteristic, sampling packaging, labelling requirements and test methods for canned fish packed in oil.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Net weight	According to the label	INSO 2870
2	Drainage weight	Min70%	INSO 2870
3	Salt	Max 1.5%	INSO 2870
4	oil	Min14%	INSO 2870
5	pH	4.6- 6.5	INSO 2870
6	Peroxide in extracted fat	Max 2 %	INSO 2870
7	Histamine	Max 10mg/100	INSO 2870

INSO 10749:2020

Canned tuna fish with mushrooms – Specifications and test methods

Scope

This standard specifies the quality characteristic, sampling, packaging and labelling requirements and test methods for canned tuna fish with mushroom (in oil, brine or ketchup).

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Net weight	According to the label	INSO 10749
2	fish drainage weight	Min 55%	INSO 10749
3	Salt	Max 1.5%	INSO 10749
4	oil	Min 14%	INSO 10749
5	pH	4.6-6.5	INSO 10749
6	Peroxide in extracted fat	Max 5 %	INSO 10749
7	Histamine	Max 10mg/100	INSO 10749
8	Liquid Phase	Max 30%	INSO 10749
9	Mushroom drainage weight	Min 15%	INSO 10749

INSO 10770:2006

Canned tuna or istiophorus (sail and marlin fish) salad – Specifications and test methods

Scope

This standard specifies chemical, microbial, sampling, packaging and labelling requirements and test methods for canned tuna or istiophorus (sail and marlin fish) salad.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Net weight	According to the label	INSO 10749
2	Drainage weight	Min 80%	INSO 10770
3	Drainage weight of meat	Min 70%	INSO 10749
4	Vegetable	Min 30%	INSO 10749
5	Vegetable texture	Acceptable	INSO 10749
6	Chopped vegetables	Max.5%	INSO 10749
7	Salt	Max1.5%	INSO 10749
8	oil	Min 6-8%	INSO 10749
9	pH	4.6-6.5	INSO 10749
10	Peroxide in extracted fat	Max2 %	INSO 10749
11	Histamine	Max 10mg/100	INSO 10749

INSO 2344:2002

Cheese - General specification

Scope

This standard determines general specifications, packaging, labelling and sampling of cheese consumed directly by human or applied as raw material for further processing.

This standard is applicable for different types of packed cheese.

Specifications of each type of cheese are determined in specific standards.

This standard is not applicable for cheese produced from whey and processed cheese.

The moisture content of cheese based on non fat cheese weight

Type	Moisture (%)	Test Method
Extra hard	<51	INSO 1753 INSO 2344
Hard	51-56	
Semi hard	56-69	
Soft	≧69	

The fat based on dry matter

Type	Moisture (%)	Test Method
Doubled fat	>60	INSO 760 INSO 2344
Full fat	45-60	
Semi fat	25-45	
low fat	10-25	
Without fat	≤10	

INSO 608:2017

Chocolate - Specifications and test methods

Scope

This standard specifies physicochemical, microbiology, sampling, test methods, packaging, and marking of kinds of packaged chocolate. This standard based on definitions of section 4 (terms and definitions), subsections 3-1 to 3-10, which in production units of Iran, based on industry procedure, without adding material, except specified materials in the subsection 5-3 of this standard, which are prepared and packaged as ready, can be applied.

Note - All kinds of chocolate can be applied for consuming in food industry.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Lecithin	GMP	INSO 3567
2	Mono and di-glycerides of edible fatty acids	GMP	INSO 14661
3	Glycerol	GMP	ISO 11311
4	Ammonium salts of phosphatidic acids	GMP	INSO 20918
5	Polyglycerol polyricinoleate	GMP	INSO 608
6	Sorbitan monostearate	GMP	INSO 608
7	Sorbitan tristearate	GMP	INSO 608
8	Polyoxyethylene (20) sorbitan monostearate	GMP	INSO 608
9	Gum Arabic (acacia gum)	GMP	INSO 3616
10	Pectin	GMP	INSO 3624
11	Beewax (White and Yellow)	GMP	INSO 20919
12	Candelilla wax	GMP	INSO 20917
13	Shellac	GMP	ISO 56-1,2
14	Carnouba wax	GMP	INSO 4382
15	Ascorbyl palmitate	GMP	INSO 21111
16	Tertiary butylhydroquine	GMP	INSO 21111
17	Butylated hydroxytoluene (BHT)	GMP	INSO 21111

No.	Specifications		Limit(s)	Test method(s)
18	Butylated hydroxyanisole (BHA)		GMP	INSO 21111
20	Propylgalate		GMP	INSO 21111
21	Alpha-tocopherol		GMP	INSO 13670
22	Acesulfame K		GMP	INSO 14477
23	Sorbitol		GMP	INSO 14664
24	Mannitol		GMP	INSO 14663
25	Maltitol		GMP	INSO 14731
26	Lactitol		GMP	INSO 14886
27	Xylitol		GMP	INSO 14730
28	Socralose		GMP	INSO 14667
29	Estevioside		GMP	INSO 14555
30	Moisture (w%)	plain chocolate	Maximum (2)	INSO 11976-1,2,3
		Milk chocolate	Maximum (2)	
		Semi – bitter chocolate	Maximum (2)	
		Dark chocolate	Maximum (2)	
		Couverture chocolate	Maximum (2)	
		Composite chocolate	Maximum (2)	
		Dragee chocolate	Maximum (2)	
		White chocolate	Maximum (2)	
31	Peroxide value meqO_2/kg)	plain chocolate	Maximum (2)	INSO 4179
		Milk chocolate	Maximum (2)	
		Semi – bitter chocolate	Maximum (2)	
		Dark chocolate	Maximum (2)	
		Couverture chocolate	Maximum (2)	
		Composite chocolate	Maximum (2)	
		Dragee chocolate	Maximum (2)	

No.	Specifications		Limit(s)	Test method(s)
		White chocolate	Maximum (2)	
32	Acidity of extracted oil (based on oleic acid) (w%)	plain chocolate	Maximum (1.5)	INSO 4178
		Milk chocolate	Maximum (1.5)	
		Semi – bitter chocolate	Maximum (1.5)	
		Dark chocolate	Maximum (1.5)	
		Couverture chocolate	Maximum (1.5)	
		Composite chocolate	Maximum (1.5)	
		Dragee chocolate	Maximum (1.5)	
		White chocolate	Maximum (1.5)	
33	Trans fatty acids (W%)	plain chocolate	Maximum (2)	INSO 13126-1,2
		Milk chocolate	Maximum (2)	
		Semi – bitter chocolate	Maximum (2)	
		Dark chocolate	Maximum (2)	
		Couverture chocolate	Maximum (2)	
		Composite chocolate	Maximum (2)	
		Dragee chocolate	Maximum (2)	
		White chocolate	Maximum (2)	
34	Cocoa butter alternatives (w%)	plain chocolate	Maximum (5)	INSO12961-1,2
		Milk chocolate	Maximum (5)	
		Semi – bitter chocolate	Maximum (5)	
		Dark chocolate	Maximum (5)	

No.	Specifications		Limit(s)	Test method(s)
		Couverture chocolate	Maximum (5)	
		Composite chocolate	Maximum (5)	
		Dragee chocolate	Maximum (5)	
		White chocolate	Maximum (5)	
35	Iodine value of extracted oil (w%)	plain chocolate	Minimum (30)	INSO 4886
		Milk chocolate	Minimum (30)	
		Semi – bitter chocolate	Minimum (30)	
		Dark chocolate	Minimum (30)	
		Couverture chocolate	Minimum (30)	
		Composite chocolate	Minimum (30)	
		Dragee chocolate	Minimum (30)	
		White chocolate	Minimum (30)	
36	Total carbohydrate (w%)	plain chocolate	Maximum (2.5)	INSO 759/14555
		Milk chocolate	Maximum (2.5)	
		Semi – bitter chocolate	Maximum (2.5)	
		Dark chocolate	Maximum (2.5)	
		Couverture chocolate	Maximum (2.5)	
		Composite chocolate	Maximum (2.5)	
		Dragee chocolate	Maximum (2.5)	
		White chocolate	Maximum (2.5)	

No.	Specifications		Limit(s)	Test method(s)
37	Insoluble ash in acid (w%)	plain chocolate	Maximum (0.1)	INSO 608
		Milk chocolate	Maximum (0.1)	
		Semi – bitter chocolate	Maximum (0.2)	
		Dark chocolate	Maximum (0.2)	
		Couverture chocolate	Maximum (0.1)	
		Composite chocolate	Maximum (0.1)	
		Dragee chocolate	Maximum (0.1)	
		White chocolate	Maximum (0.1)	
38	Solid content without cacao (w%)	plain chocolate	Minimum (12)	INSO 11976-1,2,3
		Milk chocolate	Minimum (2.5)	
		Semi – bitter chocolate	Minimum (14)	
		Dark chocolate	Minimum (18)	
		Couverture chocolate	-*	
		Composite chocolate	-*	
		Dragee chocolate	-*	
		White chocolate	0	
39	Pb (mg/kg)		Maximum (1)	INSO 9266
40	As (mg/kg)		Maximum (1)	INSO 6076
41	Cd (mg/kg)		Maximum (1)	INSO 9266

*__Note__: the acceptable limitation of solid content without cacao fat for products (composite, dragee and couverture chocolate) should be based on one of terms and definitions in the subsections of 4-1-1, 4-1-2, 4-1-4, 3-1-4 mentioned in this standard (based on the production procedure).

INSO 7:2019

Clay brick - Specifications and test methods

1 Scope

1-1 This standard specifies this standard is to determine the specifications and test methods for bricks made of clay, shale, fireclay, chamotte and generally all of clay base (silicate alumina).

1-2 this standard includes definitions, classifications, specifications, sampling and test methods.

1-3 this standard is not applicable to clay blocks use in roofs, clay wall blocks, clay flooring, and clay panels and glazed bricks.

1-4 this standard is not to applicable to bricks that their refractory properties are important, such as fireplace bricks.

Note-The specifications of fireplace bricks are presented in INSO 18886.

Specifications and test methods

No.	Specifications		Limit(s)	Test method(s)
1	Geometry Specifications	Dimensions	Table 2	INSO 7
		Holes	Table 3	INSO 7
		Convexity and concavity	Table 4	INSO 7
2	Compressive strength		Table 5	INSO 7
3	Water absorption		Table 6	INSO 7
4	Water soluble salts		≤%0.6	INSO 7
5	Resistance to freezing and thawing		Freezing and thawing tests are not required by default.	INSO 7
6	Modulus of rupture		Table 7	INSO 7

No.	Specifications	Limit(s)	Test method(s)
7	Expanding materials	Facing bricks and high resistance bricks shall be free of expanding materials such as lime	INSO 7
8	Appearance specifications	Facing bricks and high resistance bricks shall be free of Free of cracks, pale lips, cavities, scaling, small stone grains	INSO 7

INSO 5722:2016

Cold – reduced carbon steel sheet of structural quality

Scope

This standard is to cold-reduced carbon steel sheet of structural quality in grades CR220, CR250, CR320, and CH550, usually without the use of microalloying elements. The product is intended for structures that include bolting, riveting, and welding. It is generally used in the delivered condition for fabricating purposes, such as bending, forming, and welding.

This standard does not cover the following products:

-steels designated as commercial quality or drawing qualities (see INSO 5723),

- cold-reduced carbon steel sheet according to hardness requirements (see INSO 12545)

- cold-reduced steel sheet of higher strength with improved formability (see INSO 19616),

- cold-reduced steel sheet of high tensile strength and low yield point with improved formability(see INSO 18346)

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Chemical composition	Table 1,2	INSO 10979
2	Mechanical properties	Table 4	INSO 10272-1
3	Dimension	Clause 6	ISO 16162

INSO 2687:2005

Concentrated apple juice - Specifications

Scope

This standard determines the characteristics, sampling, test method, packaging and marking of different types of concentrated apple juice.

This standard specifies to concentrated grape juice that is physically processed and packaged.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 degrees Celsius (gr / 100 gr)	maximum 70± 2	INSO 2685
2	Density at 20 ° C ((gr / 100 gr)	maximum 1.35± 0.03	INSO 2685
3	Total ash (gr per ۱۰۰ml)	1.2± 3.5	INSO 2685
4	Total acidity (tartaric acid) (gr per 100 ml)	1-2.5	INSO 2685
5	pH	3-4	INSO 2685
6	Reducing sugars (grams per 100 ml)	Minimum 48	INSO 2685
7	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685

No.	Specifications	Limit(s)	Test method(s)
8	Sucrose (gr per 100 ml)	Maximum 15	INSO 2685
9	Formalin number (ml per 100 ml)	Minimum 10	INSO 2685
10	Hydroxy methyl furfural after the product reaches normal brix	Maximum 10	INSO 2685
A: The natural brix of grape juice is at least 12 grams per hundred milliliters. **Note**: The acceptable range of properties of condensed apple juice is calculated based on Brix 70 g / 100 g is calculated.			

INSO 4083:2005

Concentrated orange juice - Specifications

Scope

This standard determines the characteristics, sampling, test method, packaging and marking of different types of concentrated orange juice.

This standard specifies to concentrated orange juice that is physically processed and packaged.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 degrees Celsius (gr / 100 gr) Orange Red oranges	Minimum 60 Minimum 45	INSO 2685
2	Density at 20 ° C ((gr / 100 gr)	minimum 1.280	INSO 2685
3	Total ash (gr per ۱۰۰ml)	1.2± 3	INSO 2685
4	Total acidity (tartaric acid) (gr per 100 ml)	Minimum 2	INSO 2685
5	pH	2.5-4	INSO 2685
6	Reducing sugars (grams per 100 ml) Orange Red oranges	Minimum 20 Minimum 15	INSO 2685
7	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685

No.	Specifications	Limit(s)	Test method(s)
8	Sucrose (gr per 100 ml)	Maximum 6	INSO 2685
9	Formalin number (ml per 100 ml)	Minimum 50	INSO 2685
10	Oily Haas essential oil after the product reaches natural brix (ml / kg)	Maximum 0.4	INSO 2685
A: The natural brix of orange juice is at least 10 grams per hundred milliliters. Note- The acceptable range of properties of condensed orange juice is calculated based on Brix minimun 60 g / 100 g and minimum 45 g / 100 g for Red oranges is calculated.			

INSO 12949:2005

Concentrated barberry juice – Specifications and test methods

Scope

This standard specifies the quality characteristics, sampling, packaging and labelling requirements and test method for concentrated barberry juice (prepared from fresh or frozen seedless barberry cultivar).

Specifications and test methods:

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 degrees Celsius (gr / 100 gr)	Minimum 63	INSO 2685
2	Density at 20 ° C ((gr / 100 gr)	1.330±0.015	INSO 2685
3	Total ash (gr per ۱۰۰ml)	1.5-2	INSO 2685
4	Total acidity (tartaric acid) (gr per 100 ml)	5.5-9.5	INSO 2685
5	pH	3±0.2	INSO 2685
6	Reducing sugars (grams per 100 ml)	Minimum 40	INSO 2685
7	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685
8	Formalin number (ml per 100 ml)	Minimum 40	INSO 2685

INSO17032:2005

Concentrated bitter orange juice – Specifications

Scope

This standard specifies the quality characteristics, sampling, packaging and labelling requirements and test method for concentrated Bitter Orange Juice.

Specifications and test methods:

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 ºC (gr / 100 gr)	Minimum 45	INSO 2685
2	Total acidity (gr per 100 ml)	Minimum 8	INSO 2685
3	pH	1.5-2.9	INSO 2685
4	Reducing sugars (grams per 100 ml)	Minimum 30	INSO 2685
5	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685
6	Formalin number (ml per 100 ml)	Minimum 60	INSO 2685
7	Sucrose	Maximum 13	INSO 2685
8	SO2	Maximum10	INSO 2685
9	Vitamin C(ml/lit)	Minimum 29	INSO 2685
A: The natural brix of grape juice is at least 9 gr / 100 ml. Note: Limits of condensed grape juice is calculated when the brix is adjusted at 40 g / 100 g.			

INSO14809:2005

Concentrated carrot juice – Specifications

Scope

This standard specifies the quality characteristics, sampling, packaging and labelling requirements and test methods for concentrated carrot juice.

Specifications and test methods:

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 ºC (gr / 100 gr)	Minimum 40	INSO 2685
2	Total acidity (tartaric acid) (gr per 100 ml)	0.2-2	INSO 2685
3	pH	4-6	INSO 2685
4	Reducing sugars (grams per 100 ml)	Minimum 10	INSO 2685
5	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685
6	Formalin number (ml per 100 ml)	Minimum 40	INSO 2685
7	Sucrose	Maximum 10	INSO 2685

INSO 17029:2005

Concentrated cranbery juice – Specifications

Scope

This standard specifies the quality characteristics, sampling, packaging and labelling requirements and test method for concentrated Cranberry juice.

Specifications and test methods:

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 ºC (gr / 100 gr)	Minimum 40	INSO 2685
2	Total acidity (gr per 100 ml)	Minimum 6	INSO 2685
3	pH	2.6-4	INSO 2685
4	Reducing sugars (grams per 100 ml)	Minimum 20	INSO 2685
5	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685
6	Formalin number (ml per 100 ml)	Minimum 7	INSO 2685
7	Sucrose	Maximum 3	INSO 2685
8	SO2	Maximum10	INSO 2685
A: The natural brix of Cranberry juice is at least 12 gr / 100 ml. Note: Limits of condensed grape juice is calculated when the brix is adjusted at 40 g / 100 g.			

INSO 6268:2005

Concentrated grape fruit juice - Specifications

Scope

This standard determines the characteristics, sampling-test method-packaging and marking of concentrated pomegranate juice.

This standard applies to concentrated grape fruit juice that is physically processed and packaged.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 degrees Celsius (gr / 100 gr)	Minimum 55	INSO 2685
2	Density at 20 ° C ((gr / 100 gr)	minimum 1.3	INSO 2685
3	Total ash (gr per ۱۰۰ml)	2.5-5	INSO 2685
4	Total acidity (tartaric acid) (gr per 100 ml)	4.5-8	INSO 2685
5	pH	2.5-3.7	INSO 2685
6	Reducing sugars (grams per 100 ml) Yellow inside Red inside	Minimum 35 Minimum 20	INSO 2685
7	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685

No.	Specifications	Limit(s)	Test method(s)
8	Sucrose (gr per 100 ml) Yellow inside Red inside	 Maximum 9 Maximum 14	INSO 2685
9	Formalin number (ml per 100 ml)	Minimum 75	INSO 2685
10	So2(after natural brix)	Maximum 10	INSO 2685

A: The natural brix of of Concentrated Pomegranate juice is at least 9 grams in pecent.

Note: Acceptable limits of the properties Concentrated Pomegranate juice are calculated based on the minimum brix of 55 grams per hundred grams.

INSO 2615:2005

Concentrated grape juice - Specifications

Scope

This standard specifies quality characteristics, sampling, packaging and labelling requirements and test methods for different types of concentrated grape juice.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 ºC (g percent)	Min. 60	INSO 2685
2	Density at 20 ° C (g/100ml)	Min. 1.280	INSO 2685
3	Total ash (gr / 100 ml)	Min. 0.4	INSO 2685
4	Total acidity (expressed as tartaric acid) (gr/ 100 ml)	0.8-2.3	INSO 2685
5	pH	2.8-4	INSO 2685
6	Reducing sugars (gr/ 100 ml)	Min. 45	INSO 2685
7	Ethyl alcohol (when brix is adjusted) (gr / 100 ml)	Max. 0.5	INSO 2685
8	Sucrose (g / 100 ml)	Max. 5	INSO 2685
9	Formalin number (ml / 100 ml)	Min. 20	INSO 2685
10	So_2	Max. 10	INSO 2685
A:The natural brix of grape juice is at least 14 gr / 100 ml. Note: Limits of condensed grape juice is calculated when the brix is adjusted at 60 g / 100 g.			

INSO14810:2005

Concentrated kiwi juice – Specifications

Scope

This standard specifies the quality characteristics, sampling, packaging and labelling requirements and test method concentrated kiwi juice.

Specifications and test methods:

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 ºC (gr / 100 gr)	Minimum 50	INSO 2685
2	Total acidity (gr per 100 ml)	Maximum 10	INSO 2685
3	pH	2.7-3.8	INSO 2685
4	Reducing sugars (gr / 100 ml)	Minimum 35	INSO 2685
5	Ethyl alcohol after the product reaches natural brix (gr / 100 ml)	Maximum 0.15	INSO 2685
6	Formalin number (ml / 100 ml)	Minimum 30	INSO 2685
7	Sucrose	Maximum 5	INSO 2685
8	Dry residue	Minimum 55	INSO 2685
9	Hydroxymethyl furfural	Maximum 0.6	INSO 2685
A:The natural brix of kiwi juice is at least 8 gr / 100 ml. Note: Limits of condensed grape juice is calculated when the brix is adjusted at 50 g / 100 g.			

INSO 11768:1983

Concentrated pineapple juice – Specification and test methods

Scope

This standard determines the characteristics, sampling-test method-packaging and marking of concentrated pineapple juice.

This standard specifies to concentrated pineapple juice that is physically produced and maintained.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 degrees Celsius (gr / 100 gr)	Minimum 55	INSO 2685
2	Density at 20 ° C ((gr / 100 gr)	minimum 1.25	INSO 2685
3	Total ash (gr per ۱۰۰ml)	Maximum 2	INSO 2685
4	Total acidity (tartaric acid) (gr per 100 ml)	1.5-3.8	INSO 2685
5	pH	3-4	INSO 2685
6	Reducing sugars (grams per 100 ml)	Minimum 30	INSO 2685
7	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685
8	Sucrose (gr per 100 ml)	Maximum 12	INSO 2685
9	Formalin number (ml per 100 ml)	Minimum 45	INSO 2685
10	Dry residue	Minimum 57	INSO 2685

INSO 5662:1983

Concentrated pomegranate juice – Specifications and test methods

Scope

This standard determines the characteristics, sampling, test method, packaging and marking of concentrated pomegranate juice.

This standard specifies to concentrated pomegranate juice that is physically processed and packaged.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 °C (gr / 100 gr)	Minimum 60	INSO 2685
2	Density at 20 ° C ((gr / 100 gr)	minimum 1.280	INSO 2685
3	Total ash (gr per ۱۰۰ml)	1.3-3.5	INSO 2685
4	Total acidity (tartaric acid) (gr per 100 ml)	4-7	INSO 2685
5	pH	2.5-3.5	INSO 2685
6	Reducing sugars (grams per 100 ml)	Minimum 40	INSO 2685
7	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685
8	Sucrose (gr per 100 ml)	Maximum 4	INSO 2685
9	Formalin number (ml per 100 ml)	Minimum 35	INSO 2685
10	Hydroxy methyl furfural after the product reaches normal brix (mg / kg)	Maximum 10	INSO 2685
11	Tannins after the product reaches natural brix	Maximum 1	INSO 2685
A: The natural brix of Concentrated Pomegranate juice is at least 12 grams per hundred milliliters. **Note**: Acceptable limits of the properties Concentrated Pomegranate juice are calculated based on the minimum brix of 60 grams per hundred grams.			

INSO 10073:2005

Concentrated strawberry juice – Specifications

Scope

This standard determines the characteristics, sampling-test method-packaging and marking of concentrated strawberry juice.

This standard specifies to concentrated strawberry juice processed by heat.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 degrees Celsius (gr / 100 gr)	60±5	INSO 2685
2	Density at 20 ° C ((gr / 100 gr)	1.300±0.050	INSO 2685
3	Total ash (gr per ۱۰۰ml)	Minimum 1.5	INSO 2685
4	Total acidity (after brix 11 gr per 100 ml)	4.5-8	INSO 2685
5	pH	3-3.5	INSO 2685
6	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685
7	Reducing sugars (grams per 100 ml)	Minimum 32	INSO 2685
8	Formalin number (ml per 100 ml)	Minimum 40	INSO 2685

INSO 5528:2005

Concentrated sure cherry juice - Specifications

Scope

This standard specifies the quality characteristics, sampling, packaging and labelling requirements and test methods for concentrated sure cherry juice.

Specifications and test methods:

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 degrees Celsius (gr / 100 gr)	Min. 60	INSO 2685
2	Density at 20 ° C (gr / 100 gr)	Min.1.280	INSO 2685
3	Total ash (gr / 100 ml)	1.3-4	INSO 2685
4	Total acidity (tartaric acid) (gr per 100 ml)	2.8-12	INSO 2685
5	pH	2.5-4	INSO 2685
6	Reducing sugars (grams per 100 ml)	Min. 22	INSO 2685
7	Ethyl alcohol (when the brix[a] is adjusted (gr / 100 ml)	Max. 0.15	INSO 2685
8	Sucrose (gr / 100 ml)	Max.5.5	INSO 2685
9	Formalin number (ml / 100 ml)	Min. 60	INSO 2685

a:The natural brix of grape juice is at least 14 gr / 100 ml.
Note: Limits of condensed grape juice is calculated when the brix is adjusted at 60 g / 100 g.

INSO 7950:2005

Concentrated tangerine juice – Specifications and test method

Scope

This standard determines the characteristics, sampling-test method-packaging and marking of concentrated tangerine juice.

This standard is for thick tangerine juice, which is used in the food industry to make fruit juices or other products that are allowed to be consumed**.**

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 degrees Celsius (gr / 100 gr)	Minimum 55	INSO 2685
2	Density at 20 ° C ((gr / 100 gr)	minimum 1.26	INSO 2685
3	Total ash (gr per ۱۰۰ml)	3-3.8	INSO 2685
4	Total acidity (after brix 11 gr per 100 ml)	1-1.8	INSO 2685
5	pH	3-3.8	INSO 2685
6	Brix to total acidity ratio	Minimum 8	INSO 2685
7	Ethyl alcohol after the product reaches natural brix (gr per 100 ml)	Maximum 0.15	INSO 2685

No.	Specifications	Limit(s)	Test method(s)
8	Ascorbic asid	Minimum 25	INSO 2685
9	So2(after natural brix)	Maximum 10	INSO 2685
10	Scattered fruit flesh	Minimum 12	INSO 7950
11	Hesperidin (after brix 11)	Maximum 350	INSO 7950
12	Black seeds	Maximum 10	INSO 7950

INSO 7596:2018(Identical with ISO 4988: 2014)

Continuous hot - dip zinc - coated and zinc - iron alloy - coated carbon steel sheet of structural quality

Scope

This standard determines the specification of continuous hot-dip zinc-coated and zinc-iron alloy-coated carbon steel sheet of structural quality.

The product is intended for applications where resistance to corrosion is of prime importance.

The steel sheet is produced in a number of grades, coating masses, ordering conditions, and surface treatments.

This standard does not cover steels designated as commercial quality, or drawing quality, which are covered in ISO 3575

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Chemical composition	Table 1,2	INSO 10979
2	Mechanical properties	Table 4	INSO 10272-1
3	Dimension	Clause5.7	INSO 18861
4	Coating properties	Clause5.3	INSO 1545, INSO 6827, INSO10373
5	Bend test	Table 6	INSO 1016

INSO 3664:1994

Copper alloy globe, globe stop and check, check and gate valves - Specifications

Scope

This standard determines the specification of constructional valves including gate valves, globe valves and check valves.

This standard applies to copper and bronze valves with nominal size range DN 10 to DN 80 for use at maximum temperature 260 oC and maximum allowable pressure 40 bar.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Chemical composition	Table 1	INSO 4051
2	Design and construction	Clause7	INSO 3664
3	Dimension	Clause8	INSO 3664
4	Hydro test of body and seat	Clause11	INSO 3664

INSO 5661:2014+A1:2020

Cultured fish and shrimp feed - Specifications and test methods

Scope

This standard determines the physical and chemical properties, sampling, test methods, packaging.

No.	Specifications	Limit(s)	Test method(s)
1	Physical properties Stability in water Appearance and texture Color Smell Size Attractiveness	-	-
2	Chemical properties	-	-
3	The amount of moisture	Up to 12%	INSO 8438
4	Raw Protein	5	INSO 10703-1
5	Raw fat	5	INSO 10700
6	Raw fiber	5	INSO 520
7	Raw ash	5	INSO 11143
8	phosphor	5	INSO 513
9	Aflatoxin	10 ppb	INSO 6872
10	histamin	300 ppb	-
11	pb	5	-
12	cad	2	-
13	arsenic	4	-
14	hg	0.5	-
15	salmonella	-	-
16	e.coli	10	INSO 2946
17	fungi	1000	INSO 10899-2

INSO 17907:2014

Direct evaporative air coolers - Specifications

Scope

This standard specifies the structure specifications, performance requirements, safety and marking of stationary and portable direct evaporative air-coolers with capacity up to 12000 m^3/hr (7000 cfm).

This standard is not applicable for indirect evaporative air-coolers and air washers.

Note- For the purpose of convenience, the term 'direct evaporative air-cooler' will be herein after refer to as 'air-cooler'.

Input power,cooling efficiency and air-flow rate tests are in accordance with INSO 4911.Also for energy consumption ranking see INSO 4910-2.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Manufacturing properties	Materials shall not be in conflict with the existing health and environmental rules and regulations.	visual inspection clause 5
2	Minimum thickness of metal parts	Table 1	measuring sub clause 5-2-1-1
3	Minimum thickness of galvanized coating	basin and the columns Z220, other parts Z200	INSO 7597& INSO 1545
4	Polymer body properties	shall declared by manufacturer	visual inspection sub clause 5-2-1-2
5	Grille	The grille and its handles shall be free of any sharp edges, and the handles have to be placed above the water basin rim to facilitate easy opening and closing and prevent distortion when removing and installing.	visual inspection sub clause 5-2-2

No.	Specifications	Limit(s)	Test method(s)
6	Water basin height	Min. 9 cm	Measuring
7	Fan housing	Suitable distance between the bottom of fan housing and the maximum level water in water basin is needed The width of the protruding outer border of the fan shall be at least 4 cm.	visual inspection sub clause 5-2-4
8	Shield for fan housing output	The fan housing output for air-cooler with air-flow of less than 2000m³/hr. and portable air-cooler shall be shielded in a manner as to prevent contact between the probe B in accordance with IEC 61032 and the fan impellers	visual inspection sub clause 5-2-4-2
9	fan	The fan impeller shall be statically and dynamically aligned to prevent noise, vibration or wear-out of air-cooler parts.	visual inspection sub clause 5-2-5
10	pulley	The edges of the flat pulley rims and the groove of V-pulleys shall be beveled or rounded. And Radial and axial run out of pulleys shall be in accordance with ISO 254	visual inspection

No.	Specifications	Limit(s)	Test method(s)
11	Belt	Free of flaking without any visible longitudinal or lateral cracks or separation of the texture layers and the reinforcing yarns. The belt dimension shall be even and uniform.	visual inspection sub clause 5-2-6
12	bearing	The bearings used shall be selected in a manner to guarantee steady and proper movement of the fan in addition to handling and withstanding statically and dynamical loads.	visual inspection sub clause 5-2-8
13	Shaft	The shaft shall have a polished surface. The minimum wall thickness of round shafts shall be 2.5 mm and its ends beveled.	visual inspection and measuring sub clause 5-2-8
14	Water feeding system	Steady water flow shall pass through the evaporating medium and water feeding arrangement shall be set up in a manner to prevent water spray over the electrical apparatus and into the fan housing .The spray angle from the vertical is not more than 15 degrees.	visual inspection sub clause 5-3

No.	Specifications	Limit(s)	Test method(s)
15	gutter	The design of the gutter shall allow uniform water distribution on the surface of evaporative medium and prevent overflow and spraying over electrical parts The gutter shall have an integrated uniform structure. And be able to move and align at point of attachment.	visual inspection sub clause 5-3-4
16	Plastic gutter	plastic shall have sufficient rigidity and durability	visual inspection sub clause 5-3-4-4
17	Evaporative medium	The dimension of the evaporative medium shall be sufficed to uniformly cover the entire grille while remaining attached to the grille via a proper connector.	visual inspection sub clause 5-3-5
18	Wooden filling pads	The weight of the chaff per one cubic meter including 18% to 20% moisture shall be 1500g.	Measuring sub clause 5-3-5-4
19	Water control valve	The float shall be installed at a suitable height versus the body of the air-cooler and be adjustable also the specifications of the floating valve shall be in accordance with INSO 9153	visual inspection sub clause 5-3-6
20	Protection class against electrical shock	Shall be 0I, I or II. Earthing is necessary for class 0I and I coolers.	visual inspection sub clause 5-4

No.	Specifications	Limit(s)	Test method(s)
21	Electro-motor	Electromotor shall be in accordance with IEC 60034-1, IEC 60034-5, INSO 7874 and INSO 7966. With a protection code of at least 22, it shall have anti-vibration and be installed in such a way that its specification plate, including the items of sub-clause 8-1, is easily visible.	visual inspection sub clause 5-4-1
22	Water electro-pump	Water electro-pump shall be in accordance with IEC 60034-1. With a protection code of at least 22, with the rate of water feeding, having filter and additional supplementary means to prevent overturning and is installed at the appropriate height.	visual inspection sub clause 5-4-2
23	Wiring	All components, wires and electrical connections of the air-cooler shall be in accordance to IEC 60335-1. The wiring schematic shall be clearly and firmly installed inside the cooler.	visual inspection sub clause 5-4-3

No.	Specifications	Limit(s)	Test method(s)
24	Junction box	The material used to manufacture the terminal shall be non-ferrous like copper, brass or the respective alloys. The area where the junction box and terminals are installed shall be away from water. Also, the junction box and it's lid shall have proper performance and be rigid and not open by itself (non-detachable part in accordance with IEC 60335-1).	visual inspection sub clause 5-4-4
25	On and off-switch	The switch shall be in accordance with IEC 61058-1. **A**ll pole disconnection switches and other switches for water pump shall be provided and all of them shall be installed on a single set.	visual inspection sub clause 5-4-5
26	Residual Current Circuit Breaker (RCCB)	Supply circuit shall be equipped with a RCCB 'in accordance with IEC 61008-1, IEC 61008-2-1 and IEC 62423.	visual inspection sub clause 5-4-5-2
27	Power factor	At least 0.9 at all speeds.	Measuring sub clause 5-4-6
28	identification	Shall have identification code in proportion to the declared capacity.	visual inspection clause 6

No.	Specifications	Limit(s)	Test method(s)
29	Guarantee	Air-cooler shall be delivered with all the relevant attachments and the performance and quality of the all the electrical parts shall be guaranteed by the manufacturer for at least one year commencing on the date of installation.	visual inspection clause 7
30	Marking	Air-cooler shall have a metal nameplate in a place where readily visible and include the following information indicating the relevant specification. This nameplate shall be secured:	visual inspection clause 8
31	User manual	manual shall contain at least technical information according to clause 9	visual inspection clause 9
32	Packaging	The sharp edges of the fan housing protruding shall be safely covered before packaging. If cellulose carton is used, its properties must be in accordance with INSO 1737.	visual inspection clause 10

INSO 10325-1-1:2016(Identical with EN 30-1-1: 2008 + A3:2013)

Domestic cooking appliance burning gas

Scope

This standard specifies the construction and performance characteristics as well as the requirements and methods of test for the safety and marking of freestanding and built-in domestic cooking appliances burning the combustible gases. This Standard covers the following types of domestic cooking appliances:

- independent freestanding hotplates;
- independent built-in hotplates;
- independent hotplates and grills;
- table cookers;
- freestanding ovens;
- built-in ovens;
- freestanding or built-in grills;
- griddles;
- freestanding cookers;
- built-in cookers.

Unless specifically excluded hereafter, this Standard applies to these appliances or their component parts, whether or not the component parts are independent or incorporated into a single appliance, even if the other heating components of the appliance use electrical energy.

This standard includes requirements covering the electrical safety of equipment incorporated in the appliance that is associated with the use of gas. It does not include requirements covering the electrical safety of electrically-heated component parts or their associated equipment.

This standard does not apply to:

- outdoor appliances;
- appliances connected to a combustion products evacuation duct;
- appliances having a pyrolitic gas oven;
- appliances having covered burners which are not in conformity with the constructional requirements of 5.2.8.2.2;
- appliances incorporating flame supervision devices and having an automatic ignition device for which the duration of the ignition attempt is limited by design;
- appliances equipped with a burner that is periodically ignited and extinguished under the control of an automatic on/off device;
- appliances equipped with an oven and/or with a grill having a fan:

1) either for the supply of combustion air or for the evacuation of the products of combustion;
2) or for the circulation of the products of combustion within the compartments;

- appliances supplied at pressures greater than those defined in 7.1.2;
- appliances having one or more burners that are capable of remote operation (type1 or type 2), unless the burner(s) concerned are thermostatically controlled oven burners of time-controlled ovens that are designed for a delayed start without the user being present;
- appliances incorporating one or more hotplate or grill burners that enable the user to program the cooking cycle, including the start and/or the end of the cycle.

This standard does not cover the requirements relating to third family gas cylinders, their regulators and their connection.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Conversion to different gases	5-1-1	INSO 10325-1-1

No.	Specifications	Limit(s)	Test method(s)
2	materials	5-1-2	INSO 10325-1-1
3	Ease to cleaning and maintenance	5-1-3	INSO 10325-1-1
4	strength	5-1-4	INSO 10325-1-1
5	Soundness of the gas circuit assembly	5-1-5	INSO 10325-1-1
6	connections	5-1-6	INSO 10325-1-1
7	Movable appliances	5-1-7	INSO 10325-1-1
8	Fixing or stability of appliances	5-1-8	INSO 10325-1-1
9	Additional components	5-1-9	INSO 10325-1-1
10	Safety of operation in the event of fluctuation, interruption and restoration of the auxiliary energy	5-1-10	INSO 10325-1-1
11	Electrical safety of appliances and immunity to electromagnetic phenomena	5-1-11	INSO 10325-1-1
12	Taps	5-2-1	INSO 10325-1-1
13	Control handles	5-2-2	INSO 10325-1-1
14	Injectors and adjusters	5-2-3	INSO 10325-1-1
15	Oven thermostats	5-2-4	INSO 10325-1-1
16	Ignition systems	5-2-5	INSO 10325-1-1
17	Flame supervision devices	5-2-6	INSO 10325-1-1
18	Regulators	5-2-7	INSO 10325-1-1
19	Hotplates	5-2-8	INSO 10325-1-1
20	Ovens and grills	5-2-9	INSO 10325-1-1
21	Cylinder compartment	5-2-10	INSO 10325-1-1
22	Appliances with a cooling fan	5-2-11	INSO 10325-1-1
23	Accumulation of un-burnt gas	5-2-12	INSO 10325-1-1

No.	Specifications	Limit(s)	Test method(s)
24	Additional requirements for appliances having one or more burners that are capable of remote operation	5-3	INSO 10325-1-1
25	Soundness	6-1-1	INSO 10325-1-1
26	Obtaining the input rates	6-1-2	INSO 10325-1-1
27	Flame supervision devices	6-1-3	INSO 10325-1-1
28	Safety of operation	6-1-4	INSO 10325-1-1
29	Heating	6-1-5	INSO 10325-1-1
30	Temperature of the LPG cylinder and its compartment	6-1-6	INSO 10325-1-1
31	Total input of the appliance	6-1-7	INSO 10325-1-1
32	Regulator performance	6-1-8	INSO 10325-1-1
33	Appliances with a cooling fan	6-1-9	INSO 10325-1-1
34	Safety in the event of failure of the oven thermostat	6-1-10	INSO 10325-1-1
35	Ignition, cross-lighting and flame stability	6-2-1	INSO 10325-1-1
36	Combustion	6-2-2	INSO 10325-1-1
37	Ignition, cross-lighting and flame stability	6-3-1	INSO 10325-1-1
38	Combustion	6-3-2	INSO 10325-1-1
39	Appliance marking (including any type 2 hand-operated control)	8-1	INSO 10325-1-1
40	Marking of the packaging	8-2	INSO 10325-1-1
41	Instructions	8-3	INSO 10325-1-1

INSO 14628:2012+A1:2019

Domestic cooking appliances burning gas – Determination of criteria for energy consumption and energy labelling instruction

Scope

This standard determines the criteria and technical specifications of energy consumption for domestic cooking appliances burning gas. This standard also provides instructions on energy labels and measurement methods.

Scope this standard applies to the following products:

- independent freestanding hotplates;
- independent built-in hotplates;
- table cookers;
- freestanding ovens;
- built-in ovens;
- freestanding cookers;
- built-in cookers.

This standard does not include electric and combination stoves.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Annual net efficiency of the hotplate	6-1	INSO 14628
2	Oven energy consumption index	6-2	INSO 14628
3	Maximum allowable heat input for oven	6-3	INSO 14628
4	Minimum efficiency for uncovered burners	7-2	INSO 14628
5	Hotplate energy label	8-4	INSO 14628
6	Oven energy label	8-4	INSO 14628
7	marking	8-5	INSO 14628

INSO 2453:2009

Doogh - Specification and test methods

Scope

This standard determines classification, specifications, sampling, test methods, packaging , Labelling and storage conditions and transportaition of plane doogh. This standard is applicable to plane doogh produced in authorized production units and is not applicable to other types of doogh.

Specifications and test methods

Table 1- Chemical properties of plane doogh

No.	Specifications	Limit	Test method
1	pH	Max 4/5	INSO 2852
2	Solid non fat	Min 3/2	INSO 637
3	Milk fat	✹	INSO 384
4	Sodium Chloride	0/2- 1	INSO 694
5	Carbon dioxide	Min 0/4	INSO 1249

✹Fat should not be more than 50% of Solid non fat without salt.

INSO 2945:1977

Dried date - Specifications and test methods

Scope

This standard determines the specifications, classification, packaging, labelling, sampling and test methods, of Dried date.

This standard applies for Dried date of Iran product.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Living pest	Free	INSO 2945
	Metal, glass, gravel	Free	INSO 2945
	Fermentation, rashness rancidity and mold effects	Free	INSO 2945
		Free	INSO 2945
2	Damaged by pests	Max 3% Numerical	INSO 2945
3	Date belonging to other varieties	Max 2% Numerical	INSO 2945
4	Rinded date	Max 8% Numerical	INSO 2945
5	Rotten	Max 2% Numerical	INSO 2945
6	Discolored	Max 3% Numerical	INSO 2945
7	Unripe (immature)	Max 2% Numerical	INSO 2945
8	Moisture content	Max 18% v/w	INSO 672
9	Mechanical damage	Max 5% Numerical	INSO 2945
10	Blemished	Max 2% Numerical	INSO 2945
11	Dates with foreign matter	Max 4% Numerical	INSO 2945
12	Pesticide residues	INSO 13118	INSO 17026

INSO 2599:2020

Dried thyme - Specifications

Scope

This standard specifies sampling, packing, labelling requirements and test methods for dried thyme (all wild and hybrid packaged species and varieties belonging to the genus Thyme) .

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Plant foreign matter	Max 0.5%	INSO 1032
2	Foreign matter	Max 0.5%	INSO 1032
3	Insect flowers and leaves	Max 1%	INSO 1196
4	moisture	Max 12%	INSO 1253
5	Total ash	Max 12%	INSO 1818
6	Insoluble ash in acid	Max 3.5%	INSO 1253
7	Volatile oils	Min 1ml/100 gr	INSO 1818
8	Taste and smell and color	should have natural taste and odor and should not have any moldy odor and should not have any old and decay. It has a green to gray color	INSO 2599

INSO 4910-2:2009

Evaporative air coolers - Specifications and test methods for energy consumption and energy labelling instruction

Scope

This standard determines the method of measuring energy consumption and instructions on the energy label of air conditioners.

It is blue with a nominal aeration capacity of 1700 to 8500 cubic meters per hour (equivalent to 1000 to 6500 cubic feet per minute).

This standard allows the indicators to match the range of the energy label Provides to classify air conditioners in terms of energy consumption.

Note - In this standard, the word "cooler" is used instead of "water cooler" for convenience.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Sensible cooling capacity	Not less than 90% rated value	INSO 4911
2	Total input Power	Not less than 85% rated value	INSO 4911
3	EER	Not less than 22	calculation
4	Energy consumption grade	A to G (Table A-1)	comparing
5	Information contained in the energy consumption label	Clause 5-1	Visual inspection
6	Colors used in Label	Clause 5-2	Visual inspection
7	Suggested dimensions of the label	Clause 5-2	Visual inspection

INSO 17907:2014

Evaporative air – cooler - Specifications

Scope

This standard determines the test methods of evaporative air coolers that the rated capacity of 1200 m^3/hr.

Appendix A presents the method of calculating sensible cooling capacity based on the results of information obtained from the tests.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Electric strength	100 mA	INSO 1562-1 Clause 16
2	Leakage current	Max. 0.5 mA	INSO 1562-1 Clause 16
3	Protection against access to live parts		INSO 1562-1 Clause 8
4	Provision for earthing	Max 100 mΩ	INSO 1562-1 Clause 27
5	Air flow rate	Not less than -10% deviation of rated value	INSO 4911 Clause 6-2
6	Saturation effectiveness	Min. 75% and not less than -5% deviation of rated value wh	INSO 4911 Clause 6-1
7	Consumption power	Not less than -15% or -20% deviation of rated value	INSO 4911 Clause 6-3
8	Noise	Max. 65dBA	INSO 4911 Clause 6-4

INSO 11177:2008

Fermented milks - Kefir drink - Specifications and test methods

Scope

This standard specifies the sensory, chemical and microbiological characteristics, sampling, test methods, packaging and labelling of "kefir drink".

This standard is applicable to kefir beverages produced in authorized production units and is not applicable to kefir and other types of beverages derived from it.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	pH	Max 4.5	INSO 2852
2	Nonfat dry matter	Min 5% (W/W)	INSO 637
3	Fat	Max 50%	INSO 384
4	Titrable acidity	Min 0.5% (W/W)	INSO 2852
5	Ethanol	Max 0.5%	INSO 2685
6	NaCl	Max 0.5% (W/W)	INSO 694,8974
7	Microbiology	-	INSO 2406

INSO 1527:2018

Flavored milk - Specifications and test methods

Scope

This standard specifies the physicochemical, microbial properties, sampling, test methods, packaging and labelling of flavored milk.

This standard applies for all types of flavored milk made from fresh, reconstituted and recombined milk (full fat, semi skimmed, low fat, skimmed) that have been flavored with allowed and natural flavorings.

Note 1- Milk in this standard means cow's milk.

Note 2- This standard does not apply for fruit milk drinks in accordance with INSO 16881.

Physicochemical specifications and test methods

No.	Specifications	Pasteurized flavored milk with authorized natural flavorings except cocoa and coffee	Pasteurized ultra high temperature flavored milk with allowed natural flavorings except cocoa and coffee	Pasteurized flavored milk with cocoa and coffee flavor	Pasteurized ultra high temperature flavored milk with cocoa and coffee flavor	Test method(s)
1	Fat (%W/W) Full fat Semi skimmed Low fat Skimmed	Min 3 Less than 3 higher than 1.8 Higher than 0.5 up to 1.8 Max 0.5				INSO 384
2	Sucrose (%)	Max 6				INSO 2450
3	Total dry matter (g/100)	Min 11			Min 12	INSO 637
4	Nonfat dry matter (g/100)	Min 7				INSO 2450
5	pH	6.1-6.85				INSO 2852
6	pH difference before & after of incubation	-		Max 0.3	- Max 0.3	INSO 2852
7	Cholesterol (%)	Min 97				INSO 9670
8	Vegetable sterols (%)	Max 3			Max 6	INSO 9670

Maximum residual limit of residual microbial inhibitors

Antibiotic	MRL (µg/Kg/Lit)
Benzyl penicillin	4
Chlortetracycline	100

INSO 1195:2015

Food grade iodized salt - Specifications and test method

Scope

This standard specifies the quality characteristic, sampling, packaging and labelling requirements and test method for packaged iodized table salts.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	appearance	Transparent white to matte	INSO 26
2	extraneous matters	Free	INSO 26
3	Purity by dry matter	Min 99.2%	INSO 3769
4	insoluble matter by dry weight	Max 0.16%	INSO 3770
5	Soluble sulfate by dry weight	Max 46%	INSO 3258
6	Calcium by dry weight	Max 0.15%	INSO 4058
7	Magnesium by dry weight	Max 0.03%	
8	PH of 5% solution	5.5-8.5	INSO 3827
9	Sodium or potassium ferrocyanide by dry weight	10	INSO 5550
10	moisture	Max 1%	INSO 3771
11	Iodine	45 mg/kg	INSO 1195

INSO 26:2015

Food grade uniodized salt - Specifications and test methods

Scope

This standard specifies the quality characteristic, sampling, packaging and labelling requirements and test methods of packaged uniodized table salts.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	appearance	Transparent white to matte	INSO 26
2	foreign materials	Free of any foreign materials	INSO 26
3	Purity based on dry matter	Min 99.2%	INSO 3769
4	insoluble matter based on dry weight	Max 0.16%	INSO 3770
5	Soluble sulfate based on dry weight	Max 46%	INSO 3258
6	Calcium by dry weight	Max 0.15%	INSO 4058
7	Magnesium by dry weight	Max 0.03%	
8	PH of 5% solution	5.5-8.5	INSO 3827
9	Sodium or potassium ferrocyanide based on dry weight	10	INSO 5550
10	moisture	Max 1%	INSO 3771

INSO 12099:2021

Fried products based on potato, cereal and pulses – Specifications and test methods

Scope

This standard determines the sensory, physical, chemical, microbial, specifications, packaging, labelling, sampling and test methods of packed Fried products based on potato, cereal and pulses.

This standard applies to packed and ready to use Fried products based on potato, cereal and pulses producing in industrial production unit.

This standard don't applies to chips and slice the fries.

Specifications and test methods

No.	Specifications	Acceptable limits
1	Sensory analysis	Accept
2	Foreign matter	Free
3	Moulded	Free
4	Moisture (% v/w)	Max. 3
5	Fat (% v/w)	Max. 35
6	Peroxide(extracted fat) (mEqg/kg)	Max. 5
7	Acidity (extracted fat) (% v/w)	Max. 1
8	Trans fatty acid (extracted fat) (% v/w)	Max. 2
9	Total polar compounds(extracted fat) (% v/w)	Max. 25
10	pH (10%)	4 - 6.5
11	Acid insoluble ash (% v/w Based on dry matter)	Max. 0.1
12	Salt (Max % v/w Based on dry matter)	Max. 1.4
13	Broken and crushed pieces	Max. 5
14	Roasted pieces	Max. 10
15	Burnt pieces	Free
16	Added artificial color	Free
If you use potatoes and their derivatives, the maximum acceptable level of salt is 3%		

Microbial specifications:

Based on INSO 11603

Aflatoxins:

Based on INSO 5925

INSO 1219:2020(Identical with EN 89: 2015)

Gas - fired storage water heaters for the production of domestic hot water

Scope

This standard defines the specifications and test methods for the construction, safety, rational use of energy and fitness for purpose, environment and classification and marking of gas-fired storage water heaters for domestic hot water uses, hereafter called “appliance”.

This standard applies to appliances:
— of selected types B1, B2, B3, B5, C1, C2, C3, C4, C5, C6, C7, C8, C9 according to CEN/TR 1749;
— fitted with atmospheric burners;
— using one or more combustible gases corresponding to the three gas families and the pressures indicated in EN 437;
— of nominal heat input not exceeding 150 kW (net calorific value);
— fitted with electrically operated mechanical flue dampers that are positioned downstream of the heat exchanger.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Conversion to different gases	5-2-1	INSO 1219
2	Materials	5-2-2	INSO 1219
3	Design - Assembly - Strength	5-2-3	INSO 1219
4	Accessibility - Ease of maintenance - Fitting and removal	5-2-4	INSO 1219
5	Gas and water pipe connections	5-2-5	INSO 1219
6	Means of achieving soundness	5-2-6	INSO 1219
7	Supply of combustion air and evacuation of combustion products	5-2-7	INSO 1219
8	Checking the state of operation	5-2-8	INSO 1219
9	Drainage	5-2-9	INSO 1219
10	Electrical safety	5-2-10	INSO 1219
11	Operational safety in the event of failure or restoration of the auxiliary energy	5-2-11	INSO 1219

No.	Specifications	Limit(s)	Test method(s)
12	Mechanical resistance and stability of ducts, terminal and fitting pieces	5-5-12	INSO 1219
13	Adjusting, control and safety devices	5-3	INSO 1219
14	Main burner	5-4	INSO 1219
15	Supplementary requirements for condensing water heaters	5-5	INSO 1219
16	Soundness of the gas circuit	6-2-1	INSO 1219
17	Soundness of the combustion circuit and evacuation of the combustion products	6-2-2	INSO 1219
18	Hydraulic test and soundness of the water circuit	6-2-3	INSO 1219
19	Heat inputs	6-3	INSO 1219
20	Temperature of the control knobs	6-4	INSO 1219
21	Temperature of the adjusting, control and safety devices	6-5	INSO 1219
22	Limit temperature of the walls and the test panels	6-6	INSO 1219
23	Ignition - Cross-lighting - Flame stability	6-7	INSO 1219
24	Temperature of combustion products in condensing appliances	6-8	INSO 1219
25	Adjusting, control and safety devices	6-9	INSO 1219
26	Repeated draw-off	6-10	INSO 1219
27	Nominal capacity	6-11	INSO 1219
28	Combustion	6-12	INSO 1219
29	Non-condensation in the flue (type B appliances)	6-13	INSO 1219
30	Supplementary tests for condensing water heaters	6-14	INSO 1219
31	Prepurging	6-15	INSO 1219
32	Air monitoring device	6-16	INSO 1219
33	Functioning of the fan of a type C4 water heater	6-17	INSO 1219
34	Nitrogen oxides	6-18	INSO 1219
35	Electrical power measurements	6-19	INSO 1219
36	Fitness for purpose	8	INSO 1219
37	Marking and instructions	9	INSO 1219
38	Eco design Data	10	INSO 1219

INSO 3122:2012

Green raisin - Specification and test methods

Scope

This standard specifies quality specifications, classification, packaging, labelling, sampling and test methods of green raisin.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	pest	Free	INSO 3122
2	Sand, glass and other extraneous matters (Except plant origin)	Free	INSO 3122
3	Taste and smell	Natural	INSO 3122
4	SO_2 residual	Max. 0.2 %	INSO 569
5	Damage of pest	Max.3%	INSO 3122
6	Extraneous matters (of plant origin)	Max.2%	INSO 3122
7	Moisture	Max.13%	INSO 672
8	Immature	Max.2%	INSO 3122
9	Physical damage	Max.2%	INSO 3122
10	Sugar- crystallized	Max.5%	INSO 3122
11	Attached extraneous matters	Max.2% (number)	INSO 3122
12	Stem	Max.2 (centimeter per kilogram)	INSO 3122
13	Tailed raisin	Max.10 % (number)	INSO 3122
14	Other varieties	Max.1 % (number)	INSO 3122
15	Size uniformity	Complied with INSO 3122	INSO 3122
16	Pesticide residue	Complied with legal limits	BS:EN 15662
17	Aflatoxin BG	Complied with INSO 5925	INSO 6872
18	Ochratoxin A	Complied with INSO 5925	INSO 9237

INSO 8:2018

Gum - Specifications

Scope

This standard specifies sensory, microbial, chemical, physical, and heavy metal requirements for all types of chewing gums which are produce on an industrial scale, packaged and ready to use.

Specifications and test methods

No.	Specifications (wt%)		Limit(s)			Test method(s)
			sugary	Low sugar	Sugar free	
1	Moisture (Max. wt%)		6	4	4	INSO 759
2	Total ash (Max. wt%)		8	10	14	INSO 759
3	Acid insoluble ash (Max. wt%)		4.5	6	8.5	INSO 759
4	Total sugar (wt%)		25- 63	4- 20	Max. 0.5	INSO 759
5	Gum base (Min. wt%)		17	22	22	INSO 759
6	Heavy metals (Max. ppm)	Arsenic	1			INSO 6076
		Lead	1			INSO 9266
		Cadmium	1			INSO 9266
Note: In chewing gums with natural gum base maximum total ash and acid insoluble ash are 1% and 0.5% respectively and minimum of gum base is 25%.						

INSO 10077:2007

Herbal distillates - Specifications

Scope

This standard specifies the quality characteristic, sampling, packaging and labelling requirements and test methods for herbal distillates (from Succory, Mint, Camel thorn, Dill , Orange blossom ,Withy, Cumin, Caraway, Pimperneas, Thyme, Trachyspermum , Fenugreek , Nettle, Teucriumpolium).

Specifications and test methods

No.	1	2
Specifications	Aromatic distillates	Volatile oils (mg/100ml)
Succory	Aroma and flavor of Succory ,No color, Clear	1.1-1.5
Mint	Aroma and flavor of Mint ,No color, Clear	Min 30
Camel thorn	Aroma and flavor of Camel thorn, No color, Clear	0.1-2
Dill	Aroma and flavor of Dill ,No color, partly turbid	Min10
Orange blossom	Aroma and flavor of Orange blossom, No color, Clear	Min2.5
Withy	Aroma and flavor of Withy ,No color, Clear	0.3-0.8
Cumin	Aroma and flavor of Cumin, No color, partly turbid	Min8
Caraway	Aroma and flavor of Caraway, No color, partly turbid	Min10
Pimpernel	Aroma and flavor of Pimpernels, No color, partly turbid	Min7
Thyme	Aroma and flavor of Thyme,carroty	Min20
Trachyspermum	Aroma and flavor of Trachyspermum, No color, partly turbid	Min20
Fenugreek	Aroma and flavor of Fenugreek, No color, Clear	Min0.5
Nettle	Aroma and flavor of Nettle, No color, Clear	Min0.5
Teucriumpolium	Aroma and flavor of Teucriumpolium, Bitter ,No color, Clear	Min4
Teucriumpolium	Aroma and flavor of Teucriumpolium, Bitter ,No color, Clear	Min4

No.	3	4	5	6	7
Specifications	Acid value mg (NaOH/100ml)	Ester value (mgKOH 0.1N/100ml)	Iodine value ml $I_2$0.01N/100ml $I_2$0.01N/100ml)	Oxidation value $Kmno_4$0.01N/100ml ($Kmno_4$0.01N/100ml)	pH
Succory	1-3.5	Min0.5	Min4	Min8	4-6
Mint	Max3	Min1.5	Min80	Min150	4-6
Camel thorn	0.5-2.5	Min0.5	Min4.5	Min10	4.5-7
Dill	Max2.5	Min1.5	Min20	Min100	4.7-7.5
Orange blossom	Max2.5	Min0.5	Min10	Min35	4-6.5
Withy	0.36-2	Min0.5	Min2	Min5	5-7
Cumin	Max4	Min1	Min10	Min60	4-7
Caraway	Max3.5	Min0.5	Min12	Min100	4.5-7
Pimpernel	Max4.5	Min1	Min7	Min35	5-7
Thyme	Min5	Min1	Min20	Min150	3.5-7
Trachyspermum	Max1.6	Min0.25	Min40	Min5.5	4-7
Fenugreek	Max3	Min0.25	Min3	Min18	5-7.5
Nettle	Max5.5	Min1	Min10	1.2-30	5.5-7
Teucriumpolium	Max4	Min1	Min15	60-80	4-7
Teucriumpolium	Max4	Min1	Min15	60-80	4-7

INSO 92:2020

Honey - Specifications and test methods

Scope

This standard determines the characteristics of authenticity, quality and safety, sampling, test methods, packaging and marking of different types of honey.

This standard specifies to the following:

A. Types of honey (according to 3-1) produced by bees.

B. Honey that is produced and extracted in apiaries and processed and packaged in workhouses and factories.

This standard does not apply to the following:

A. Honey from bee feeding, which is made manually by beekeepers.

B. Honey collected by bees from sucking insect secretions on living parts of plants or exuding living parts of plants and after processing, is stored in the hive.

Specifications and test methods

1) Authentication characteristics

The authenticity characteristics of honey must be in accordance with Table 1.

Table 1- Characteristics of honey authenticity

No.	Specifications	Limit	Test method
1	Reducing sugars before hydrolysis (weight percentage)	Min 65	In accordance with sub-clause 7-1 this national standard
2	Sucrose (weight percentage)	Max 5	In accordance with sub-clause 7-1 of this national standard
3	Ratio of fructose to glucose	Min 0.9	In accordance with sub-clause 7-2 of this national standard

No.	Specifications	Limit	Test method
4	Diastasis activity in terms of diastasis units	Min 8	In accordance with sub-clause 7-3 of this national standard
5	Proline (mg/kg)	Min 180	In accordance with sub-clause 7-4 of this national standard
6	Hydroxymethyl furfural (mg/kg)	Max 40	In accordance with sub-clause 7-5 of this national standard

2) Qualitative and safety specifications

The quality and safety specifications of honey should be in accordance with Table 2.

Table 2 - Quality and safety characteristics of honey

No.	Specifications	Acceptable limit	Test method
1	Unacceptable factors	Free from any unacceptable matter	In accordance with sub-clause7-6 of this national standard
2	Physical state	Fluid, thick and sticky, partially crystallized	In accordance with sub-clause 7-7 of this national standard
3	Color	Light yellow to black	In accordance with sub-clause 7-8 of this national standard
4	Perfume and fragrance	Natural and special scent	In accordance with sub-clause 9-7 this national standard
5	Taste	Sweet taste and no unpleasant taste	In accordance with sub-clause 7-10 this national standard
6	Foam	No foam due to acidity	in accordance with sub- clause 7-11this national standard
7	Moisture (weight percentage)	Max 20	In accordance with sub- clause 7-12 of this national standard

No.	Specifications	Acceptable limit	Test method
8	Free acidity (meq/kg)	Max 40	In accordance with sub- clause 7-13 this national standard
9	Ash (weight percentage)	Max 0/6	In accordance with sub-clause 7-14 this national standard
10	Electrical conductivity (ms / cm)	Max 0/8	In accordance with sub-clause 7-15 this national standard
11	Insoluble solids in honey (other than pressed honey) (weight percentage)	Max 0/1	In accordance with sub-clause 7-16 this national standard
12	Insoluble solids in honey (compressed honey)	Max 0/5	In accordance with sub-clause 7-16 this national standard
13	Total polyphenols (mg/milt)	Min 0/03	In accordance with sub-clause 7-17 this national standard
14	Lead (mg/kg)	Max 1	In accordance with sub-clause 7-18 this national standard
15	Cadmium (mg/kg)	Max 0/1	In accordance with sub-clause 7-18 this national standard
16	Artificial color	Negative	In accordance with sub-clause 7-19 this national standard
17	Microbiology	In accordance with Iranian National Standard No. 7610	In accordance with sub-clause 7-20 this national standard

INSO 3132:2013

Hot – rolled steel bars for reinforcement of concrete – Specification and test methods

Scope

This standard determines the specification and test methods for hot-rolled plain and ribbed steel bars for reinforcement of concrete.

This Standard applies to hot-rolled steel bar in form of coils and individual bars without further operation. This is also applies to controlled quench and tempering treatment.

This standard does not apply to hooks used to lift and transport different goods such as heavy concrete parts and bars used in prestressed concrete.

Note- Production of plain and ribbed bars from steel sections such as I-beams, railway rails, plates and their scraps is not allowed. Also production of bars from any raw materials without specific metallurgical records is not allowed.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Chemical composition	Table 9	INSO 10979
2	Mechanical properties	Table 11	INSO 10272-1
3	Dimension	Table3, 6,7	INSO 3132
4	Bend test	Clause12.2	INSO 8103-1

INSO 1791:2016

Hot rolled medium flange I-2 beam – Specification and test methods

Scope

This standard determines the specifications, test methods, sampling and marking of hot-rolled medium flange I-beam. According to table 1, their height is 80 to 600 mm. This Standard does not apply to following hot-rolled I-beams:

- Narrow taper flange with specific symbol I-1
- Wide taper flange with specific symbol I-3
- Wide parallel flange, light weight with specific symbol I-4
- Wide parallel flange, medium weight with specific symbol I-5
- Wide parallel flange, heavy weight with specific symbol I-6
- Medium parallel flange, semi light weight with specific symbol I-7

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Chemical composition	Table 8	INSO 10979
2	Mechanical properties	Table 10	INSO 10272-1
3	Dimension	Table1, 2,3,4,5,6,7	INSO 1791
5	Bend test	Clause6.2.3	INSO 1016

INSO 1562-2-7:2018

Household and similar electrical appllances – safety – part 2-7: Particular requirements for washing machines

Scope

This standard is replaced by the following. This standard deals with the safety of electric washing machines for household and similar use, that are intended for washing clothes and textiles, their rated voltage being not more than 250 V for single-phase appliances and 480 V for other appliances. This standard also deals with the safety of electric washing machines for household and similar use employing an electrolyte instead of detergent. Additional requirements for these appliances are given in Annex CC.

NOTE 101 Guidance is given in Annex DD for requirements that can be used to ensure an acceptable level of protection against electrical and thermal hazards for washing machines fitted with a power driven wringer.Appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops, in light industry and on farms, are within the scope of this standard.

NOTE 102 Examples of such appliances are washing machines for communal use in blocks of flats or in launderettes.As far as is practicable, this standard deals with the common hazards presented by washing machines that are encountered by all persons in and around the home. However, in general, it does not take into account:

– persons (including children) whose•physical, sensory or mental capabilities; or•lack of experience and knowledgeprevents them from using the appliance safely without supervision or instruction;

– children playing with the appliance.

NOTE 103 Attention is drawn to the fact that

–for washing machines intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;

–in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

NOTE 104 This standard does not apply to–washing machines intended exclusively for industrial purposes (ISO 10472-2);

–appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);–washing machines incorporating steam generating devices in which steam is produced at a pressure exceeding 50 kPa

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc. The relevant tests of 21.101,21.102 and 21.104 shall be carried out on the same appliance used for the test of clause 18 (IEC 60335-2-7) Test of 15.101 carried out before test of 15.3 (IEC 60335-2-7) Relevant tests of 21.101 and 21.102 carried out before test of clause 18. test of 21.104 carried out after test of clause 18. (IEC 60335-2-7) Doubt is considered to exist if the temperature of the water is		INSO 1562-2-7

No.	Specifications	Limit(s)	Test method(s)
	within 6 K of the boiling point and the difference between the temperature rise of the relevant part and the limit specified does not exceed 25 K minus the room temperature. (IEC 60335-2-7)		
2	Protection against electric shock: Appliances shall be of class I, class II or class III. (IEC 60335-2-7)	Class 0, 0I, I, II, III	INSO 1562-2-7 Clause6 CLASSIFICATION
	Protection against harmful ingress of water Appliances at least IPX4 (IEC 60335-2-7)	IPX4	
3	Rated voltage or voltage range (V):	V	
	Symbol for nature of supply, or:		
	Rated frequency (Hz):		
	Rated power input (W), or:		
	Rated current (A):	Hz	
	Manufacturer's or responsible vendor's name, trademark or identification mark:		
	Model or type reference:		
	Symbol IEC 60417-5172, for class II appliances	A	
	IP number, other than IPX0:		
	Maximum water level for appliances without automatic water level control (IEC 60335-2-7)		INSO 1562-2-7 Clause7 MARKING AND INSTRUCTIONS
	Symbol IEC 60417-5180, for class III appliances, unless the appliance is operated by batteries only	IPX..	
	Symbol IEC 60417-5036, for the enclosure of electrically-		

No.	Specifications	Limit(s)	Test method(s)
	operated water valves in external hose- sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage Appliances not intended for connection to the hot water supply and not provided with heating elements shall be marked with the substance of the following: “Do not connect to the hot water supply” (IEC 60335-2-7) Warning for stationary appliances for multiple supply Warning placed in vicinity of terminal cover Range of rated values marked with the lower and upper limits separated by a hyphen Different rated values marked with the values separated by an oblique stroke Appliances adjustable for different rated voltages, the voltage setting is clearly discernible Requirement met if frequent changes are not required and the rated voltage to which the appliance is to be adjusted is determined from a wiring diagram Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current		

No.	Specifications	Limit(s)	Test method(s)
	for each rated voltage or range, unless the power input is related to the arithmetic mean value of the rated voltage range Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear Correct symbols used Symbol for nature of supply placed next to rated voltage Symbol for class II appliances placed unlikely to be confused with other marking Units of physical quantities and their symbols according to international standardized system Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless correct mode of connection is obvious Except for type Z attachment, terminals for connection to the supply mains indicated as follows: - marking of terminals exclusively for the neutral conductor (letter N) - marking of protective earthing terminals (symbol IEC 60417-5019) - marking not placed on removable parts Marking or placing of switches which may cause a hazard		

No.	Specifications	Limit(s)	Test method(s)
	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means: This applies also to switches which are part of a control If figures are used, the off position indicated by the figure 0 The figure 0 indicates only OFF position, unless no confusion with the OFF position If the off position is only indicated by letters, the word "off" is used. (IEC 60335-2-7) Indication for direction of adjustment of controls Instructions for safe use provided Details concerning precautions during user maintenance The instructions state that: - the appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction - children being supervised not to play with the appliance For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided Instructions for class III appliances state that it must		

No.	Specifications	Limit(s)	Test method(s)
	only be supplied at SELV, unless it is a battery-operated appliance, the battery being charged outside the appliance Maximum mass of dry cloth in kilograms, specified (IEC 60335-2-7) Sufficient details for installation supplied For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated - carpet does not obstruct the openings for washing machines with ventilation openings in the base (IEC 60335-2-7) Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions state that the fixed wiring must be protected Instructions for built-in appliances: - dimensions of space - dimensions and position of supporting and fixing		

No.	Specifications	Limit(s)	Test method(s)
	- minimum distances between parts and surrounding structure - minimum dimensions of ventilating openings and arrangement - connection to supply mains and interconnection of separate components - allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless a switch complying with 24.3 Replacement cord instructions, type X attachment with a specially prepared cord Replacement cord instructions, type Y attachment Replacement cord instructions, type Z attachment Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard Instructions for fixed appliances stating how the appliance is to be fixed Instructions for appliances connected to the water mains: - max. inlet water pressure (Pa)..... : - min. inlet water pressure, if necessary (Pa) ..... : Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets		

No.	Specifications	Limit(s)	Test method(s)
	Instructions and other texts in an official language Marking clearly legible and durable, rubbing test as specified Markings on a main part Marking clearly discernible from the outside, if necessary after removal of a cover For portable appliances, cover can be removed or opened without a tool For stationary appliances, name, trademark or identification mark and model or type reference visible after installation For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading The caution relating to connection to the hot water supply shall be on the appliance at its point of attachment to the water supply (IEC 60335-2-7) Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link		

No.	Specifications	Limit(s)	Test method(s)
4	Adequate protection against accidental contact with live parts Requirement applies for all positions, detachable parts removed Lamps behind a detachable cover not removed, if conditions met Insertion or removal of lamps, protection against contact with live parts of the lamp cap Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts Use of test probe 13 of IEC 61032, with a force not exceeding 1 N, through openings in class 0 appliances and class II appliances/constructions: no contact with live parts Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts For appliances other than class II, use of test probe 41 of IEC 61032, with a force not exceeding 1 N: no contact with live parts of visible glowing heating elements Accessible part not considered live if: - safety extra-low a.c. voltage: peak value not exceeding 42.4 V - safety extra-low d.c. voltage: not exceeding 42.4 V		INSO 1562-2-7 Claus8 PROTECTION AGAINST ACCESS TO LIVE PARTS

No.	Specifications	Limit(s)	Test method(s)
	- or separated from live parts by protective impedance If protective impedance: d.c. current not exceeding 2 mA, and a.c. peak value not exceeding 0.7 mA - for peak values over 42.4 V up to and including 450 V, capacitance not exceeding 0,1 µF - for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 µC - for peak values over 15kV, the energy in the discharge not exceeding 350 mJ Live parts protected at least by basic insulation before installation or assembly: - built-in appliances - fixed appliances - appliances delivered in separate units Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only Only possible to touch parts separated from live parts by double or reinforced insulation		

No.	Specifications	Limit(s)	Test method(s)
5	Requirements and tests are specified in part 2 when necessary		INSO 1562-2-7 Clause9 STARTING OF MOTOR-OPERATED APPLIANCES
6	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1 . : Test carried out at upper an lower limits of the ranges for appliances with one or more rated voltage ranges, unless the rated power input is related to the arithmetic mean value The selected representative period is the period, such as filling with water, washing, rinsing, water extraction, spinning or braking, during which the power input is the highest (IEC 60335-2-7) Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2: Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless the rated current is related to the arithmetic mean value of the range The selected representative period is the period, such as	(see appended table)	INSO 1562-2-7 Clause10 POWER INPUT AND CURRENT

No.	Specifications	Limit(s)	Test method(s)
	filling with water, washing, rinsing, water extraction, spinning or braking, during which the current is the highest (IEC 60335-2-7)		
7	No excessive temperatures in normal use The appliance is held, placed or fixed in position as described : Temperature rises, other than of windings, determined by thermocouples Temperature rises of windings determined by resistance method, unless the windings are non-uniform or it is difficult to make the necessary connections Heating appliances operated under normal operation at 1.15 times rated power input (W): Motor-operated appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V)..... : Combined appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V)..... : Appliances with a programmer :(IEC 60335-2-7) -3 cycles with programme that results in highest temperature rises -rest period of 4 min between cycles	0.94 and 1.06 times rated voltage (V)..... :	INSO 1562-2-7 Clause11 HEATING

No.	Specifications	Limit(s)	Test method(s)
	Others appliances sequences of test as specified (IEC 60335-2-7) -for appliances without means for water extraction and for washing machines with a hand-operated wringer: washing -for appliances having a single drum for washing and water extraction: washing followed by water extraction -for appliances having separate drums for washing and water extraction, which can-not be used simultaneously: washing and water extraction separated by an additional 4 min rest period -for appliances having separate drums for washing and water extraction, which can be used simultaneously washing together with water extraction so that the operations terminate simultaneously - for appliances having a single drum (dried=washed) washing followed by water extraction, followed by drying - for appliances having a single drum (dried<washed) washing followed by water extraction, followed by 2 drying periods, with an additional rest period 4 min before each drying period. In this case only 2 cycles of operation are carried out. For appliances with a timer, the washing period, the water extraction period and the drying	(see appended table)	INSO 1562-2-7

No.	Specifications	Limit(s)	Test method(s)
	are equal to the maximum period allowed by the timer (IEC 60335-2-7)For appliance without a timer (IEC 60335-2-7) Type of washing machine: Duration of washing (min) Duration of water extraction : 5min The rest period, including any braking time, has a duration of 4 min. (IEC 60335-2-7) After the specified sequence of operation, discharge pumps that are driven by a separate motor and switched on and off manually, are subjected to 3 operating periods separated by rest periods of 4 min.(IEC 60335-2-7) Duration of each operating period : Temperature rises monitored continuously and not exceeding the values in table 3 : If the temperature rise of a motor winding exceeds the value of table 3, or if there is doubt with regard to classification of insulation, tests of Annex C are carried out Sealing compound does not flow out Protective devices do not operate, except components in protective electronic circuits tested for the number of cycles specified in 24.1.4		

No.	Specifications	Limit(s)	Test method(s)
8	Leakage current not excessive and electric strength adequate Heating appliances operated at 1.15 times the rated power input (W): Motor-operated appliances and combined appliances supplied at 1.06 times the rated voltage (V): Protective impedance and radio interference filters disconnected before carrying out the tests For class 0, class II and class III appliances, leakage current measured by means of the circuit described in figure 4 of IEC 60990 For other appliances, a low impedance ammeter may be used Leakage current measurements: For stationary class I appliances, the leakage current not exceeding 3,5 mA, or 1 mA/kW of rated power input with a limit of 5 mA, whichever is greater (IEC 60335-2-7) The appliance is disconnected from the supply Electric strength tests according to table 4: No breakdown during the tests	(see appended table)	INSO 1562-2-7 Clause13 LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE
9	Appliances withstand the transient over-voltages to which they may be subjected Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6:	(see appended table)	INSO 1562-2-7 Clause14 TRANSIENT OVERVOLTAGES

No.	Specifications	Limit(s)	Test method(s)
	No flashover during the test, unless of functional insulation if the appliance complies with clause 19 with the clearance short-circuited		
10	Enclosure provides the degree of moisture protection according to classification of the appliance Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3 No trace of water on insulation which can result in a reduction of clearances or creepage distances below values specified in clause 29 Appliances, other than IPX0, subjected to tests as specified in IEC 60529 : Water valves containing live parts in external hoses for connection of an appliance to the water mains tested as specified for IPX7 appliances Hand-held appliance turned continuously through the most unfavourable positions during the test Built-in appliances installed according to the instructions Appliances placed or used on the floor or table placed on a horizontal unperforated support Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board		INSO 1562-2-7 Clause15 MOISTURE RESISTANCE

No.	Specifications	Limit(s)	Test method(s)
	For IPX3 appliances, the base of wall mounted appliances is placed at the same level as the pivot axis of the oscillating tube For IPX4 appliances, the horizontal centre line of the appliance is aligned with the pivot axis of the oscillating tube, and for appliances normally used on the floor or table, the movement is limited to two times 90□ for a period of 5 min, the support being placed at the level of the pivot axis of the oscillating tube Wall-mounted appliances, take into account the distance to the floor stated in the instructions Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support, the pivot axis of the oscillating tube located at the level of the underside of the support, and for IPX4 appliances, the movement of the tube is limited to two times 90 ° from the vertical for a period of 5 min Appliances with type X attachment fitted with a flexible cord as described Detachable parts subjected to the relevant treatment with the main part However, if a part has to be removed for user maintenance and a tool is needed, this part is not removed		

No.	Specifications	Limit(s)	Test method(s)
	Spillage of liquid does not affect the electrical insulation even if an inlet valve fails to close (IEC 60335-2-7) Appliances with type X attachment fitted with a flexible cord as described Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable Detachable parts are removed Overfilling test with additional amount of water, over a period of 1 min (l) : The appliance withstands the electric strength test of 16.3 No trace of water on insulation that can result in a reduction of clearances or creepage distances below values specified in clause 29 Appliances proof against humid conditions Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board For IPX3 appliances, the base of wall mounted appliances is placed at the same level as the pivot axis of the oscillating tube For IPX4 appliances, the horizontal centre line of the appliance is aligned with the pivot axis of the oscillating tube, and for appliances normally used on the floor or table, the movement		

No.	Specifications	Limit(s)	Test method(s)
	is limited to two times 90 for a period of 5 min, the support being placed at the level of the pivot axis of the oscillating tube Wall-mounted appliances, take into account the distance to the floor stated in the instructions Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support, the pivot axis of the oscillating tube located at the level of the underside of the support, and for IPX4 appliances, the movement of the tube is limited to two times 90 ° from the vertical for a period of 5 min Appliances with type X attachment fitted with a flexible cord as described Detachable parts subjected to the relevant treatment with the main part However, if a part has to be removed for user maintenance and a tool is needed, this part is not removed Spillage of liquid does not affect the electrical insulation even if an inlet valve fails to close (IEC60335-2-7) Appliances with type X attachment fitted with a flexible cord as described Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable Detachable parts are removed		

No.	Specifications	Limit(s)	Test method(s)
	Overfilling test with additional amount of water, over a period of 1 min (l): The appliance withstands the electric strength test of 16.3 No trace of water on insulation that can result in a reduction of clearances or creepage distances below values specified in clause 29 Appliances proof against humid conditions		
11	Leakage current not excessive and electric strength adequate Protective impedance disconnected from live parts before carrying out the tests Tests carried out at room temperature and not connected to the supply Single-phase appliances: test voltage 1.06 times rated voltage (V): Three-phase appliances: test voltage 1.06 times rated voltage divided by √3 (V): Leakage current measurements: Limit values doubled if: - all controls have an off position in all poles, or - the appliance has no control other than a thermal cut-out, or - all thermostats, temperature limiters and energy regulators do not have an off position, or - the appliance has radio interference filters With the radio interference filters disconnected, the leakage current do not exceed limits specified..... :		INSO 1562-2-7 Clause16 LEAKAGE CURRENT AND ELECTRIC STRENGTH

No.	Specifications	Limit(s)	Test method(s)
	Electric strength tests according to table 7: Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified: No breakdown during the tests		
12	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use: Appliance supplied with 1.06 or 0.94 times rated voltage under the most unfavourable short-circuit or overload likely to occur in normal use (V): Basic insulation is not short-circuited Temperature rise of insulation of the conductors of safety extra-low voltage circuits not exceeding the relevant value specified in table 3 by more than 15 K Temperature of the winding not exceeding the value specified in table 8 However, limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC61558-1	(see appended table)	INSO 1562-2-7 Clause17 OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS
13	Appliances shall be constructed so that the lid or door interlock withstands the stresses to which it may be exposed in normal use. (IEC 60335-2-7)		INSO 1562-2-7 Clause18 ENDURANCE

No.	Specifications	Limit(s)	Test method(s)
	The lid or door is subjected to 10 000 cycles of opening and closing For appliances having a drying function, the number of cycles is 13 000 After the test, compliance with 20.103 to 20.105 shall not be impaired The braking mechanism of appliances having a lid that can be opened during the water extraction period shall withstand the stresses to which it may be exposed in normal use. (IEC 60335-2-7) Appliance supplied at 1.06 rated voltage Test carried out 1000 times, the textile material re- saturated with water at least every 250 times After the test, the appliance shall be fit for further use and compliance with this standard shall not be impaired.		
14	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated Electronic circuits so designed and applied that a fault will not render the appliance unsafe: Appliances incorporating heating elements subjected to the tests of 19.2 and 19.3, and if the appliance also has a control that limit the temperature during clause 11 it		INSO 1562-2-7 Clause19 ABNORMAL OPERATION

No.	Specifications	Limit(s)	Test method(s)
	is subjected to the test of 19.4, and if applicable, to the test of 19.5Appliances incorporating PTC heating elements are also subjected to the test of 19.6 Appliances incorporating motors subjected to the tests of 19.7 to 19.10, as applicable Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11 Appliances incorporating voltage selector switches subjected to the test of 19.15 Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or until steady conditions are established If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample For appliances incorporating a programmer or timer, the tests of 19.2 and 19.3 are replaced by the tests of 19.101 (IEC 60335-2-7) Test of 19.7 is not carried out on motor driving moving parts of oscillating agitator (IEC 60335-2-7)		

No.	Specifications	Limit(s)	Test method(s)
	Appliances not intended for connection to the hot water supply and not provided with heating elements are also subjected to the test of 19.102. (IEC 60335-2-7) Test of appliances with heating elements with restricted heat dissipation; test voltage (V), power input of 0.85 times rated power input (W): Restricted heat dissipation is obtained without water, with just sufficient water to cover the heating elements (IEC 60335-2-7) Test of 19.2 repeated; test voltage (V), power input of 1.24 times rated power input (W): Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited Test of 19.4 repeated on Class 0I and I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the sheath The test repeated with reversed polarity and the other end of the heating element connected to the sheathThe test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4		

No.	Specifications	Limit(s)	Test method(s)
	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions The working voltage of the PTC heating element is increased by 5% and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until 1.5 times working voltage or until the PTC heating element ruptures (V: Stalling test by locking the rotor if the locked rotor torque is smaller than the full load torque, or locking moving parts of other appliances Locked rotor, capacitors open-circuited one at a time Test repeated with capacitors short-circuited one at a time, unless capacitor is of class P2 of IEC 60252-1 Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed: Other appliances supplied with rated voltage for a period as specified: Winding temperatures not exceeding values specified in table 8: Appliances without a programmer or timer are operated for 5 min (IEC 60335-2-7)		

No.	Specifications	Limit(s)	Test method(s)
	Multi-phase motors operated at rated voltage with one phase disconnected The running overload test is carried out on appliances that have overload protective devices incorporating electronic circuits to protect the windings of the drum motor. However, the test is not carried out if the protective device senses the winding temperature directly. (IEC 60335-2-7) Series motor operated at 1.3 times rated voltage for 1 min (V): During the test, parts not being ejected from the appliance Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless they comply with the conditions specified in 19.11.1Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless restarting does not result in a hazard Appliances having a device with an off position obtained by electronic disconnection, or a device placing the appliance in a stand-by mode, subjected to the tests of 19.11.4 If the safety of the appliance under any of the fault		

No.	Specifications	Limit(s)	Test method(s)
	conditions depends on the operation of a miniature fuse-link complying with IEC 60127, the test of 19.12 is carried out During and after each test the following is checked: - the temperature of the windings do not exceed the values specified in table 8 - the appliance complies with the conditions specified in 19.13 - any current flowing through protective impedance not exceeding the limits specified in 8.1.4 If a conductor of a printed board becomes open-circuited, the appliance is considered to have withstood the particular test, provided both of the following conditions are met: - the base material of the printed circuit board withstands the test of Annex E - any loosened conductor does not reduce clearance or creepage distances between live parts and accessible metal parts below the values specified in clause 29 Fault conditions a) to g) in 19.11.2 are not applied to circuits or parts of circuits meeting both of the following conditions: - the electronic circuit is a low-power circuit, that is, the maximum power at low-power		

No.	Specifications	Limit(s)	Test method(s)
	points does not exceed 15 W according to the tests specified - the protection against electric shock, fire hazard, mechanical hazard or dangerous malfunction of other parts of the appliance does not rely on the correct functioning of the electronic circuit Fault conditions applied one at a time, the appliance operating under conditions specified in clause 11, but supplied at rated voltage, duration of the tests as specified: a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29 b) open circuit at the terminals of any component c) short circuit of capacitors, unless they comply with IEC 60384-14d) short circuit of any two terminals of an electronic component, other than integrated circuits This fault condition is not applied between the two circuits of an optocoupler e) failure of triacs in the diode mode f) failure of microprocessors and integrated circuits g) failure of an electronic power switching device Each low power circuit is short-circuited by connecting the low-power point to the pole of the		

No.	Specifications	Limit(s)	Test method(s)
	supply source from which the measurements were made If the appliance incorporates a protective electronic circuit which operates to ensure compliance with clause 19, the relevant test is repeated with a single fault simulated, as indicated in a) to g) of 19.11.2 Appliances having a device with an off position obtained by electronic disconnection, or a device that can be placed in the stand-by mode, subjected to the tests of 19.11.4.1 to 19.11.4.7, the device being set in the off position or in the stand-by mode Appliances incorporating a protective electronic circuit subjected to the tests of 19.11.4.1 to 19.11.4.7, the tests being carried out after the protective electronic circuit has operated, except that appliances operated for 30 s or 5 min during the test of 19.7 are not subjected to the tests for electromagnetic phenomena. Surge protective devices disconnected, unless They incorporate spark gaps The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4		

No.	Specifications	Limit(s)	Test method(s)
	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3 The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4, test level 3 or 4 as specified The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5, test level 3 or 4 as specified Earthed heating elements in class I appliances disconnected The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3Appliances having a rated current not exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-11 Appliances having a rated current exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-34 The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2 The appliance is supplied at rated voltage and operated under normal operation. After 60s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the		

No.	Specifications	Limit(s)	Test method(s)
	programmable component cease to operate The appliance continues to operate normally, or requires a manual operation to restart If the safety of the appliance for any of the fault conditions specified in 19.11.2 depends on the operation of a miniature fuse-link complying with IEC 60127, the test is repeated, measuring the current flowing through the fuse-link; measured current (A); rated current of the fuse-link (A) ..... : During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts Temperature rises not exceeding the values shown in table 9: Compliance with clause 8 not impaired If the appliance can still be operated it complies with 20.2 Insulation, other than of class III appliances or class III constructions that do not contain live parts, withstands the electric strength test of 16.3, the test voltage as specified in table 4: - basic insulation (V): - supplementary insulation (V): - reinforced insulation (V: After operation or interruption of a control, clearances and		

No.	Specifications	Limit(s)	Test method(s)
	creepage distances across the functional insulation withstand the electric strength test of 16.3, the test voltage being twice the working voltage The appliance does not undergo a dangerous malfunction, and no failure of protective electronic circuits, if the appliance is still operableAppliances tested with an electronic switch in the off position, or in the stand-by mode: - do not become operational, or - if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4 If the appliance contains lids or doors that are controlled by one or more interlocks, one of the interlocks may be released provided that: - the lid or door does not move automatically to an open position when the interlock is released, and - the appliance does not start after the cycle in which the interlock was released The textile material shall not ignite and shall not show any charring or glowing (IEC 60335-2-7) During the tests of 19.101 and 19.102, the temperature of windings shall not exceed the		

No.	Specifications	Limit(s)	Test method(s)
	values specified in table 8. (IEC 60335-2-7) The appliance shall comply with 20.103 to 20.105 if it can still be operated. (IEC 60335-2-7) Appliances operated under the conditions of clause 11, any contactor or relay contact operating under the conditions of clause 11 being short-circuited For a relay or contactor with more than one contact, all contacts are short-circuited at the same time A relay or contactor operating only to ensure the appliance is energized for normal use is not short- circuited If more than one relay or contactor operates in clause 11, they are short-circuited in turn For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied Fault conditions applied, appliance supplied at rated voltage and operated under normal operation. (IEC 60335-2-7) -programmer stopping in any position -disconnection and reconnection of one or more phases of the supply -open-circuiting or short-circuiting of components		

No.	Specifications	Limit(s)	Test method(s)
	-failure of magnetic valve -failure or blocking the mechanical parts of water- level switch, except if -the cross-sectional area of the tube supplying the air chamber is greater than 500mm² with a minimum dimension of 10mm, -the outlet of the chamber is at least 20mm above the highest water level, and -the tube connecting the air chamber to the water- level switch is fixed so that there is no likelihood of bending or pinching-puncture of the capillary tube of a thermostat Appliances not intended for connection to the hot water supply and not provided with heating elements are operated under the conditions of cl. 11 , except that they are supplied at rated voltage and filled with water at a temperature of 65 °C± 5°C (IEC 60335-2-7)		
15	Appliances having adequate stability The appliance is empty or filled as specified for normal operation, whichever is more unfavourable (IEC 60335-2-7) Doors and lids are closed and any castors turned to the most unfavourable position (IEC 60335-2-7) Tilting test through an angle of 10□, appliance placed on an		INSO 1562-2-7 Clause20 STABILITY AND MECHANICAL HAZARDS

No.	Specifications	Limit(s)	Test method(s)
	inclined plane/horizontal support, not connected to the supply mains; appliance does not overturn Tilting test repeated on appliances with heating elements, angle of inclination increased to 15° Possible heating test in overturned position; temperature rise does not exceed values shown in table 9 Moving parts adequately arranged or enclosed as to provide protection against personal injury Protective enclosures, guards and similar parts are non-detachable, and have adequate mechanical strength Enclosures that can be opened by overriding an interlock are considered to be detachable parts Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard by unexpected closure Not possible to touch dangerous moving parts with the test probe describedTop load appliances of drum type: provided with an interlock which disconnects motor before door or lid opening exceeds 50mm (IEC 60335-2-7) If a removable or sliding lid is provided, the motor shall be de-energized as soon as the lid is		

No.	Specifications	Limit(s)	Test method(s)
	removed or displaced and not possible to start motor unless the lid is in the closed position (IEC 60335-2-7) Compliance checked by inspection, by measurement and by the following test: test probe B of IEC 61032 is applied in order to try and release any interlock that is needed to comply with the requirement. The interlock shall not release. (IEC 60335-2-7) Appliances shall not be affected by an unbalanced load (IEC 60335-2-7) For washing machines of the drum type that are loaded from the front or from the top, the door or lid shall be interlocked so that the appliance can only be operated when the door or lid is in the closed position (IEC 60335-2-7) Compliance checked by inspection, by measurement and by the following test: test probe B of IEC 61032 is applied in order to try and release any interlock that is needed to comply with the requirement. The interlock shall not release. (IEC 60335-2-7) It shall not be possible to open the lid or door of the appliance while the speed exceeds 60 r/min if the drum has a rotational kinetic energy exceeding		

No.	Specifications	Limit(s)	Test method(s)
	1 500J, or a maximum peripheral speed exceeding (IEC 60335-2-7) -20 m/s for drums that rotate about the horizontal axis, -40 m/s for drums that rotate about the vertical axis, If the electronic circuit is programmable, the software shall contain measures to control the fault/error conditions specified in Table R.1 and is evaluated in accordance with the relevant requirements of Annex R. (IEC 60335-2-7) Appliances shall have an automatic means for switching off the motor, or for reducing the drum speed to 60 r/min, when the lid or door is opened if the drum has a rotational kinetic energy not exceeding 1 500J, and a peripheral speed not exceeding -20 m/s for drums that rotate about the horizontal axis, -40 m/s for drums that rotate about the vertical axis (IEC 60335-2-7) If the electronic circuit is programmable, the software shall contain measures to control the fault/error conditions specified in Table R.1 and is evaluated in accordance with the relevant requirements of Annex R. (IEC 60335-2-7)		

No.	Specifications	Limit(s)	Test method(s)
16	Appliance has adequate mechanical strength and is constructed as to withstand rough handling Checked by applying 3 blows to every point of the enclosure like to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 JThe appliance shows no damage impairing compliance with this standard, and compliance with 8.1, 15.1 and clause 29 not impairedIf doubt, supplementary or reinforced insulation subjected to the electric strength test of 16.3 If necessary, repetition of groups of three blows on a new sample Accessible parts of solid insulation having strength to prevent penetration by sharp implements Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm The insulation is tested as specified, and does withstand the electric strength test of 16.3 Lids and doors shall have adequate mechanical strength (IEC 60335-2-7) Compliance is checked by 21.101.1 for lids, and21.101.2 for doors A rubber hemisphere –diameter 70 mm, hardness between 40		INSO 1562-2-7 Clause21 MECHANICAL STRENGTH

No.	Specifications	Limit(s)	Test method(s)
	and 50 HIRD- is fixed to a cylinder – mass 20 kg- and dropped from a height of 100 mm onto the centre of the lid (IEC 60335-2-7) Test carried out 3 times, after which the lid shall not be damaged to such an extent that moving parts become accessible. A vertically downwards force of 150 N is applied I the most unfavourable position to the door while it is open et an angle of 90° ± 5°. The force is maintained for 1 mm. (IEC 60335-2-7) After the test, the appliance shall not be damaged or deformed to such an extend that compliance with 20.103 to 20.105 is impaired (IEC 60335-2-7) Lids shall have adequate resistance to distortion (IEC 60335-2-7) A force of 50 N is applied to the open lid in the most unfavourable direction and position. Test carried out 3 times , after which the hinges shall not have worked loose and the appliance shall not be damaged or deformed to such an extend that compliance with 20.103 to 20.105 is impaired(IEC 60335-2-7)		

No.	Specifications	Limit(s)	Test method(s)
17	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled Stationary appliance: means to ensure all-pole disconnection from the supply being provided: - a supply cord fitted with a plug, or - a switch complying with 24.3, or - a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided, or - an appliance inlet Singe-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase, permanently connected class 01 and class I appliances, connected to the phase conductor Appliance provided with pins: no undue strain on socket-outlets Applied torque not exceeding 0.25 Nm Pull force of 50N to each pin after the appliance has being placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1mm Each pin subjected to a torque of 0.4Nm; the pins are not rotating, unless rotating does not impair compliance with this		INSO 1562-2-7 Clause22 CONSTRUCTION

No.	Specifications	Limit(s)	Test method(s)
	standardAppliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance exceeding 0,1 F, the appliance being disconnected from the supply at the instant of voltage peak Voltage not exceeding 34 V (V) ..... : Electrical insulation not affected by condensing water or leaking liquid Electrical insulation of Class II appliances not affected if a hose ruptures or seal leaks Requirements relating to leakage from containers, hoses, coupling and similar parts of the appliance is not applicable to parts that withstand the ageing test specified in annex BB (IEC 60335-2-7) Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices Electrical connections not subject to pulling during cleaning of compartments to which access can be gained without the aid of a tool, and that are likely to be cleaned in normal use		

No.	Specifications	Limit(s)	Test method(s)
	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless the substance has adequate insulating properties Not possible to reset voltage-maintained non-self- resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance, if: - a non-self-resetting thermal cut-out is required by the standard, and - a voltage maintained non-self-resetting thermal cut-out is used to meet it Non-self-resetting thermal motor protectors have a trip-free action, unless they are voltage maintained Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts Obvious locked position of snap-in devices used for fixing such partsNo deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing Tests as described		

No.	Specifications	Limit(s)	Test method(s)
	Handles, knobs etc. fixed in a reliable manner Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied Unlikely that handles, when gripped as in normal use, make the operator's hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance No exposed pointed ends of self-tapping screws or other fasteners, likely to be touched by the user in normal use or during user maintenance Storage hooks and the like for flexible cords smooth and well rounded Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands and no undue wear of contacts Cord reel tested with 6000 operations, as specified		

No.	Specifications	Limit(s)	Test method(s)
	Electric strength test of 16.3, voltage of 1000 V applied Spacers not removable from the outside by hand or by means of a screwdriver or a spanner Current-carrying parts and other metal parts resistant to corrosion Driving belts not relied upon to provide the required level of insulation, unless constructed to prevent inappropriate replacement Direct contact between live parts and thermal insulation effectively prevented, unless material used is non-corrosive, non-hygroscopic and non-combustible Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless impregnatedThis requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements Appliances not containing asbestos Oils containing polychlorinated biphenyl (PCB) not used Bare heating elements, except in class III appliances or class III constructions that do not contain live parts, adequately supported In case of rupture, the heating conductor is unlikely to come in		

No.	Specifications	Limit(s)	Test method(s)
	contact with accessible metal parts Sagging heating conductors, except in class III appliances or class III constructions that do not contain live parts, cannot come into contact with accessible metal parts For class III constructions the insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double or reinforced insulation Parts connected by protective impedance separated by double or reinforced insulation Metal parts of Class II appliances conductively connected to gas pipes or in contact with water, separated from live parts by double or reinforced insulation Class II appliances permanently connected to fixed wiring so constructed that the required degree of access to live parts is maintained after installation Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete		

No.	Specifications	Limit(s)	Test method(s)
	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose Supplementary and reinforced insulation constructed or protected against pollution so that clearances or creepage distances are not reduced below the values in clause 29Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2 Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation Insulating material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation Oxygen bomb test at 70 □C for 96 h and 16 h at room temperature Conductive liquids that are or may become accessible in normal use and conductive		

No.	Specifications	Limit(s)	Test method(s)
	liquids that are in contact with unearthed accessible metal parts are not in direct contact with live parts Electrodes not used for heating liquids For class II constructions, conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts, not in direct contact with basic or reinforced insulation, unless the reinforced insulation consists of at least 3 layers For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, unless the reinforced insulation consists of at least 3 layers An air layer not used as basic or supplementary insulation in a double insulation system if likely to be bridged by leaking liquid Shafts of operating knobs, handles, levers etc. not live, unless the shaft is not accessible when the part is removed For other than class III constructions, handles, levers and knobs, held or actuated in normal use, not becoming live in the event of a failure of basic insulation		

No.	Specifications	Limit(s)	Test method(s)
	Such parts being of metal, and their shafts or fixings are likely to become live in the event of a failure of basic insulation, are either adequately covered by insulation material or their accessible parts are separated from their shafts or fixings by supplementary insulationThis requirement does not apply to handles, levers and knobs on stationary appliances, other than those of electrical components, provided they are reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation For appliances other than class III, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless they are separated from live parts by double or reinforced insulation Capacitors in Class II appliances not connected to accessible metal parts and their casings, if of metal, separated from accessible metal parts by		

No.	Specifications	Limit(s)	Test method(s)
	supplementary insulation, unless the capacitors comply with 22.42 Capacitors not connected between the contacts of a thermal cut-out Lamp holders used only for the connection of lamps Motor-operated appliances and combined appliances intended to be moved while in operation, or having accessible moving parts, fitted with a switch to control the motor. The actuating member of the switch being easily visible and accessible If the appliance cannot operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation being fitted with a switch for stopping the operation. The actuating member of the switch being easily visible and accessible No components, other than lamps, containing mercury Protective impedance consisting of at least two separate components Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open- circuited Resistors checked by the test of 14.1 a) in IEC60065 Capacitors checked by the tests for class Y		

No.	Specifications	Limit(s)	Test method(s)
	capacitors in IEC 60384-14Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur Appliances not having an enclosure that is shaped or decorated like a toy When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1 Software that contains measures to control the fault/error conditions specified in table R.2 is to be specified in parts 2 for particular constructions or to address specific hazards These requirements are not applicable to software used for functional purpose or compliance with clause 11 Appliances connected to the water mains withstand the water pressure expected in normal use No leakage from any part, including any inlet water hose Appliances connected to the water mains constructed to		

No.	Specifications	Limit(s)	Test method(s)
	prevent backsiphonage of non-potable water For remote operation, the duration of operation is to be set before the appliance can be started, unless the appliance switches off automatically or can operate continuously without hazard Controls incorporated in the appliance take priority over controls actuated by remote operation There is a control on the appliance manually adjusted to the setting for remote operation before the appliance can be operated in this mode There is a visual indication showing that the appliance is adjusted for remote operation These requirements not necessary on appliances that can operate as follows, without giving rise to a hazard: - continuously, or - automatically, or - remotely Socket-outlets on appliances accessible to the user in accordance with the socket-outlet system used in the country in which the appliance is soldAppliances shall be constructed so that when the water level is above the lower hedge of the door opening, it shall not be possible to open the door by a simple action while the appliance is operating.		

No.	Specifications	Limit(s)	Test method(s)
	(IEC 60335-2-7) Requirement not applicable to appliance fitted with interlock doors or doors that are opened by means of a key or by 2 separate actions, such as pushing and turning. If the electronic circuit is programmable, the software shall contain measures to control the fault/error conditions specified in Table R.1 and is evaluated in accordance with the relevant requirements of Annex R. Cloth cannot come in contact with heating element (IEC 60335-2-7) Appliances shall be constructed so that, during normal use, filter compartments cannot be opened by a simple action. (IEC 60335-2-7) This requirement is not applicable to appliances intended for connection to the cold water supply only and without means to heat the water or to appliances fitted with filter compartment covers that are : (IEC 60335-2-7) – interlocked; – opened by means of a key; – opened by two separate actions such as pushing and turning; or – opened by rotating by more than 180 °.		

No.	Specifications	Limit(s)	Test method(s)
	Lid and door interlocks shall be constructed so that they are unlikely to be forced open in normal use (IEC 60335-2-7) Any mechanical release mechanism intended to be open the loading door after a failure shall only be accessible by using a tool. (IEC 60335-2-7)		
18	Wireways smooth and free from sharp edges Wires protected against contact with burrs, cooling fins etc. Wire holes in metal well-rounded or provided with bushings Wiring effectively prevented from coming into contact with moving parts Beads etc. on live wires cannot change their position, and are not resting on sharp edges Beads inside flexible metal conduits contained within an insulating sleeve Electrical connections and internal conductors movable relatively to each other not exposed to undue stressInsulation and sheath of internal wiring for the supply of magnetic valves and similar components shall be at least equivalent to the electrical characteristics of light polyvinyl chloride sheathed flexible cord (code designation 60227 IEC 52) (IEC 60335-2-7)		INSO 1562-2-7 Clause23 INTERNAL WIRING

No.	Specifications	Limit(s)	Test method(s)
19	Components comply with safety requirements in relevant IEC standards List of components: If components have not been tested and found to comply with relevant IEC standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9 For components mentioned in 24.1.1 to 24.1.9 no additional tests specified in the relevant component standard are necessary other than those specified in 24.1.1 to 24.1.9 Components not tested and found to comply with relevant IEC standard and components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance Lampholders and starterholders that have not being tested and found to comply with the relevant IEC standard, tested as a part of the appliance and additionally according to the gauging and interchangeability requirements of the relevant IEC standard No additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of IEC 60320-1 and IEC60309		INSO 1562-2-7 Clause24 COMPONENTS

No.	Specifications	Limit(s)	Test method(s)
	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, complying with IEC 60384-14 If the capacitors have to be tested, they are tested according to Annex F Safety isolating transformers complying with IEC61558-2-6 If they have to be tested, they are tested according to Annex G Switches complying with IEC 61058-1, the number of cycles of operation being at least 10 000 If they have to be tested, they are tested according to Annex H If the switch operates a relay or contactor, the complete switching system is subjected to the testIf the switch only operates a motor staring relay complying with IEC 60730-2-10 with the number of cycles of a least 10 000 as specified, the complete switching system need not be tested Automatic controls complying with IEC 60730-1 with the relevant part 2. The number of cycles of operation being at least: - thermostats: 10 000 - temperature limiters: 1 000 - self-resetting thermal cut-outs: 300		

No.	Specifications	Limit(s)	Test method(s)
	- voltage maintained non-self-resetting 1 000 thermal cut-outs: - other non-self-resetting thermal cut-outs: 30 - timers: 3 000 - energy regulators: 10 000 - programmers : (IEC 60335-2-7) 3 000 The number of cycles for controls operating during clause 11 need not be declared, if the appliance meets the requirements of this standard when they are short-circuited Thermal motor protectors are tested in combination with their motor under the conditions specified in Annex D For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IEC 60730-2-8 is IPX7 For lid or door interlocks, the number of cycles of operation declared for subclauses 6.10 and 6.11 of IEC 60430-2-12 shall not be less than (IEC 60335-2-7) - 6 000 - for washing machines including drying operation: 9 000		

No.	Specifications	Limit(s)	Test method(s)
	-interlock operates more than once during normal operation, the minimum number of cycles is increased accordingly. Appliance couplers complying with IEC60320-1 However, for appliances classified higher than IPX0, the appliance couplers complying with IEC60320-2-3 Interconnection couplers complying with IEC 60320-2-2 Small lamp holders similar to E10 lampholders complying with IEC 60238, the requirements for E10 lampholders being applicableFor remote operation of the appliance via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151 The relevant standard for thermal links is IEC60691 Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of Clause 19 Contactors and relays, other than motor starting relays, tested as part of the appliance They are also tested in accordance with Clause 17 of IEC 60730-1, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance:		

No.	Specifications	Limit(s)	Test method(s)
	Appliances not fitted with: - switches or automatic controls in flexible cords - devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance - thermal cut-outs that can be reset by soldering, unless the solder has a melding point of at least 230˚C Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and have a contact separation in all poles, providing full disconnection under overvoltage category III conditions Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1 Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance, and used accordingly Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated		

No.	Specifications	Limit(s)	Test method(s)
	voltage under minimum loadWorking voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V In addition, the motors comply with the requirements of Annex IDetachable hose-sets for connection of appliances to the water mains comply with IEC 61770 They are supplied with the appliance Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set Motor running capacitors in appliances for which30.2.3 is applicable and that are permanently connected in series with a motor winding, not causing a hazard in event of a failure One or more of the following conditions are to be met: - the capacitors are of class P2 according to IEC60252-1 - the capacitors are housed within a metallic or ceramic enclosure - the distance of separation of the outer surface to adjacent non-metallic parts exceeds 50 mm - adjacent non-metallic parts within 50 mm withstand the needle-flame test of Annex E		

No.	Specifications	Limit(s)	Test method(s)
	- adjacent non-metallic parts within 50 mm classified as at least V-1 according to IEC 60695-11-10 Thermal cut-outs incorporated in washing machines for compliance with 19.4 shall be not self-resetting(IEC 60335-2-7) Compliance is checked by inspection		
20	Appliance not intended for permanent connection to fixed wiring, means for connection to the supply: - supply cord fitted with a plug, - an appliance inlet having at least the same degree of protection against moisture as required for the appliance, or - pins for insertion into socket-outlets Appliance not provided with more than one means of connection to the supply mains Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown Appliance intended to be permanently connected to fixed wiring provided with one of the following means for connection to the supply mains: - a set of terminals allowing the connection of a flexible cord- a fitted supply cord		INSO 1562-2-7 Clause25 SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS

No.	Specifications	Limit(s)	Test method(s)
	- a set of supply leads accommodated in a suitable compartment - a set of terminals for the connection of cables of fixed wiring, cross-sectional areas specified in 26.6, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support - a set of terminals and cable entries, conduit entries, knock-outs or glands, allowing connection of appropriate types of cable or conduit, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support For a fixed appliance constructed so that parts can be removed to facilitate easy installation, this requirement is met if it is possible to connect the fixed wiring without difficulty after a part of the appliance has been fixed to its support Cable and conduit entries, rated current of appliance not exceeding 16 A, dimension according to table 10 (mm): Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in clause 29 Method for assembling the supply cord to the appliance:		

No.	Specifications	Limit(s)	Test method(s)
	- type X attachment - type Y attachment - type Z attachment, if allowed in relevant part 2 Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords For multi-phase appliances supplied with a supply cord and that are intended to be permanently connected to fixed wiring, the supply cord is assembled to the appliance by type Y attachment Plugs fitted with only one flexible cord Supply cords, other than for class III appliances, being one of the following types: - rubber sheathed (at least 60245 IEC 53) - polychloroprene sheathed (at least60245IEC 57) - cross-linked polyvinyl chloride sheathed (at least60245 IEC 88) - polyvinyl chloride sheathed. Not used if they are likely to touch metal parts having a temperature rise exceeding 75 K during the test of clause 11• light polyvinyl chloride sheathed cord (60227 IEC 52), for appliances not exceeding 3 kg • ordinary polyvinyl chloride sheathed cord (60227 IEC 53), for other appliances		

No.	Specifications	Limit(s)	Test method(s)
	- heat resistant polyvinyl chloride sheathed. Not used for type X attachment other than specially prepared cords • heat-resistant light polyvinyl chloride sheathed cord (60227 IEC 56), for appliances not exceeding 3 kg • heat-resistant polyvinyl chloride sheathed cord (60227 IEC 57), for other appliances Supply cords for class III appliances adequately insulated Test with 500 V for 2 min for supply cords of class III appliances that contain live parts Nominal cross-sectional area of supply cords not less than table 11; rated current (A); cross-sectional area (mm^2): Supply cords not in contact with sharp points or edges Supply cord of class I appliances have a green/yellow core for earthing Conductors of supply cords not consolidated by soldering where they are subject to contact pressure, unless the contact pressure is provided by spring terminals Insulation of the supply cord not damaged when moulding the cord to part of the enclosure Inlet openings so constructed as to prevent damage to the supply cord If the enclosure at the inlet opening is not of insulating		

No.	Specifications	Limit(s)	Test method(s)
	material, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided If unsheathed supply cord, a similar additional bushing or lining is required, unless the appliance is class 0, or a class III appliance not containing live parts Supply cords moved while in operation adequately protected against excessive flexing Flexing test, as described: - applied force (N): - number of flexings: The test does not result in: - short-circuit between the conductors, such that the current exceeds a value of twice the rated current - breakage of more than 10% of the strands of any conductor - separation of the conductor from its terminal - loosening of any cord guard - damage to the cord or the cord guard - broken strands piercing the insulation and becoming accessible For appliances with supply cord and appliances to be permanently connected to fixed wiring by a flexible cord, conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage		

No.	Specifications	Limit(s)	Test method(s)
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged Pull and torque test of supply cord, values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm): Cord not damaged and max. 2 mm displacement of the cord Cord anchorages for type X attachments constructed and located so that: - replacement of the cord is easily possible - it is clear how the relief from strain and the prevention of twisting are obtained - they are suitable for different types of supply cord - cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless they are separated from accessible metal parts by supplementary insulation - the cord is not clamped by a metal screw which bears directly on the cord - at least one part of the cord anchorage securely fixed to the appliance, unless it is part of a specially prepared cord - screws which have to be operated when replacing the cord do not fix any other component, unless		

No.	Specifications	Limit(s)	Test method(s)
	the appliance becomes inoperative or incomplete or the parts cannot be removed without a tool - if labyrinths can be bypassed the test of 25.15 is nevertheless withstood- for class 0, 0I and I appliances they are of insulating material or are provided with an insulating lining, unless failure of the insulation of the cord does not make accessible metal parts live - for class II appliances they are of insulating material, or if of metal, they are insulated from accessible metal parts by supplementary insulation After the test of 25.15, under the conditions specified, the conductors have not moved by more than 1 mm in the terminals Adequate cord anchorages for type Y and Z attachment, test with the cord supplied with the appliance Cord anchorages only accessible with the aid of a tool, or Constructed so that the cord can only be fitted with the aid of a tool Type X attachment, glands not used as cord anchorage in portable appliances Tying the cord into a knot or tying the cord with string not used		

No.	Specifications	Limit(s)	Test method(s)
	The insulated conductors of the supply cord for type Y and Z attachment additionally insulated from accessible metal parts Space for supply cord for type X attachment or for connection of fixed wiring constructed: - to permit checking of conductors with respect to correct positioning and connection before fitting any cover - so there is no risk of damage to the conductors or their insulation when fitting the cover - for portable appliances, so that the uninsulated end of a conductor, if it becomes free from the terminal, prevented from contact with accessible metal parts 2 N test to the conductor for portable appliances; no contact with accessible metal parts Appliance inlets: - live parts not accessible during insertion or removal Requirement not applicable to appliance inlets complying with IEC 60320-1 - connector can be inserted without difficulty- the appliance is not supported by the connector - not for cold conditions if temp. rise of external metal parts exceeds 75 K during clause 11, unless		

No.	Specifications	Limit(s)	Test method(s)
	the supply cord is unlikely to touch such metal parts Interconnection cords comply with the requirements for the supply cord, except that: - the cross-sectional area of the conductors is determined on the basis of the maximum current during clause 11 - the thickness of the insulation may be reduced If necessary, electric strength test of 16.3 Interconnection cords not detachable without the aid of a tool if compliance with this standard is impaired when they are disconnected Dimensions of pins that are inserted into socket- outlets compatible with the dimensions of the relevant socket-outlet. Dimensions of pins and engagement face in accordance with the dimensions of the relevant plug in IEC/TR 60083		
21	Appliances provided with terminals or equally effective devices for connection of external conductors Terminals only accessible after removal of a non- detachable cover, except for class III appliances that do not contain live parts Earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp		INSO 1562-2-7 Clause26 TERMINALS FOR EXTERNAL CONDUCTORS

No.	Specifications	Limit(s)	Test method(s)
	the wire independently from its connection Appliances with type X attachment and appliances for the connection of cables to fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless the connections are soldered Screws and nuts not used to fix any other component, except internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone, unlessbarriers provided so that neither clearances nor creepage distances between live parts and other metal parts reduced below the values for supplementary insulation if the conductor becomes free at the soldered joint Terminals for type X attachment and for connection of cables of fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure but without damaging the conductor Terminals fixed so that when the clamping means is tightened or loosened:		

No.	Specifications	Limit(s)	Test method(s)
	- the terminal does not become loose - internal wiring is not subjected to stress - neither clearances nor creepage distances are reduced below the values in clause 29 Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified (Nm: No deep or sharp indentations of the conductors Terminals for type X attachment, except those having a specially prepared cord and those for the connection of cables of fixed wiring, no special preparation of conductors such as by soldering, use of cable lugs, eyelets or similar, and so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard Stranded conductor test, 8 mm insulation removed No contact between live parts and accessible metal parts and,		

No.	Specifications	Limit(s)	Test method(s)
	for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only Terminals for type X attachment and for connection of cables of fixed wiring suitable for connection of conductors with cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm^2): If a specially prepared cord is used, terminals need only be suitable for that cord Terminals for type X attachment, except in class III appliances not containing live parts, accessible after removal of a cover or part of the enclosureTerminals for the connection of fixed wiring, including the earthing terminal, located close to each other Terminals of the pillar type constructed and located as specified Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless conductors ends fitted with means suitable for screw terminals Pull test of 5 N to the connection For type Y and Z attachment, soldered, welded, crimped or		

No.	Specifications	Limit(s)	Test method(s)
	similar connections may be used For Class II appliances, the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone If soldering, welding or crimping alone used, barriers provided so that clearances and creepage distances between live parts and other metal parts are not reduced below the values for supplementary insulation if the conductor becomes free		
22	Accessible metal parts of Class 0I and I appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet Earthing terminals and earthing contacts not connected to the neutral terminal Class 0, II and III appliances have no provision for earthing Safety extra-low voltage circuits not earthed, unless protective extra-low voltage circuits Clamping means of earthing terminals adequately secured against accidental loosening Terminals for the connection of external equipotential bonding conductors allow connection of conductors of 2.5 to 6 mm^2, and do not provide earthing continuity between different parts of the appliance, and		INSO 1562-2-7 Clause27 PROVISION FOR EARTHING

No.	Specifications	Limit(s)	Test method(s)
	conductors cannot be loosened without the aid of a tool For a detachable part having an earth connection and being plugged into another part of the appliance, the earth connection is made before and separated after current-carrying connections when removing the partFor appliances with supply cords, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage No risk of corrosion resulting from contact between parts of the earthing terminal and the copper of the earthing conductor or other metal Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion If of steel, these parts provided with an electroplated coating with a thickness at least 5 µm Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure In the body of the earthing terminal is a part of a frame or enclosure of aluminium or aluminium alloys, precautions taken to avoid risk of corrosion Low resistance of connection between earthing terminal and earthed metal parts		

No.	Specifications	Limit(s)	Test method(s)
	This requirement does not apply to connections providing earthing continuity in the protective extra- low voltage circuit, provided the clearances of basic insulation are based on the rated voltage of the appliance Resistance not exceeding 0,1 Ω at the specified low-resistance test (Ω): The printed conductors of printed circuit boards not used to provide earthing continuity in hand-held appliances. They may be used to provide earthing continuity in other appliances if at least two tracks are used with independent soldering points and the appliance complies with 27.5 for each circuit		
23	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses Screws not of soft metal liable to creep, such as zinc or aluminium Diameter of screws of insulating material min. 3 mm Screws of insulating material not used for any electrical connections or connections providing earthing continuity Screws used for electrical connections or connections providing earthing continuity screwed into metalScrews not of insulating material if their		INSO 1562-2-7 Clause28 SCREWS AND CONNECTIONS

No.	Specifications	Limit(s)	Test method(s)
	replacement by a metal screw can impair supplementary or reinforced insulation For type X attachment, screws to be removed for replacement of supply cord or for user maintenance, not of insulating material if their replacement by a metal screw impairs basic insulation For screws and nuts; torque-test as specified in table 14: Electrical connections and connections providing earthing continuity constructed so that contact pressure is not transmitted through non-ceramic insulating material liable to shrink or distort, unless there is resiliency in the metallic parts to compensate for shrinkage or distortion of the insulating material This requirement does not apply to electrical connections in circuits of appliances for which: • 30.2.2 is applicable and that carry a current not exceeding 0,5 A • 30.2.3 is applicable and that carry a current not exceeding 0,2 A Space-threaded (sheet metal) screws only used for electrical connections if they clamp the parts together Thread-cutting (self-tapping) screws and thread rolling screws only used for electrical connections if they generate a		

No.	Specifications	Limit(s)	Test method(s)
	full form standard machine screw thread Thread-cutting (self-tapping) screws not used if they are likely to be operated by the user or installer Thread-cutting, thread rolling and space threaded screws may be used in connections providing earthing continuity provided it is not necessary to disturb the connection: - in normal use,- during user maintenance, - when replacing a supply cord having a type X attachment, or - during installation At least two screws being used for each connection providing earthing continuity, unless the screw forms a thread having a length of at least half the diameter of the screwScrews and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity This requirement does not apply to screws in the earthing circuit if at least two screws are used, or if an alternative earthing circuit is provided Rivets for electrical connections or connections providing earthing continuity secured against loosening if the connections are subjected to torsion		

No.	Specifications	Limit(s)	Test method(s)
24	Clearances, creepage distances and solid insulation withstand electrical stress For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), Annex J applies: The microenvironment is pollution degree 1 under type 1 protection For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC60664-3 These values apply to functional, basic, supplementary and reinforced insulation: Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless: for basic insulation and functional insulation they comply with the impulse voltage test of clause 14However, if the distances are affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1500V and above are increased by 0,5 mm and the impulse voltage test is not applicable		INSO 1562-2-7 Clause29 CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION

No.	Specifications	Limit(s)	Test method(s)
	Impulse voltage test is not applicable: - when the microenvironment is pollution degree 3, or - for basic insulation of class 0 and class 01 appliances Appliances are in overvoltage category II A force of 2 N is applied to bare conductors, other than heating elements A force of 30 N is applied to accessible surfacesClearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage The values of table 16 or the impulse voltage test of clause 14 are applicable: Clearance at the terminals of tubular sheathed heating elements may be reduced to 1,0 mm if the microenvironment is pollution degree 1 Lacquered conductors of windings considered to be bare conductors Clearances of supplementary insulation not less than those specified for basic insulation in table 16: Clearances of reinforced insulation not less than those specified for basic insulation in table 16, using the next higher step for rated impulse voltage: For double insulation, with no intermediate conductive part between basic and		

No.	Specifications	Limit(s)	Test method(s)
	supplementary insulation, clearances are measured between live parts and the accessible surface, and the insulation system is treated as reinforced insulation Clearances for functional insulation are the largest values determined from: - table 16 based on the rated impulse voltage: - table F.7a in IEC 60664-1, frequency not exceeding 30 kHz - clause 4 of IEC 60664-4, frequency exceeding 30 kHz If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless the microenvironment is pollution degree 3, or the distances can be affected by wear, distortion, movement of the parts or during assembly However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited Lacquered conductors of windings considered to be bare conductors However, clearances at crossover points are not measured Clearance between surfaces of PTC heating elements may be reduced to 1mm		

No.	Specifications	Limit(s)	Test method(s)
	Appliances having higher working voltages than rated voltage, clearances for basic insulation are the largest values determined from: - table 16 based on the rated impulse voltage: - table F.7a in IEC 60664-1, frequency not exceeding 30 kHz- clause 4 of IEC 60664-4, frequency exceeding 30 kHz If clearances for basic insulation are selected from Table F.7a of IEC 60664-1 or Clause 4 of IEC 60664-4, the clearances of supplementary insulation are not less than those specified for basic insulation If clearances for basic insulation are selected from Table F.7a of IEC 60664-1, the clearances of reinforced insulation dimensioned as specified in Table F.7a are to withstand 160% of the withstand voltage required for basic insulation If clearances for basic insulation are selected from Clause 4 of IEC 60664-4, the clearances of reinforced insulation are twice the value required for basic insulation If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, clearances		

No.	Specifications	Limit(s)	Test method(s)
	of basic insulation on the secondary side not less than those specified in table 16, but using the next lower step for rated impulse voltage Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation are based on the working voltage used as the rated voltage in table 15 Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree: Pollution degree 2 applies, unless - precautions taken to protect the insulation; pollution degree 1 - insulation subjected to conductive pollution; pollution degree 3 A force of 2 N is applied to bare conductors, other than heating elements A force of 30 N is applied to accessible surfaces In a double insulation system, the working voltage for both the basic and supplementary insulation is taken as the working voltage across the complete double insulation system Pollution degree 3, and the insulation with a CTI not less than 250, (IEC 60335-2-7)		

No.	Specifications	Limit(s)	Test method(s)
	Unless the insulation is enclosed or located so that it is unlikely to be exposed to pollution during normal use of the appliance due to : - condensation produced by the appliance - chemicals, such as detergent or fabric conditionerCompliance is checked by inspection and measurements as specified Creepage distances of basic insulation not less than specified in table 17: However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 17: Except for pollution degree 1, corresponding creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14: Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or: Table 2 of IEC 60664-4, as applicable: Creepage distances of reinforced insulation at least		

No.	Specifications	Limit(s)	Test method(s)
	double those specified for basic insulation in table 17, or: Table 2 of IEC 60664-4, as applicable: Creepage distances of functional insulation not less than specified in table 18: However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 18: Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses Compliance checked: - by measurement, in accordance with 29.3.1, or - by an electric strength test in accordance with 29.3.2, or - by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and for accessible parts of reinforced insulation consisting of a single layer, by		

No.	Specifications	Limit(s)	Test method(s)
	measurement in accordance with 29.3.4, or- as specified in subclause 6.3 of IEC 60664-4 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz Supplementary insulation have a thickness of at least 1 mm Reinforced insulation have a thickness of at least 2 mm Each layer of material withstand the electric strength test of 16.3 for supplementary insulation Supplementary insulation consist of at least 2 layers Reinforced insulation consist of at least 3 layers The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by the electric strength test of 16.3 If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out Thickness of accessible parts of reinforced insulation consisting of a single layer not less than specified in table 19:		
25	External parts of non-metallic material, parts supporting live parts, and parts of thermoplastic material providing supplementary or reinforced insulation sufficiently resistant to heat Ball-pressure test according to IEC 60695-10-2		INSO 1562-2-7 Clause30 RESISTANCE TO HEAT AND FIRE

No.	Specifications	Limit(s)	Test method(s)
	External parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 75 °C, whichever is the higher; temperature °C): Parts supporting live parts tested at 40°C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C): Parts of thermoplastic material providing supplementary or reinforced insulation tested at 25 °C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C)..... : Parts of non-metallic material resistant to ignition and spread of fire This requirement does not apply to: parts having a mass not exceeding 0,5 g, provided the cumulative effect is unlikely to propagate flames that originate inside the appliance by propagating flames from one part to another, or decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance Compliance checked by the test of 30.2.1, and in addition:		

No.	Specifications	Limit(s)	Test method(s)
	- for attended appliances, 30.2.2 applies - for unattended appliances, 30.2.3 applies For appliances for remote operation, 30.2.3 applies For base material of printed circuit boards, 30.2.4 applies For appliances incorporating a programmer or a timer, 30.2.3 is applicable. (IEC 60335-2-7) For other appliances, 30.2.2 is applicable (IEC 60335-2-7) Parts of non-metallic material subjected to the glow- wire test of IEC 60695-2-11 at 550 (°C However, test not carried out if the material is classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 550 °C, or the material is classified at least HB40 according to IEC 60695-11-10 Parts for which the glow-wire test cannot be carried out need to meet the requirements in ISO 9772 for material classified HBF Appliances operated while attended, parts of non- metallic material supporting current-carrying connections, and parts of non-metallic material within a distance of 3mm of such connections,		

No.	Specifications	Limit(s)	Test method(s)
	subjected to the glow-wire test of IEC 60695-2-11 The test severity is: - 750 °C, for connections carrying a current exceeding 0,5 A during normal operation - 650 °C, for other connections Glow-wire applied to an interposed shielding material, if relevant The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least: - 750 °C, for connections carrying a current exceeding 0,5 A during normal operation- 650 °C, for other connections The glow-wire test is also not carried out on small parts. These parts are to: - comprise material having a glow-wire flammability index of at least 750 °C, or 650 °C as appropriate, or - comply with the needle-flame test of Annex E, or - comprise material classified as V-0 or V-1 according to IEC 60695-11-10: Glow-wire test not applicable to conditions as specified: Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2 The tests are not applicable to conditions as specified:		

No.	Specifications	Limit(s)	Test method(s)
	Parts of non-metallic material supporting connections carrying a current exceeding 0,2 A during normal operation, and parts of non-metallic material, other than small parts, within a distance of 3 mm, subjected to the glow-wire test of IEC 60695-2-11 with a test severity of 850 °C Glow-wire applied to an interposed shielding material, if relevant The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 850 °C Parts of non-metallic material supporting connections, and parts of non-metallic material within a distance of 3mm, subjected to glow-wire test of IEC 60695-2-11 The test severity is: - 750 °C, for connections carrying a current exceeding 0,2 A during normal operation - 650 °C, for other connections Glow-wire applied to an interposed shielding material, if relevant However, the glow-wire test of 750 °C or 650 °C as appropriate, is not carried out on parts of material fulfilling both or either of the following classifications:		

No.	Specifications	Limit(s)	Test method(s)
	- a glow-wire ignition temperature according to IEC 60695-2-13 of at least: • 775 °C, for connections carrying a current exceeding 0,2 A during normal operation• 675 °C, for other connections - a glow-wire flammability index according to IEC 60695-2-12 of at least: - 750 °C, for connections carrying a current exceeding 0,2 A during normal operation - 650 °C, for other connections The glow-wire test is also not carried out on small parts. These parts are to: - comprise material having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or - comprise material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or - comply with the needle-flame test of Annex E, or - comprise material classified as V-0 or V-1 according to IEC 60695-11-10 The consequential needle-flame test of Annex E applied to non-metallic parts that encroach within the vertical cylinder placed above the centre of the connection zone and on top of the non-metallic parts supporting current-carrying connections, and parts of non-metallic material within a		

No.	Specifications	Limit(s)	Test method(s)
	distance of 3 mm of such connections if these parts are those: - parts that withstood the glow-wire test of IEC 60695-2-11 of 750 °C or 650 °C as appropriate, but produce a flame that persist longer than 2 s, or - parts that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or - small parts, that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or - small parts for which the needle-flame test of Annex E was applied, or - small parts for which a material classification of V-0 or V-1 was applied However, the consequential needle-flame test is not carried out on non-metallic parts, including small parts, within the cylinder that are: - parts having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or - parts comprising material classified as V-0 or V-1 according to IEC 60695-11-10, or - parts shielded by a flame barrier that meets the needle-		

No.	Specifications	Limit(s)	Test method(s)
	flame test of Annex E or that comprises material classified as V-0 or V-1 according to IEC 60695-11-10 Base material of printed circuit boards subjected to the needle-flame test of Annex E Test not applicable to conditions as specified:		
26	Relevant ferrous parts adequately protected against rusting Tests specified in part 2 when necessary		INSO 1562-2-7 Clause31 RESISTANCE TO RUSTING
27	Appliance does not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use Compliance is checked by the limits or tests specified in part 2, if relevant		INSO 1562-2-7 Clause32 RADIATION, TOXICITY AND SIMILAR HAZARDS

INSO 1562-2-24:2012 (Identical with IEC 60335-2-24:2010)

Household and similar electrical appliances - Safety - Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and ice-makers

Scope

This standard deals with the safety of the following appliances, their rated voltage being not more than 250 V for single-phase appliances, 480 V for other appliances and 24 V DC for appliances when battery operated:

– refrigerating appliances for household and similar use;

– ice-makers incorporating a motor-compressor and ice-makers intended to be incorporated in frozen food storage compartments;

– refrigerating appliances and ice-makers for use in camping, touring caravans and boats for leisure purposes.

These appliances may be operated from the mains, from a separate battery or operated either from the mains or from a separate battery.

This standard also deals with the safety of ice-cream appliances intended for household use, their rated voltage being not more than 250 V for single-phase appliances and 480 V for other appliances.

It also deals with compression-type appliances for household and similar use, which use flammable refrigerants. This standard does not cover features of the construction and operation of those refrigerating appliances which are dealt with in other IEC standards.

Refrigerating appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as:

− refrigerating appliances used in staff kitchen areas in shops, offices and other working environments, − refrigerating appliances used in farm houses and by clients in hotels, motels and other residential type environments,

– refrigerating appliances used in bed and breakfast type environments, and

– refrigerating appliances used in catering and similar non-retail applications are within the scope of this standard.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account

– persons (including children) whose

• physical, sensory or mental capabilities or

• lack of experience and knowledge prevents them from using the appliance safely without supervision or instruction;

– children playing with the appliance.

NOTE 1 Attention is drawn to the fact that

– for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may can be necessary;

– in many countries, additional requirements are specified by national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

NOTE 2 This standard does not apply to

– appliances intended to be used in the open air;

– appliances designed exclusively for industrial purposes;

– appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);

– appliances incorporating a battery intended as a power supply for the refrigerating function;

– appliances assembled on site by the installer;

– appliances with remote motor-compressors;

– motor-compressors (IEC 60335-2-34);

– commercial dispensing appliances and vending appliances (IEC 60335-2-75);

– commercial refrigerators and freezers used for the display of food products, including beverages, for retail sale (IEC 60335-2-89);

– commercial ice-cream appliances.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	classification	Class I , II	Clause 6
2	marking and instructions	Obvious checking	Clause 7
3	protection against access to live part	Adequate protection against accidental contact with live parts	Claus 8
4	starting of motor-operated appliances	No applicable	Clause 9
5	power input and current	Max. 15% or 20% (as applicable) rated value	Clause 10
6	heating	Table 101	Clause 11
7	leakage current and electric strength at operating temperature	Max. 3.5 mA	Clause 13
8	transient overvoltages	No flashover during the test occur	Clause 14
9	moisture resistance	No trace of water on insulation which can result in a reduction of clearances or creepage distances below values specified in clause 29	Clause 15
10	leakage current and electric strength	Max. 3.5 mA	Clause 16
11	overload protection of transformers and associated circuits	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use	Clause 17

No.	Specifications	Limit(s)	Test method(s)
12	endurance	Not applicable	Clause 18
13	abnormal operation	Electronic circuits so designed and applied that a fault will not render the appliance unsafe	Clause 19
14	stability and mechanical hazards	Appliances having adequate stability	Clause 20
15	mechanical strength	Appliance has adequate mechanical strength and is constructed as to withstand rough handling	Clause 21
16	construction	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices	Clause 22
17	internal wiring	Wireways smooth and free from sharp edges Wires protected against contact with burrs, cooling fins etc.	Clause 23
18	components	Components comply with safety requirements in relevant IEC standards	Clause 24
19	supply connection and external flexible cords	- supply cord fitted with a plug, - an appliance inlet having at least the same degree of protection against moisture as required for the appliance, or - pins for insertion into socket-outlets	Clause 25

No.	Specifications	Limit(s)	Test method(s)
20	terminals for external conductors	Terminals only accessible after removal of a non-detachable cover	Clause 26
21	provision for earthing	Accessible metal parts of appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet	Clause 27
22	screws and connections	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses	Clause 28
23	clearances, creepage distances and solid insulation	Clearances, creepage distances and solid insulation withstand electrical stress	Clause 29
24	resistance to heat and fire	External parts of non-metallic material, parts supporting live parts, and parts of thermoplastic material providing supplementary or reinforced insulation sufficiently resistant to heat	Clause 30
25	resistance to rusting	Relevant ferrous parts adequately protected against rusting	Clause 31
26	radiation, toxicity and similar hazards	Not applicable	Clause 32

INSO 13700:2011 (Identical with IEC 62552: 2007)

Household refrigerating appliances - Specifications and test methods

Scope

This standard determines the necessary characteristics and test methods of these characteristics for household refrigeration appliances that are produced or assembled in factories and cooled by natural air movement or forced circulation. The tests here are typical, and for this reason, if it is necessary to certify the performance of a refrigeration device according to this standard, preferably, where possible, all the specified tests should be performed on a single device. To study a particular feature, these tests can also be performed individually.

NOTE - For the safety requirements applicable to refrigeration appliances see INSO 1562-2-24 and for noise requirements applicable to refrigeration appliances see IEC 60704 and for other safety requirements applicable to refrigeration appliances see ISO 5149 standard.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Material and finishes	No limit	INSO 13700 Annexc
2	Thermal insulation and air-tightness	No limit	INSO 13700 Clause 14 , Clause 9
3	durability of doors, lids and drawers	No limit	INSO 13700 Clause 11
4	Mechanical strength of Shelves and containers	No limit	INSO 13700 Clause 12

No.	Specifications	Limit(s)	Test method(s)
5	Collection and disposal of defrost water	No limit	INSO 13700 Clause 5.6
6	Storage temperature	Table 2	INSO 13700 Clause 13
7	Determination of linear dimensions, volume and area	Not less than -3% deviation of rated value	INSO 13700 Clause 7
8	Testing opening force of doors or lids	Max.70 N	INSO 1562-2-24 clause 22
9	Energy consumption	Not less than -15% deviation of rated value	INSO 13700 Clause 15
10	Temperature rise	Not less than -15% deviation of rated value	INSO 13700 Clause 16
11	Freezing capacity	Not less than -15% deviation of rated value	INSO 13700 Clause 17
12	Ice-making capacity	Not less than -15% deviation of rated value	INSO 13700 Clause 18
13	designation	No limit	INSO 13700 Clause 20
14	marking	No limit	INSO 13700 Clause 21
15	instruction	No limit	INSO 13700 Clause 23

INSO 14577:2014

Household refrigerating appliances - Determination of criteria for energy consumption and energy labelling instructions

Scope

This standard determines the basis for classifying the energy consumption of household electrical refrigeration appliances (including refrigerators, freezers and refrigerator-freezers) with storage volume between 10 l and 1500 l.

This standard applies to electric mains-operated household refrigerating appliances including those sold for non-household use or for refrigeration of items other than foodstuffs and including built- in appliances

This standard does not apply to the following:

1-Refrigeration equipment that are primarily powered by energy sources are other than electricity (such as liquefied petroleum gas (LPG), kerosene and diesel fuel);

2– Battery operated refrigeration appliances and can be connected to the power with AC / DC converter that is provided separately;

3- Refrigeration equipment that is made to customer order (with special dimensions or operating conditions) and is not equivalent to other models of refrigeration equipment;

4- Refrigeration equipment with another main application in which the removal of cooled food is felt electronically and its information can be automatically directed by connecting to a network with a remote control system. Check and transfer calculations;

5- Appliances whose main function is not food storage by refrigeration, such as ice makers and independent cold drink dispensers;

6- Absorption refrigeration appliances.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Storage temperature test at 25°C	Table 2	INSO 13700 Clause 13
2	Annual energy consumption	Not less than 90% rated value	INSO 13700 Clause 15
3	Standard Annual energy consumption	Clause 6-2	calculation
4	EEI	Less than 110	calculation
5	Energy consumption grade	A+++ to D (Table A-1)	comparing
6	Information contained in the energy consumption label	Clause 8-1	Visual inspection
7	Label design	Clause 8-2	Visual inspection

INSO 2450:2020

Ice cream - Specifications and test methods

Scope

This standard specifies sensorial, physical, chemical, microbial, sampling, test methods, packaging and labelling requirements of different types of ice cream including a) dairy ice cream which its fat is only from milk fat, b) dairy ice cream mixed with vegetable fat which its fat is a the mixture of vegetable fat with milk fat, c) fruity ice cream including sherbet and sorbet and d) functional ice cream including enriched ones, reduced fat and sugar and probiotic ones

NOTE 1- Each type of above standards mentioned in (a) and (b) could be produced in flavored type.

NOTE 2- Each type of above standards could be produced with or without coating.

Chemical properties of ice cream

No	Specifications	Limits					Test methods
		Dairy ice cream		dairy ice cream mixed with vegetable fat	Fruity ice cream		
		With milk fat added	Without milk fat added		Sorbet	Sherbet	
1	Fat (%w/w)	Minimum 5	Minimum 2.5	Maximum 10	-	-	INSO 2450
2	Minimum milk solid non fat (%w/w)	9	7	7	-	2	INSO 2450
3	Minimum total solid (%w/w)	33.5	28	34	23	25	INSO 2450
4	Maximum Sucrose (%w/w)	17	17	17	-	-	INSO 2450
5	Maximum total sugar (%w/w)	25	25	25	32	26	INSO 2450
6	Maximum Phytosterols in extracted fat (ratio to total sterols)	3	3	-	-	-	INSO 9189, INSO 22560
7	Maximum lauric acid (ratio to total fatty acid)	-	-	3	-	-	INSO 9189, INSO 22560
8	Maximum Summation of saturated fatty acid (ratio to total fatty acid)	-	-	65	-	-	INSO 8818, INSO 8819

In sherbet and sorbet, the sugar after hydrolysis is considered as the total sugar.
Maximum ratio of phytosterols to total sterols in dairy ice cream with cocoa and chocolate flavor is 6 and in dairy ice cream with coconut flavor is 7.
If the lauric acid (ratio to total fatty acids) in more than 2 and less than 3, the minimum content of the cholesterol to total sterols should be 50%.
The specifications of reduced fat/sugar ice cream and functional ones should be verified by ministry of heath and medical education.

Specification of ice cream's coating

NO	Specifications	Type	
		Fruity with oil and other oily flavored (such as flavored with saffron, Gaz, Sohan, yoghurt)	Fruity without oil
1	Maximum total fat in coating (%w/w)	60	-
2	Maximum sucrose(%w/w)	36	36
3	Maximum lauric acid (ratio to total fatty acid)	40	-
4	Maximum trans fatty acid (ratio to total fatty acid)	0.5	-
5	Maximum Summation of saturated fatty acid (ratio to total fatty acid)	65	-

INSO 1220-1:2017(Identical with EN 613: 2001)

Independent gas - fired convection heaters

Scope

This standard specifies the requirements and test methods for the construction, safety, marking and rational use of energy of independent gas-fired convection heating appliances, hereafter referred to as appliances.

This standard is applicable to types B11AS, B11BS, B11CS (commonly referred to in this standard as type B1 appliances) and type C11 independent convection heating appliances burning gas:

- that incorporate a natural draught burner;

- that are connected directly to an open flue or to a device to evacuate the products of combustion (open-flued appliances, balanced-flued appliances);

- that are wall mounted, free-standing or built-in;

- that have a nominal heat input not exceeding 20 kW (based on the net calorific value).

In addition, this standard is applicable to live fuel effect appliances.

This standard is not applicable to:

- open fronted appliances as specified in prEN 13278;

- decorative fuel effect appliances as specified in EN 509;

- catalytic combustion appliances;

- appliances in which the supply of combustion air and/or evacuation of products of combustion

is achieved by mechanical means;

- ducted-air appliances;

- appliances installed by means of a closure plate (see 3.3.3.3).

This standard is only applicable to appliances which are intended to be type tested.

Matters related to quality assurance systems, tests during production and to certificates of conformity of auxiliary devices are not dealt with by this standard.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Conversion to different gases	Constructional requirements	INSO 1220-1
2	Materials and method of construction	Constructional requirements	INSO 1220-1
3	Accessibility for use and maintenance	Constructional requirements	INSO 1220-1
4	Connections	Constructional requirements	INSO 1220-1
5	Soundness of the gas circuit	Constructional requirements	INSO 1220-1
6	Soundness of the combustion circuit	Constructional requirements	INSO 1220-1
7	Supply of combustion air and evacuation of combustion products	Constructional requirements	INSO 1220-1
8	Electrical equipment	Constructional requirements	INSO 1220-1
9	Safety in the event of fluctuation, interruption and restoration of the auxiliary energy	Constructional requirements	INSO 1220-1
10	Confirmation of operation	Constructional requirements	INSO 1220-1
11	Gas rate adjusters	Constructional requirements	INSO 1220-1

No.	Specifications	Limit(s)	Test method(s)
12	Aeration adjuster	Constructional requirements	INSO 1220-1
13	Shut-off valves	Constructional requirements	INSO 1220-1
14	Flame supervision devices	Constructional requirements	INSO 1220-1
15	Pressure governors	Constructional requirements	INSO 1220-1
16	Automatic burner control system	Constructional requirements	INSO 1220-1
17	Thermostats	Constructional requirements	INSO 1220-1
18	Spillage monitoring system	Constructional requirements	INSO 1220-1
19	Manually operated devices	Constructional requirements	INSO 1220-1
20	Direct ignition of the main burner	Constructional requirements	INSO 1220-1
21	Ignition burner	Constructional requirements	INSO 1220-1
22	Appliances with automatic burner systems	Constructional requirements	INSO 1220-1
23	Burners	Constructional requirements	INSO 1220-1
24	Gas pressure test points	Constructional requirements	INSO 1220-1
25	Soundness of the gas circuit	100cm3/h	INSO 1220-1
26	Soundness of the combustion products circuit and evacuation of the combustion products	0,04 m3/h per kW of heat input.	INSO 1220-1
27	Escape of unburnt gas (type B1 appliances only)	there shall be no escape of an ignitable quantity of gas between the injector outlet and the external surface of the burner	INSO 1220-1

No.	Specifications	Limit(s)	Test method(s)
28	Nominal heat input	+- 5 % of the nominal heat input	INSO 1220-1
29	Start gas heat input	not exceed 0,3 kW	INSO 1220-1
30	Reduced rate	+-10 % of the specified rate.	INSO 1220-1
31	Temperature of various parts of the appliance	According to standard	INSO 1220-1
32	Ignition, cross-lighting and flame stability	According to standard	INSO 1220-1
33	Pressure governors	Shall not differ by more than+- 5 %	INSO 1220-1
34	Combustion	0.02% 0.1% 0.2%	INSO 1220-1
35	Sooting (live fuel effect appliances only)	Cold condition smoke number shall be less than or equal to 3 Hot condition smoke number shall be less than or equal to 2	INSO 1220-1
36	Spillage monitoring system	According to standard	INSO 1220-1
37	Flame supervision device	Cold condition 60s & 20s Hot condition 60s	INSO 1220-1
38	Marking and instructions	According to standard	INSO 1220-1

INSO 214:2015+A1:2018

Jams, jellies and marmalades - Specifications and test methods

Scope

This standard specifies packaging labelling and sampling requirements and test methods for jam, jelly and marmalade.

Specifications and test methods

No.	Specifications		Limit(s)	Test method(s)
1	Taste and smell		natural	INSO214
2	extraneous matters		Free	INSO214
3	Pest		Free	INSO214
4	Sand, glass and other extraneous matters		Free	INSO214
5	Treasure fullness		Min 90%	INSO 214
6	Fruit Content-	Strawberries, pineapple, mango, apricot, mushroom, lentil, citrus peel, raspberries, cantaloupe, figs, ginger, cherries, kiwi, apple, carrot	Min 30%	INSO 214
7		Spring orange, rose, barberry, aloe vera, Citron	Min 20%	
8		Mixed jam and other items	Min-35%	
9	Dissolved Solid		Min 65g/100g (Brix Degrees)	

No.	Specifications		Limit(s)	Test method(s)
10	Acidity		0.1-1.5 g/100g	INSO 214
11	pH		2.7-4.7	INSO 214
12	Formalin No	Orange-Tangerine	Min 2.5 (mL/100mL)	INSO 2685
13		Lime	Min 1 (mL/100mL)	
14		Grape	Min 2 (mL/100mL)	
15		cherries	Min 2 (mL/100mL)	
16		Strawberries	Min 0.9 (mL/100mL)	
17		Apple	Min 1 (mL/100mL)	
18		Peach	Min 3 (mL/100mL)	
19		Pear	Min 1 (mL/100mL)	
20		Mango	Min 2 (mL/100mL)	
21		Ananas	Min 1.5 (mL/100mL)	
22		Pomegranate	-	
23	Preservatives		Free	
24	Microbiological features		-	INSO 8898
25	Pesticide residue		according to legal limits	INSO 13117 INSO 13118
26	Heavy metals	Sn	Max 250 (mg/Kg)	INSO 9265
27		Pb	Ma1 (mg/Kg)	INSO 9266
28	Patulin		50 (mg/Kg)	INSO 7438

INSO 803:2012

Kabkab date - Specifications and test methods

Scope

This standard determines the specifications (physico-chemical), classification, sampling, test methods, packaging and labelling of Kabkab date.

This standard applies for Kabkab date of Iran product.

Specifications and test methods

No.	Specifications	Limit(s)		Test method(s)
1	Classification	large	Up to 90 in 1000 g	INSO 803
		medium	From 91 up to 110 in 1000 g	
		small	More than 110 in 1000 g	
2	Unacceptable	Foreign matter including sand, gravel, metal and glass	Free	INSO 803
		living pest	Free	INSO 803
		Abnormal smell, taste, flavor and rancidity taste	Free	INSO 803
		Kharak date and Rotab	Free	INSO 803
3	Damaged by pests	Max 5% Numerical		INSO 803
4	Date with clung foreign matter except sand, stone, metal and glass	Max 3% Numerical		INSO 803
5	Mechanical damage	Max 10% Numerical		INSO 803
6	unripe and not inseminated fruit	Max 5% Numerical		INSO 803
7	Discolored	Max 6% Numerical		INSO 803
8	Date belonging to other varieties	Max 2% Numerical		INSO 803
9	• Moisture content	Max 20% v/w		INSO 672
10	Crystallized date	Max 5% Numerical		INSO 803
11	Pesticide residues	At the request of the buyer		EN15662

INSO 11539:2011

Licourice in liquid form - Specifications and test methods

Scope

This standard specifies the quality characteristic, sampling, packaging and labelling requirements and test method for liquid Licourice.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Moisture (g/100 gr)	40	INSO 2343
2	Ash (g/100g)	9/5	INSO 2343
3	pH	5-5.7	INSO 2343
4	Insoluble solid matter in warm water(by dry matter) (g/100 gr)	Max 2.5	INSO 2343
5	Insoluble solid matter in cold water(by dry matter) (g/100 gr)	Max 5	INSO 2343
6	Glycyrrhizizin in dry matter (g/100 gr)	Min 4.5	INSO 2343
7	Total surge in dry matter in dry matter (g/100 gr)	Min 20	INSO 2343
8	Gum and starch in dry matter (g/100 gr))	Max 38	INSO 2343
9	Glycyrrhizizin by Housman method in dry matter (g/100 gr)	Min 20	INSO 2343

INSO 268:2003

Livestock, poultry and aquatic feed - silage corn forage - Specifications and test methods

Scope

This standard specifies physical, chemical, hygienic, biological and sampling requirements and test methods for silage corn forage

Specifications and test methods

No.	Chemical Specifications		Limit(s)	Test method(s)
1	Dry matter	Before silage	%25-35	INSO 321
2	Soluble carbohydrates		%6-8	
3	Total aflatoxin		Max 20 microgram/kg	INSO 2711
4	Lactic acid (by dry matter)	After silage	%4-7	AOAC 1990
5	Acetic acid concentration (by dry matter)		%1-3	AOAC 1990
6	Total concentration of volatile fatty acids		%4-8	-
7	Ammonia nitrogen		%10	-
8	Butyric acid concentration		Max % 0.1	AOAC 1990
9	pH		3.8-4.2	-
10	Heat corn silage		27-38	-
11	Odor		Natural odor	-
12	Color		Optimal Olive green to light brown	-
13	Texture		Not stiky	-
14	Parts size		3-5 cm	-
15	Density		650-750 kg/m^3	-

INSO 6848: 2003

Magnesites and dolomites – Chemical analysis

Scope

This standard specifies physical, chemical, sampling, packaging, labelling and storage requirements and test methods for magnesium oxide (as mineral supplement for animal feedstuff).

Specifications and test methods

NO.	Specifications	Limit(s)	Test method(s)
1	Particle size (µm)	Max 200 (about 80 mesh)	INSO 6848
2	color and smell	White to pinkish white	INSO 6848
3	Moisture (%)	Max 0.3	INSO 6848
4	Magnesium oxide (mg/ kg)	Max 0.09	INSO 6848
5	Lead (mg/ kg)	Max 100	INSO 6848
6	Cadmium (mg/ kg)	Max 20	INSO 6848
7	Fluorine (mg/ kg)	Max 200	INSO 6848
8	Mercury (mg/ kg)	Max 30	INSO 6848
9	Arsenic (mg/ kg)	Max 40	INSO 6848
10	Heat drop (%)	Max 3	INSO 6848

INSO 2454:2014

Mayonnaise & salad dressings – Specifications and test methods

Scope

This standard specifies physical, chemical, microbiological, sampling, packaging and labelling requirements and testing methods for mayonnaise and salad dressing.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Fullness	Min 90 %	INSO 2454
2	Total acidity expressed as acetic acid	Min 0.6 %	INSO 2454
3	Oil and fat	Min 6-8 %	INSO 2454
4	pH	Max 4.1 %	INSO 2454
5	Benzoic acid	Max 750 ppm	INSO 2454

INSO 6629:2015

Milk and milk products - Fresh cheese - Specification and test methods

Scope

This standard determines sensorial, physical, chemical and microbial properties, sampling, test methods, labelling and packaging of fresh cheese.

This standard is dedicated to fresh cheese produced from ultra filtration or adding dry matter methods, ultra filtration (without starter) and also from coagulum formation and draining method.

Chemical properties of fresh cheese

No	Specification		Limits			Test methods
			Ultra filtration method/coagulum formation and drainage		Adding dry matter	
			With starter culture	Without starter culture		
1	Acidity (lactic acid)		0.8-1.4	Maximum 0.4	0.8-1.4	INSO 2852
2	pH		Maximum 5.2	Maximum 6.6	Maximum 5.2	INSO 2852
3	Salt (%)		Maximum 3	Maximum 2.5	Maximum 3	INSO 1809
4	Moisture (%)		Maximum 65	Maximum 65	Maximum 65	INSO 1753
5	Protein (%)		Minimum 12	Minimum 12	Minimum 12	INSO 1811
6	Fat (%based on dry matter)	Doubled fat	Equal and more than 60	Equal and more than 60	Equal and more than 60	INSO 8785
		Full fat	Equal and more than 45 and less than 60	Equal and more than 45 and less than 60	Equal and more than 45 and less than 60	

No	Specification		Limits			Test methods
			Ultra filtration method/coagulum formation and drainage		Adding dry matter	
			With starter culture	Without starter culture		
		Semi fat	Equal and more than 25 and less than 45	Equal and more than 25 and less than 45	Equal and more than 25 and less than 45	
		Low fat	Equal and more than 10 and less than 25	Equal and more than 10 and less than 25	Equal and more than 10 and less than 25	
		Without fat	Less than 10	Less than 10	Less than 10	
7	phytosterol	Maximum 3 of total sterols and in the case of nuts in formulation 5%				INSO 8785
In the case of using salt substitute (K Cl), the maximum level of substitution should not exceed 25%. The test method should be done according to 4540. The salt level of low salt cheese should not exceed than 1.5%. The use of any other types of fat (except that milk fat) is forbidden.						

The moisture content of cheese based on non fat cheese weight

Type	Moisture (%)	Test Method
Extra hard	<51	INSO 1753, 2344
Hard	51-56	
Semi hard	56-69	
Soft	≧69	

The fat based on dry matter

Type	Moisture (%)	Test Method
Doubled fat	>60	INSO 760, 2344
Full fat	45-60	
Semi fat	25-45	
low fat	10-25	
Without fat	≤10	

INSO 14681:2012

Milk and milk products - Milk- based desserts - Specification and test method

Scope

This standard specifies the physicochemical, microbial properties, packaging, labelling, sampling, and test methods of all milk- based desserts.

This standard applies for all types of pasteurized and pasteurized milk desserts with extended shelf life and ultra high temperature.

Note 1- This standard does not apply to frozen milk desserts.

Note 2- This standard does not apply to dairy drinks and dairy desserts.

Note 3- This standard does not apply to powdered desserts.

Physicochemical specifications and test methods

No.	Specifications	Flavored dairy dessert	Fruity dairy dessert	Cocoa dairy dessert	Shirberenj	Fereni	Test method(s)
1	pH	6.3-6.8	6.2-6.8	6.3-6.8	6.3-6.8	6.3-6.8	INSO 2852
2	Sucrose (g/100)	Max 17	Max 13	Max 17	Max 13	Max 13	INSO 2450
3	Total fat (g/100)	Min 3	Min 3	Min 3	Min 3	Min 3	INSO 1189
4	Total dry matter (g/100)	Min 24	Min 20	Min 28	Min 22	Min 22	INSO 1753

Microbial specifications of pasteurized milk desserts and test methods

No.	Specifications	Limits (g)	Test method(s)
1	Total count	2×10^4	INSO 5484
2	*Enterobacteriaceae*	Max 10	INSO 2461-1,2
3	E.coli	Negative	INSO 5234
4	Mold and yeast	Max 10^2	INSO 10154
5	*coagulase-positive staphylococci*	Negative	INSO 6806-3
6	*Salmonella* per *25 g*	Negative	INSO 4413

Microbial specifications of pasteurized milk desserts with extended shelf life and test methods

No.	Specifications	Limits (g)	Test method(s)
1	Incubating at 30˚C/3 days or 37˚C/2 days	No swelling & leakage	---
2	Total count	Max 10^2	INSO 5484
3	E.coli	Negative	INSO 5234
4	Mold and yeast	Max 10^2	INSO 10154
5	Salmonella per *25* g	Negative	INSO 4413

Microbial specifications of ultra high temperature milk desserts with extended shelf life and test methods

No.	Specifications	Limits (g)	Test method(s)
1	Incubating at 30˚C/10 days	No swelling & leakage	---
2	Incubating at 55˚C/7 days	No swelling & leakage	---
3	Total count row 1 (n/g)	Max 10^2	INSO 5484
4	Total count row 2 (n/g)	Max 10^2	INSO 5484

INSO 13418:2017

Milk and milk products – Pre - cheese - Specifications and test methods

Scope

This standard specifies the sensory, physical, chemical, microbial properties, sampling, test methods, packaging and labelling of pre-cheese.

This standard applies to raw cheese that is produced industrially and semi-industrially in cheese production units. The product in this standard cannot be supplied directly to the final consumer.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	pH	5.2-6	INSO 2852
2	Protein	Min 20 (g/100 g)	INSO 1811
3	Fat in dry matter	Min 1 (g/100 g)	INSO 8775
4	Dry matter	Min 35 (g/100 g)	INSO 1753
5	Sterol	Max 3%	INSO 9670
6	Microbiology	-	INSO 2406
7	Pollutants (aflatoxin M1)	-	INSO 18545

INSO 1528:2016

Milk and milk products - Ultra high temperature milk – Specifications and test methods

Scope

This standard specifies the sensory, physicochemical, microbial properties, sampling, test methods, packaging and labelling of ultra high temperature milk.

This standard applies for all types of ultra high temperature milk made from fresh, reconstituted or recombined milk (full fat, semi skimmed, low fat, skimmed).

Note 1- Ultra high temperature milk is the same as commercial sterilized milk.

Note 2- This standard applies to other types of ultra high temperature milk, including functional, enrichment, low lactose and lactose free milk.

Note 3- Milk in this standard means cow's milk.

Note 4- This standard does not apply to probiotic and fermented ultra high temperature milk.

Physicochemical specifications and test methods of ultra high temperature milk

No.	Specifications	Limits	Test method(s)
1	Acidity before incubation (% in terms of lactic acid)	0.14-0.16	INSO 2852
2	Acidity after incubation (% in terms of lactic acid)	Max 0.16	INSO 2852,5222
3	Acidity difference before & after incubation at 30˚C/10 days or 55˚ C/7 days	Max 0.02	INSO 2852
4	Fat (%W/W) Full fat Semi skimmed Low fat Skimmed	Min 3 Less than 3 higher than 1.8 Higher than 0.5 up to 1.8 Max 0.5	INSO 366
5	Nonfat dry matter (g/100)	Min 8	INSO 637
6	Freezing point (˚C)	- 0.545 to -0.507	INSO 12502
7	Density (at 15˚C) Full fat Semi skimmed Low fat Skimmed	 Min 1.029 Min 1.030 Min 1.030 Min 1.033	INSO 638
8	Vegetable sterols (%) Full fat, Semi skimmed, Low fat	Max 3	INSO 9670

Microbial specifications of ultra high temperature milk and test methods

No.	Specifications	Limits (g)	Test method(s)
1	Incubating at 30˚C for 10 days	No swelling & leakage	---
2	Incubating at 55˚C for 7 days	No swelling & leakage	---
3	Total count row 1 (g/mL)	Max 10^2	INSO 5484
4	Total count row 2 (g/mL)	Max 10^2	INSO 5484

INSO 2012:2010

Milk powder - Specifications

Scope

This standard determines physicochemical specifications, microbiological properties, grading, packaging , labelling,sampling and Test methods of milk powder that is consumed by humans, Including whole milk powder, low fat milk powder and skim milk powder.

Note 1- Milk powder special for baby food and milk powder that used in animal feed, not included in this standard.

Note 2- This standard also applies to milk powder obtained from butter milk and instant milk powder.

Specifications and test methods

Table 1- Chemical properties of whole milk powder and low fat milk powder with different grades

No.	Specifications	Limit	Test method
1	Moisture(Weight percentage) Extra grade Standard grade	 Max 4/5 Max 5	INSO 1450
2	Fat(Weight percentage) Whole milk powder Low fat milk powder	≤ 26-42 ≤ 1/5-26	INSO 1531
3	Solubility index(milliliter)	Max 1	INSO 2090
4	Scorched particles(milligram per 100 gram) Extra grade Standard grade	 Disc A DisC B	INSO 2284

No.	Specifications	Limit	Test method
5	Acidity(Percentage of lactic acid) Extra grade Standard grade	0/15 0/17	INSO 2852
6	Oxygen(Percentage of atmosphere)	Max 3	INSO 2852
7	Phosphatase activity	Negative	INSO 8780
8	Protein(based solid non fat)	Min 31	INSO 639
9	Ash (Percentage) Whole milk powder Low fat milk powder	5-6 6-7/6	INSO 2851
10	Lactose (Weight percentage) Whole milk powder Low fat milk powder	38-40 38-54/9	INSO 2450
Fatty acid composition			
11	Butyric acid(C4:0)	1-4/5	INSO 8818 INSO 8819
12	Caproic acid(C6:0)	0/8-3	INSO 8818 INSO 8819
13	Caprylic acid(C8:0)	0/5-1/7	INSO 8818 INSO 8819
14	Capric acid(C10:0)	1/7- 3/9	INSO 8818 INSO 8819
15	Lauric acid(C12:0)	2/3-4/5	INSO 8818 INSO 8819
16	Myristic acid(C14:0)	5/4-14/5	INSO 8818 INSO 8819

No.	Specifications	Limit	Test method
17	Myristoleic acid(C14:1)	0/5-1/7	INSO 8818 INSO 8819
18	Palmitic acid(C16:0)	23-41	INSO 8818 INSO 8819
19	Palmitoleic acid(C16:1)	1-6	INSO 8818 INSO 8819
20	Stearic acid(C18:0)	6-15	INSO 8818 INSO 8819
21	Oleic acid(C18:1)	19/06-36/88	INSO 8818 INSO 8819
22	Linoleic acid(C18:2)	1/22-4/85	INSO 8818 INSO 8819
23	Alpha linolenic acid(C18:3)	0-0/5	INSO 8818 INSO 8819
24	Arashidic acid(C20:0)	0/8-3/3	INSO 8818 INSO 8819
25	Sterols(Percentage of total sterols)	Max 5	INSO 8818 INSO 8819

Table 2- Chemical properties of types of skim milk powder with different Grades

No.	Specifications	Limit	Test method
1	Moisture(Weight percentage)	Max 5	INSO 1450
2	Fat(Weight percentage)	< 1/5	INSO 1531
3	Solubility index(milliliter)	Max 1	INSO 2090
4	Scorched particles(milligram per 100 gram) Extra grade Standard grade	Disc A DisC B	INSO 2284

No.	Specifications	Limit	Test method
5	Acidity(Percentage of lactic acid) Extra grade Standard grade	 0/15 0/17	INSO 2852
6	Phosphatase activity	Negative	INSO 8780
7	Protein(based solid non fat)	Min 31	INSO 639
8	Ash (Percentage)	7/6-8/2	INSO 2851
9	Lactose (Weight percentage)	45-55	INSO 2450

INSO 395:2019

Mozafati date - Specifications and test methods

Scope

This standard determines the physical and chemical specifications, classification, sampling, test methods, packaging and labelling of packaged Mozafati date.

This standard applies for Mozafati date product.

Specifications and test methods

No.	Specifications		Limit(s)	Test method(s)
1	Classification	Large	Up to 85 in 1000 g	INSO 395
		Medium	From 85 up to 105 in 1000 g	
		Small	More than 105 in 1000 g	
2	Unacceptable matters	Soil, sand, gravel, pieces of glass, metal, web, excretion, bird feathers, rodent hair, dead insects or various parts of their bodies	Free	INSO 395
		living pest	Free	INSO 395
		moldiness	Free	INSO 395
		rashness rancidity	Free	INSO 395
		smell and taste	Free from abnormal smell and taste	INSO 395

No.	Specifications	Limit(s)	Test method(s)
3	Damaged by pests	Max 3% Numerical	INSO 395
4	Moisture content	Max 23% v/w	INSO 672
5	Date belonging to other varieties	Max 3% Numerical	INSO 395
6	Mechanical damage	Max 4% Numerical	INSO 395
7	Dates with clung foreign matter	Max 3% Numerical	INSO 395
8	Crystallized date	Max 3% Numerical	INSO 395
9	Unripe (immature)	Max 3% Numerical	INSO 395
10	Blemished	Max 2% Numerical	INSO 395
11	Discolored	Max 2% Numerical	INSO 395
12	Pesticide residues	INSO 13118	INSO 17026
13	Heavy metals	INSO 12968	INSO 9266
14	Microbiology specifications	INSO 16217	INSO 16217

Note1- Pesticide residues determination is done at the request of buyer.
Note 2- Heavy metals determination is done at the request of buyer.

INSO 15:2014

Natural open pistachio - Specifications

Scope

This standard specifies the quality specification, sampling, packing and labelling requirements and test methods of the natural open pistachio (raw and sliced with or without edible additives).

Specifications and test methods

No.	Specifications for powder cumin	Limit(s)		Test method(s)
1	Foreign matter	Without Foreign matter		INSO 4920
2	Burning taste	Max 1%		INSO 4920
3	moisture	Raw pistachio	Max 5%	INSO 4920
		Grill pistachio	Max 3%	
4	Peroxide in extracted fat	Max 1 meq/kg		INSO 4920
5	Salt	Max 2%		INSO 4920
6	Aflatoxins	ppb		INSO 5925
7	Pest	Max 6%		INSO 4920
8	Obvious pest	Max 3%		INSO 4920
9	Mold	Max 0.2%		INSO 4920
10	Foreign matter	Max 0.6%		INSO 4920
11	Foreign matterother than skin	Max 0.2%		INSO 4920
12	Free pistachio kernel	Max 2%		INSO 4920
13	Smell and taste	Pistachio has its own smell without any other abnormal taste, old and stale and bitterness.		INSO 15
14	Natural open pistachio cutie	Minimum exporter statement		INSO 15

INSO 289:2005

Paints and varnishes – Emulsion paint based on poly vinyl acetate resin - Specifications and test methods

Scope

This standard presents the specifications and test methods of plastic and semi-plastic paints based on homopolymer or copolymer polyvinyl acetate emulsion resin. Both types of paints are suitable for indoor use only.

This standard includes paints used for gypsum, cement and brick surfaces and is not suitable for paints that are used on concrete, bitumen, wood, metal, and glass surfaces and also dye and advertising paints.

Specifications and test methods

No.	Specifications		Limit(s)		Test method(s)
			Plastic	Semi plastic	
1	Fineness of grind, max, µm		60	75	INSO 6460
2	White color reflection, min, %		85	85	INSO 8944-1
3	Thermal stability at (50 ± 1) ˚C		pass		Sec. 6-4-1
4	Freeze-thaw stability at (-5 ± 1) ˚C		pass		Sec. 6-4-2
5	Gloss	Matte at 85 °, max, %	10		Sec. 6-5
		Semi- matte at 85 °, %	10 up to 60		
		Semi-gloss at 60 °, %	36 up to 60		
6	Viscosity at (25 ± 0.5) ˚C, Krebs unit		80 up to 135		ASTM D 562
7	Washability (Reduction of thickness), max, µm		5	Not applicable	Sec. 6-7
8	Hiding power (Contrast ratio), min, %		98	98	Sec. 6-6

INSO 1700:2007

Paints and varnishes - Gloss alkyd paint based on solvent- Specifications and test methods

Scope

This standard determines the features and test methods of solvent-based gloss alkyd paint, which is used for internal and external coating of metal, wood, cement, brick and other similar surfaces that have already been painted or coated.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	non volatile matter, max, % a) White and light- colored paints based on titanium dioxide (such as blue, green, yellow, gray, pink, …) b) Brown, black, reddish brown, dark violet, yellow iron oxide paints and paints that contain and have no hiding power	45 50	INSO 5907
2	Viscosity at 25 ˚C, Krebs unit	80 up to 105	Sec. 5-13
3	Fineness of grind, max, µm	20	INSO 6460
4	Drying time, max, hour a) Dust free time b) Dry to handle	 6 24	Sec. 5-15
5	Resistance to yellowing* (Method a or b), Index difference a) Instrumental method, max b) Visual method, min	0.03 8	Sec. 5-16
6	Xenon test, min, hour	15 (Without change)	sec. 5-17
* This test is only for white paints			

INSO 93:2016

Pasteurized milk - Specifications and test methods

Scope

This standard specifies the sensory, physicochemical, microbial properties, sampling, test methods, packaging and labelling of packaged pasteurized milk.

This standard applies for all types of pasteurized milk, extended shelf life milk, functional milk, fortification milk, low lactose and lactose free milk, reconstituted or recombined milk.

Note- Milk in this standard means cow's milk.

Specifications and test methods

No.	Specifications	pasteurized, extended shelf life, functional, fortification milk	low lactose & lactose free milk	Test method(s)
1	Fat (g/100) Full fat Semi skimmed Low fat Skimmed	 3 ≤ 3 > , 1.8 ≤ 1.8 > , 0.5 < 0.5 ≥	 3 ≤ 3 > , 1.8 ≤ 1.8 > , 0.5 < 0.5 ≥	INSO 366
2	Density (g/cm^3) Full fat Semi skimmed Low fat Skimmed	 1.029 1.030 1.030 1.033	 1.029 1.030 1.030 1.033	INSO 638
3	Freezing point (˚C)	-0.545 to -0.507	-0.600 to -0.820	INSO 12502
4	Nonfat dry matter (g/100)	8	8	INSO 637
5	Acidity (based lactic acid)	0.14-0.16	0.14-0.16	INSO 2852
6	pH	6.6-6.8	6.6-6.8	INSO 2852
7	Lactose residual in low lactose milk (g/100)	---	1.5	INSO 4449
8	Lactose residual in lactose free milk (g/100)	---	0.1	INSO 4449
9	Vegetable sterol	3	3	INSO 9670

INSO 13635:2018

Pasteurized and UHT flavored cream - Specifications

Scope

This standard determines physical, chemical, microbial, sensorial, packaging, labelling properties, sampling methods and test methods of different types of pasteurized and UHT flavored cream.

This standard specifies for different types of flavored pasteurized and UHT cream including produced from fresh cow milk, reconstituted cream, recombined cream with addition of sugar, chocolate, cocoa, date extract, honey and Jam in fresh, frozen and packed under pressure and sweetened flavored confectionary cream.

-Application of vegetable oil and fats in flavored cream is banned.

-Application of non dairy fat is forbidden in flavored cream.

Specifications and test methods

4No.	Type	pH	Acidity (%lactic acid)	Sucrose (%)	Phytosterol (Maximum ratio to total sterol)	Fat (%)
1	Honey cream	Minimum 6.2	0.12-0.16	Maximum 2.7	3	Low fat ≤18 to 10≤ Semi fat ≤35 and 18< full fat ≤48
2	Date cream	Minimum 5.7	Maximum 0.35	Maximum 3.4 (with sugar), Maximum 1.5 (without sugar)	3	
3	Jam cream	5.6-6.5	Maximum 0.2	Maximum 13.5	3	
4	Cocoa cream	6.2-7	0.12-0.25	Maximum 18	5	

4No.	Type	pH	Acidity (%lactic acid)	Sucrose (%)	Phytosterol (Maximum ratio to total sterol)	Fat (%)
5	Chocolate cream	5.8-6.5	0.14-0.2	Maximum 18	5	and 35< doubled fat 48<
6	Fruity cream	5.6-6.5	0.12-0.16	Maximum 7.2	3	
7	Malt cream	Minimum 5.7	Maximum 0.2	Maximum 7.2	3	
8	Sweetened confectionary cream	-	Maximum 0.16	Maximum 22.5	3	
9	Test methods	INSO 2852	INSO 2852	INSO 2450	INSO 9670	-

INSO 191:2019

Pasteurized and UHT cream - Specifications and test methods

Scope

This standard specifies physical, chemical, microbial, sensorial, packaging, labelling, sampling requirements and test methods of different types of pasteurized and UHT creams (excluding different types of flavored and sweetened cream).

Specifications and test methods

Chemical composition of different types of pasteurized, UHT and Clotted cream

specification		Limit(s)							Test method(s)
		Pasteurized cream	UHT cream	Sweetened cream	Packed under pressure	Sour cream	Fermented cream Acidified cream	Clotted milk	
Fat (W/W)	Low fat	≤18 to 10≤ ≤35 and 18< ≤48 and 35< 48<				18<	10< 18<	18<	INSO 1189
	Semi fat								
	Whole fat								
	Full fat								
Titrable acidity (%)		0.09-0.15				Min. 0.5	Min. 0.6 Min. 0.5	0.09-0.15	INSO 2852
pH		6.5-6.8							
Phytosterols		Maximum 3							INSO 9189, 22560
pH and acidity determined in table, is not applicable for fermented cream and sour cream. Specifications of reconstituted cream, recombined cream and frozen cream is according to this standard.									

Fatty acid composition of different types of pasteurized, UHT and Clotted cream

No	specifications	Limit(s)	Test methods
	Type of fatty acid		
1	Butyric acid(C4:0)	1-5	INSO8818 and 8819
2	Caproic acid(C6:0)	0.8-3.6	
3	Caprylic acid(C8:0)	0.5-1.8	
4	Capric acid(C10:0)	1.7- 3.9	
5	Lauric acid(C12:0)	2.2-4.5	
6	Myristic acid(C14:0)	5.4-14.6	
7	Myristoleic acid(C14:1)	0.5-1.85	
8	Palmitic acid(C16:0)	22-41	
9	Palmitoleic acid(C16:1)	0.7-6	
10	Stearic acid(C18:0)	6-15	
11	Oleic acid(C18:1)(cis and trans)	18.26-38.2	
12	Linoleic acid(C18:2(cis and trans))	0.68-5.5	
13	Alpha linolenic acid(C18:3)	0-0.5	
14	Arachidic acid(C20:0)	0.05-1	

INSO 5514:1992

Pear concentrated - Specifications and test methods

Scope

This standard determines the characteristics, sampling, test method, packaging and marking of different types of concentrated Pear juice.

This standard specifies for concentrated pear juice, which is consumed in two ways.

NOTE 1- For direct use, which is used as a juice after diluting with drinking water and bringing it to a natural concentration.

NOTE 2- It is used in industries for the preparation of beverages and other products in which the consumption of concentrate is allowed.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Brix at 20 degrees Celsius (gr / 100 gr)	70± 1	INSO 2685
2	Density at 20 ° C ((gr / 100 gr)	1.34±1.37	INSO 2685
3	Total ash (gr per ۱۰۰ml)	1.2± 3.5	INSO 2685
4	Total acidity (tartaric acid) (gr per 100 ml)	1-2.5	INSO 2685
5	pH	3.6-4.00	INSO 2685

No.	Specifications	Limit(s)	Test method(s)
6	Reducing sugars (grams per 100 ml)	Minimum 55	INSO 2685
7	Ethanol	0.2 gr/100gr	INSO 2685
8	Sucrose (gr per 100 ml)	Maximum 10	INSO 2685
9	Hydroxy methyl furfural after the product reaches normal brix	Maximum 0.6	INSO 2685
10	Unsolvent ashes in acid	0.35	INSO 2685

INSO 5311:2012

Peyarom date - Specifications and test methods

Scope

This standard determines the specifications (physico-chemical), classification, sampling, test methods, packaging and labelling of Peyaram date.

This standard applies for Peyaram date of Iran product.

Specifications and test methods

No.	Specifications		Limit(s)	Test method(s)
1	Classification	large	Up to 110 in 1000 g	INSO 5311
		medium	From 111 up to 150 in 1000 g	
		small	More than 150 in 1000 g	
2	Unacceptable	Foreign matter including sand, gravel, metal and glass	Free	INSO 5311
		living pest	Free	INSO 5311
3		Abnormal smell, taste and flavor	Free	INSO 5311
4	Damaged by pests		Max 5% Numerical	INSO 5311

No.	Specifications	Limit(s)	Test method(s)
5	Date belonging to other varieties	Max 2% Numerical	INSO 5311
6	Rottenness	Max 1% Numerical	INSO 5311
7	Discolored	Max 2% Numerical	INSO 5311
8	• Moisture content	Max 17% v/w	INSO 672
9	Mechanical damage	Max 2% Numerical	INSO 5311
10	Date with clung foreign matter except sand, stone, metal and glass	Max 2% Numerical	INSO 5311
11	Pesticide residues	At the request of the buyer	EN 15662

INSO 3639:2013

Pistachio core - Specifications and test methods

Scope

This standard specifies the quality specification, sampling, packing and labelling and test methods for pistachio kernel.

Specifications and test methods

No.	Specifications for powder cumin	Limit(s)	Test method(s)
1	Peroxide in extracted fat	Max 1 meq/kg	INSO 37
2	Pest	Max 3%	INSO 3639
3	Foreign matter	Max 0.1%	INSO 3639
4	Crushed and broken	Min 20%	INSO 3639
5	Soil	Max 1 %	INSO 3639
6	moisture	Max 5 %	INSO 3639
7	Aflatoxins	*ppb	INSO 5925
8	Pesticide residue	*ppm	INSO 13118
9	Taste and odor and color	Without abnormal color, odor and taste	INSO 3639
10	Unacceptable	Without pest, moldy, sand, soil, shards of glass and metal objects	INSO 3639
*Microbiology, aflatoxins and pesticide residues tests for consignments of exported pistachio kernels complied with the request of the exporter or the country of the buyer is done.			

INSO 635-1:2016

Plugs and socket - outlets for household and similar purposes – Part 1: General requirements

Scope

This standard applies to plugs and fixed or portable socket-outlets for a.c. only, with or without earthing contact, with a rated voltage greater than 50 V but not exceeding 440 V and a rated current not exceeding 32 A, intended for household and similar purposes, either indoors or outdoors. The rated current is limited to 16 A maximum for fixed socket-outlets provided with screwless terminals. This standard does not cover requirements for flush mounting boxes: however, it covers only those requirements for surface-type mounting boxes which are necessary for the tests on the socket-outlet.

NOTE 1 General requirements for mounting boxes are given in IEC 60670.

This standard also applies to plugs which are a part of cord sets, to plugs and portable socket-outlets which are a part of cord extension sets and to plugs and socket-outlets which are a component of an appliance, unless otherwise stated in the standard for the relevant appliance.

This standard does not apply to

– plugs, socket-outlets and couplers for industrial purposes;
– appliance couplers;
– plugs, fixed and portable socket-outlets for ELV;

NOTE 2 ELV values are specified in IEC 60364-4-41.

– fixed socket-outlets combined with fuses, automatic switches, etc.

NOTE 3 Socket-outlets with pilot lights are allowed provided that pilot lights comply with the relevant standard, if any. Plugs and socket-outlets complying with this standard should be suitable for use at ambient temperatures not normally exceeding +40 °C, but their average over a period of 24 h does not exceed +35 °C, with a lower limit of the ambient air temperature of –5 °C.

NOTE 4 Socket-outlets complying with this standard are only suitable for incorporation or mounting in equipment in such a way and in such a place that it is unlikely that the surrounding temperature exceeds 35 °C.

NOTE 5 In the following country it is required that plugs and socket-outlets complying with this standard are suitable for use at ambient temperatures not normally exceeding 35 °C, but occasionally reaching 40 °C. In locations where special conditions prevail, such as in ships, vehicles and the like and in hazardous locations, for example where explosions are liable to occur, special constructions may be required.

Specifications and test methods

NO	Specification	Limit(s)	Test method (Clause Number)
1	marking	Having signs and making them legible	8
2	Dimensions	Measured with calipers and compliance with standard sheets	9
3	Protection against electrical shock	Do not contact the test finger with electrical parts	10
4	Provision for earthing	Measurements with calipers	11

NO	Specification	Limit(s)	Test method (Clause Number)
5	Terminals	Visual inspection and application of torque	12
6	Construction of fixed socket-outlets	Compliance is checked by inspection	13
7	Construction of plugs and protable socket-outlets	Compliance is checked by inspection	14
8	Interlocked socket-outlets	----------	15
9	Resistance to ageing,to harmful ingress of water and to humidity	Compliance is checked by inspection	16
10	Insulation resistance and electric strength	Compliance is checked by inspection	17
11	Operation of earthing contacts	Compliance is checked by inspection	18
12	Temperature rise	The maximum temperature increase measured is less than 45 degrees	19
13	Breaking capacity	-During the test, no sustained arcing shall occur -Compliance is checked by inspection, *safety standard*	20
14	Normal operation	Compliance is checked By cluase 21	21

NO	Specification	Limit(s)	Test method (Clause Number)
15	Force necessary to withdraw the plug	Checked by Minimum and maximum Force necessary to withdraw the plug	22
16	Flexible cables and their connection	Compliance is checked By cluase 22	23
17	Mechanical strength	Compliance is checked By cluase 24	24
19	Resistance to heat	Compliance is checked by inspection	25
20	Screws,current-carrying parts and connections	Bearing the necessary torques and manual test and eye inspection	26
21	Creepage distance,clearances and distances through sealing compound	-Compliance is checked by inspection -Measurements according to the table	27
22	Resistance to abnormal heat and to fire	Compliance is checked by inspection	28
23	Resistance to rusting	Compliance is checked by inspection	29
24	Additional tests on pins provided with insulating sleeves	Compliance is checked By cluase 30	30

INSO 607-3:2002 (Identical with IEC 60227-3:1997)

Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 3: Non-sheathed cables for fixed wiring

Scope

This standard details the particular specifications for polyvinyl chloride insulated single-core non-sheathed cables for fixed wiring of rated voltages up to and including 450/750 V. All cables shall comply with the appropriate requirements given in INSO 607-1 and the individual types of cables shall each comply with the particular requirements of this part.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Checking of the durability of colors and markings.	Compliance with INSO 607-1, Clauses 3 and 4	INSO 607-2 Clauses, 1.8
2	conductors electrical resistance	INSO 3084 Table 1,2,3,4	INSO 607-2 Clauses,2.1
3	High Voltage	No electrical failure	INSO 607-2 Clauses,2.2
4	Insulation of resistance	INSO 607-3	INSO 607-2 Clauses,2.4
5	External diameter	INSO 607-3	INSO 5525-3
6	Conductor wire diameter	INSO 3084	INSO 3084
7	insulation thickness	INSO 607-3	INSO 5525-201
8	Tensile strength and elongation at break (Properties in the state as delivered and Properties after ageing in air oven)	INSO 607-1 Table 1	INSO 5525-501

No.	Specifications	Limit(s)	Test method(s)
9	Loss of mass	INSO 607-1 Table 1	INSO 5525-409
10	Compatibility	INSO 607-1 Table 1	INSO 5525-401
11	Heat shock	INSO 607-1 Table 1	INSO 5525-509
12	Pressure at high temperature	INSO 607-1 Table 1	INSO 5525-508
13	Bending at low temperature	INSO 607-1 Table 1	INSO 5525-504
14	Elongation at low temperature	INSO 607-1 Table 1	INSO 5525-505
15	Impact at low temperature	INSO 607-1 Table 1	INSO 5525-506
16	Thermal stability	INSO 607-1 Table 1	INSO 5525-405
17	Prevent flame propagation	No propagating the flame	INSO 3081-1-2

INSO 607-4:2002 (Identical with IEC 60227-4: 1992)

Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 4: Sheathed cables for fixed wiring

Scope

This standard details the particular specification for light polyvinyl chloride sheathed cables of rated voltage of 300/500 V. Each cable shall comply with the appropriate requirements given in INSO 607-1 and the particular requirements of this part.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
Insulation specification			
1	Checking of the durability of colors and markings.	Compliance with INSO 607-1, Clauses 3 and 4	INSO 607-2 Clause,1.8
2	conductors electrical resistance	INSO 3084 Table 1,2,3,4	INSO 607-2 Clause,2.1
3	High Voltage on cores	No electrical failure	INSO 607-2 Clause,2.2
4	insulation of resistance	INSO 607-4	INSO 607-2 Clause,2.4
5	External diameter	INSO 607-4	INSO 5525-203
6	Conductor wire diameter	INSO 3084	INSO 3084
7	Insulation thickness	INSO 607-4	INSO 5525-201
8	Tensile strength and elongation at break (Properties in the state as delivered and Properties after ageing in air oven)	INSO 607-1 Table 1	INSO 5525-501
9	Loss of mass	INSO 607-1 Table 1	INSO 5525-409
10	Compatibility	INSO 607-1 Table 1	INSO 5525-401
11	Heat shock	INSO 607-1 Table 1	INSO 5525-509

No.	Specifications	Limit(s)	Test method(s)
12	Pressure at high temperature	INSO 607-1 Table 1	INSO 5525-508
13	Bending at low temperature	INSO 607-1 Table 1	INSO 5525-504
14	Impact at low temperature	INSO 607-1 Table 1	INSO 5525-506
15	Thermal stability	INSO 607-1 Table 1	INSO 5525-405
Sheath specification			
16	Sheath thickness	INSO 607-4	INSO 5525-202
17	Tensile strength and elongation Sheath at break (Properties in the state as delivered and Properties after ageing in air oven)	INSO 607-1 Table 2	INSO 5525-501
18	Loss of mass	INSO 607-1 Table 2	INSO 5525-409
19	Compatibility	INSO 607-1 Table 2	INSO 5525-401
20	Heat shock	INSO 607-1 Table 2	INSO 5525-509
21	Pressure at high temperature	INSO 607-1 Table 2	INSO 5525-508
22	Bending at low temperature	INSO 607-1 Table 2	INSO 5525-504
23	Impact at low temperature	INSO 607-1 Table 2	INSO 5525-506
24	Thermal stability	INSO 607-1 Table 2	INSO 5525-405
25	High voltage on completed cables	No electrical failure	INSO 607-2 Clause,2.2
26	Prevent flame propagation	No propagating the flame	INSO 3081-1-2

INSO 607-5:2014 (Identical with IEC 60227-5:2011)

Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 5 : Flexible cables (cords)

Scope

This standard details the particular specifications for polyvinyl chloride insulated flexible cables (cords), of rated voltages up to and including 300/500 V. All cables comply with the appropriate requirements given in INSO 607-1 and each individual type of cable complies with the particular requirements of this part.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
Insulation specification			
1	Checking of the durability of colors and markings.	Compliance with INSO 607-1, Clauses 3 and 4	INSO 607-2 Clause,1.8
2	conductors electrical resistance	INSO 3084 Table 1,2,3,4	INSO 607-2 Clause,2.1
3	High Voltage on cores	No electrical failure	INSO 607-2 Clause,2.2
4	insulation of resistance	INSO 607-5	INSO 607-2 Clause,2.4
5	External diameter	INSO 607-5	INSO 5525-3
6	Conductor wire diameter	INSO 3084	INSO 3084
7	insulation thickness	INSO 607-5	INSO 5525-201
8	Tensile strength and elongation at break (Properties in the state as delivered and Properties after ageing in air oven)	INSO 607-1 Table 1	INSO 5525-501
9	Loss of mass	INSO 607-1 Table 1	INSO 5525-409
10	Compatibility	INSO 607-1 Table 1	INSO 5525-401
11	Heat shock	INSO 607-1 Table 1	INSO 5525-509
12	Pressure at high temperature	INSO 607-1 Table 1	INSO 5525-508

No.	Specifications	Limit(s)	Test method(s)
13	Bending at low temperature	INSO 607-1 Table 1	INSO 5525-504
14	Elongation at low temperature	INSO 607-1 Table 1	INSO 5525-506
15	Impact at low temperature	INSO 607-1 Table 1	INSO 5525-405
16	Thermal stability	INSO 607-5	INSO 5525-201
Sheath specification			
17	Sheath thickness	INSO 607-5	INSO 5525-202
18	Tensile strength and elongation Sheath at break (Properties in the state as delivered and Properties after ageing in air oven)	INSO 607-1 Table 2	INSO 5525-501
19	Loss of mass	INSO 607-1 Table 2	INSO 5525-409
20	Compatibility	INSO 607-1 Table 2	INSO 5525-401
21	Heat shock	INSO 607-1 Table 2	INSO 5525-509
22	Pressure at high temperature	INSO 607-1 Table 2	INSO 5525-508
23	Bending at low temperature	INSO 607-1 Table 2	INSO 5525-504
24	Elongation at low temperature	INSO 607-1 Table 2	INSO 5525-505
25	Impact at low temperature	INSO 607-1 Table 2	INSO 5525-506
26	Thermal stability test	INSO 607-1 Table 2	INSO 5525-405
27	Flexibility	No electrical failure	INSO 607-2
28	High voltage on completed cables	High voltage on completed cables	No electrical failure
29	Prevent flame propagation	No propagating the flame	INSO 3081-1-2

INSO 607-6:2007 (Identical with IEC 60227-6:2001)

Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 6 : Lift cables and cables for flexible connections

Scope

This standard details the particular specifications for both circular and flat lift cables and cables for flexible connections of rated voltages up to and including 450/750 V. Each cable complies with the appropriate requirements given in INSO 607-1, and with the particular requirements of this part of INSO 607.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
Insulation specification			
1	Checking of the durability of colors and markings.	Compliance with INSO 607-1, Clauses 3 and 4	INSO 607-2 Clause,1.8
2	conductors electrical resistance	INSO 3084 Table 1,2,3,4	INSO 607-2 Clause,2.1
3	High Voltage on cores	No electrical failure	INSO 607-2 Clause,2.2
4	insulation of resistance	INSO 607-6	INSO 607-2 Clause,2.4
5	External diameter	INSO 607-6	INSO 5525-203
6	Conductor wire diameter	INSO 3084	INSO 3084
7	insulation thickness	INSO 607-6	INSO 5525-201
8	Tensile strength and elongation at break (Properties in the state as delivered and Properties after ageing in air oven)	INSO 607-1 Table 1	INSO 5525-501
9	Loss of mass	INSO 607-1 Table 1	INSO 5525-409
10	Compatibility	INSO 607-1 Table 1	INSO 5525-401
11	Heat shock	INSO 607-1 Table 1	INSO 5525-509
12	Pressure at high temperature	INSO 607-1 Table 1	INSO 5525-508

No.	Specifications	Limit(s)	Test method(s)
13	Bending at low temperature	INSO 607-1 Table 1	INSO 5525-504
14	Elongation at low temperature	INSO 607-1 Table 1	INSO 5525-506
15	Impact at low temperature	INSO 607-1 Table 1	INSO 5525-405
16	Thermal stability	INSO 607-6	INSO 5525-201
Sheath specification			
17	Sheath thickness	INSO 607-6	INSO 5525-202
18	Tensile strength and elongation Sheath at break (Properties in the state as delivered and Properties after ageing in air oven)	INSO 607-1 Table 2	INSO 5525-501
19	Loss of mass	INSO 607-1 Table 2	INSO 5525-409
20	Compatibility	INSO 607-1 Table 2	INSO 5525-401
21	Heat shock	INSO 607-1 Table 2	INSO 5525-509
22	Pressure at high temperature	INSO 607-1 Table 2	INSO 5525-508
23	Bending at low temperature	INSO 607-1 Table 2	INSO 5525-504
24	Elongation at low temperature	INSO 607-1 Table 2	INSO 5525-505
25	Impact at low temperature	INSO 607-1 Table 2	INSO 5525-506
26	Thermal stability	INSO 607-1 Table 2	INSO 5525-405
27	flexibility	INSO 607-2	INSO 607-2
28	Static flexibility	INSO 607-2	INSO 607-2
29	High voltage on completed cables	No electrical failure	INSO 607-2 Clause,2.2
30	Prevent flame propagation	No propagating the flame	INSO 3081-1-2

INSO 607-7:2015 (Identical with IEC 60227-7:1995)

Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 7: Flexible cables screened and unscreened with two or more conductors

Scope

This standard details the particular specifications for polyvinyl chloride insulated, screened and unscreened control cables of rated voltages up to and including 300/500 V. All cables comply with the appropriate requirements given in INSO 607-1 and each individual type of cable complies with the particular requirements of this part.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
Insulation specification			
1	Checking of the durability of colors and markings.	Compliance with INSO 607-1, Clauses 3 and 4	INSO 607-2 Clause,1.8
2	conductors electrical resistance	INSO 3084 Table 1,2,3,4	INSO 607-2 Clause,2.1
3	High Voltage on cores	No electrical failure	INSO 607-2 Clause,2.2
4	insulation of resistance	INSO 607-7	INSO 607-2 Clause,2.4
5	External diameter	INSO 607-7	INSO 5525-203
6	Conductor wire diameter	INSO 3084	INSO 3084
7	insulation thickness	INSO 607-7	INSO 5525-201
8	Tensile strength and elongation at break (Properties in the state as delivered and Properties after ageing in air oven)	INSO 607-1 Table 1	INSO 5525-501
9	Loss of mass	INSO 607-1 Table 1	INSO 5525-409
10	Compatibility	INSO 607-1 Table 1	INSO 5525-401
11	Heat shock	INSO 607-1 Table 1	INSO 5525-509

No.	Specifications	Limit(s)	Test method(s)
12	Pressure at high temperature	INSO 607-1 Table 1	INSO 5525-508
13	Bending at low temperature	INSO 607-1 Table 1	INSO 5525-504
14	Elongation at low temperature	INSO 607-1 Table 1	INSO 5525-506
15	Impact at low temperature	INSO 607-1 Table 1	INSO 5525-405
16	Thermal stability	INSO 607-7	INSO 5525-201
Sheath specification			
17	Sheath thickness	INSO 607-7	INSO 5525-202
18	Tensile strength and elongation Sheath at break (Properties in the state as delivered and Properties after ageing in air oven)	Table 2	Reference No.1.1, 1.2 (IEC 60811-401 and 501)
19	Loss of mass	INSO 607-1 Table 2	INSO 5525-409
20	Compatibility	INSO 607-1 Table 2	INSO 5525-401
21	Heat shock	INSO 607-1 Table 2	INSO 5525-509
22	Pressure at high temperature	INSO 607-1 Table 2	INSO 5525-508
23	Bending at low temperature	INSO 607-1 Table 2	INSO 5525-504
24	Elongation at low temperature	INSO 607-1 Table 2	INSO 5525-506
25	Impact test at low temperature	INSO 607-1 Table 2	INSO 5525-405
26	Thermal stability	INSO 607-7	INSO 5525-201
27	Mineral oil resistance of sheath or over sheath.	INSO 607-1 Table 2	INSO 5525-404
28	flexibility	INSO 607-2	INSO 607-2
29	Impedance of screening cable	INSO 607-7	INSO 1311-1
30	Voltage test on completed cables	High voltage on completed cables	No electrical failure
31	Prevent flame propagation	No propagating the flame	INSO 3081-1-2

INSO 389:2020 (Identical with ASTM C150/C150M:2019)
Portland cement - Specifications

1 Scope

This specification covers eleven types of Portland cement as follows:

1-1 Type1- for use when special properties specified for any other type are not required.
1-2 Type1A- air-entraning cement for the same uses as Type1,where air-entrainment is desired.
1-3 Type2- for general use, more specially when moderate sulfate resistance is desired.
1-4 Type2A- air-entraning cement for the same uses as Type2,where air- entrainment is desired
1-5 Type2(MH) - for general use, more specially when moderate heat of hydration and moderate sulfate resistance are desired.
1-6 Type2(MH)A - air-entraning cement for the same uses as Type2(MH), where air- entrainment is desired.
1-7 Type2S- for general and sea use, more specially when moderate chloride and sulfate resistance are desired.
1-8 Type3- for use when high early strength is desired.
1-9 Type3A- air-entraning cement for the same uses as Type3,where air-entrainment is desired.
1-10 Type4- for use when a low heat of hydration is desired.
1-11 Type5- for use when high sulfate resistance is desired.

Specifications and test methods

1-Chemical Composition

Portland cement of each eleven types, shall conform to the respective standard chemical requirements prescribed in table1.

TABLE1 Standard Composition Requirements

No.	Specifications		Limit(S) (for 11 types of cement)		Test methods
1	Aluminum oxide(Al_2O_3),max %		For Types:		INSO 1692 INSO 18807-2
			2,2A,2(MH),2(MH)A	Max 6%	
			1,1A,2S,3,3A,4,5	NO limits	
2	Ferric oxide(Fe_2O_3)		For Types:		INSO 1692 INSO 18807-2
			2,2A,2(MH),2(MH)A	Max 6%	
			1,1A,2S,3,3A,4,5	NO limits	
3	Magnesium oxide (MgO)		For Types:		INSO 1692 INSO 18807-2
			2,2A,2(MH),2(MH)A	Max 6%	
			1,1A,2S,3,3A,4,5	NO limits	
4	Sulfur thrioxide (SO_3)	WHEN C3A is 8% or less	3%		INSO 1692 INSO 18807-2
		WHEN C3A is more than 8%	1,1A Max 3.5%		
			3, 3A Max 4.5%		
5	Loss of ignation (LOI)	When limestone is not an ingredient	Types: 1,1A, 2,2A, ,2(MH),2(MH)A,2S,3,3A,5 Max 3%		INSO 1692 INSO 18807-2
			Type 4: Max 2.5%		
		When limestone is an ingredient	For All Types: Max 3.5%		
6	Insoluble residue(IR)		For All Types: Max 1.5%		INSO 1692 INSO 18807-2
7	C3A		For Types:		Annex A INSO 389
			2,2A,2(MH),2(MH)A	Max 6%	
	C3A		1,1A,2S,3,3A,4,5	NO limits	

No.	Specifications	Limit(S) (for 11 types of cement)		Test methods
8	C4AF+C3A	For Types:		Annex A INSO 389
		5	Max 25%	
		1,1A,2,2A,2(MH),2(MH)A, 2S,3,3A,4	No limit	

2- Standard Physical Requirements

Table2 Standard Physical Requirements

No.	Specifications	Limit(for11 type cement)			Test methods
1	Air content of mortar(Volume%)	Type	Max	Min	ASTM C185
		1	-	-	
		1A	22	16	
		2	-	-	
		2A	22	16	
		2(MH)	-	-	
		2(MH)A	22	16	
		2S	-	-	
		3	-	-	
		3A	22	16	
		4	-	-	
		5	-	-	
2	Fineness, special surface,m^2/Kg	Type	Max	Min	INSO 390 INSO 18807-6 ASTM C204
		1	360	260	
		1A	360	260	
		2	360	260	
		2A	360	260	
		2(MH)	360	260	
		2(MH)A	360	260	
		2S	360	260	
		3	-	-	
		3A	-	-	
		4	360	260	
		5	360	260	

No.	Specifications	Limit(for11 type cement)			Test methods
3	Autoclave expansion(Max%)	0.8			INSO 391 ASTM C151
4	Time of setting(Vicat test)(Minute)	**Limit(for11 type cement)**			INSO 392 ASTM C191
		Initial: more than 45 minutes **Final**:less than 375 minutes			
5	Hydratation heat(3 and 7 days)	**Limit(for11 type cement)**			ASTM C1702
		Type	3 day	7 day	
		1	-		
		1A	-		
		2	-		
		2A	-		
		2(MH)	(80) 355		
		2(MH)A	(80) 355		
		2S	-		
		3	-		
		3A	-		
		4	(50) 200		
		5	(55) 225		

3- Standard Mechanical Requirements

All of cements classified based on four kind of compressive strength.

Table3 Standard Mechanical Requirements

kind of Compressive strength		Compressive strength for 11 types of cements(MPa)						Test methods
		1,1A	2,2A,2(MH), 2(MH)A	2S	3,3A	4	5	
1	7 day,Min	-	-	-	-	10	12	EN 196-1 INSO 393
	28 day,Min	-	-	-	-	22.5	22.5	
	28 day,Max	-	-	-	-	32.5	42.5	
2	2 day,Min	-	-	-	10	-	-	
	7 day,Min	20	18	18	-	-	16	
	28 day,Min	32.5	32.5	32.5	32.5	-	32.5	
	28 day,Max	52.5	52.5	52.5	52.5	-	52.5	

kind of Compressive strength		Compressive strength for 11 types of cements(MPa)						Test methods
		1,1A	2,2A,2(MH), 2(MH)A	2S	3,3A	4	5	
3	2 day,Min	10	10	10	20	-	10	
	28 day,Min	42.5	42.5	42.5	42.5	-	42.5	
	28 day,Max	62.5	62.5	62.5	62.5	-	62.5	
4	2 day,Min	20	20	20	30	-	-	
	28 day,Min	52.5	52.5	52.5	52.5	-	-	
	28 day,Max	-	-	-	-	-	-	

INSO 3569-1:2012 (Identical with IEC 60502-1 :2009)

Power cables with extruded insulation and their accessories for rated voltages from 1kV(Um=1.2kV) up to 30kV(Um=36kV) Part1:Cables for rated voltage from 1kV(Um=1.2kV) and 3kV(Um=3.6kV)

Scope

This standard specifies the construction, dimensions and test requirements of power cables with extruded solid insulation for rated AC voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3,6 kV) for fixed installations such as distribution networks or industrial installations. Cables of rated AC voltage 1 kV (Um = 1,2 kV) designed and tested in accordance with this document can also be used, if declared by the manufacturer, in DC distribution systems having their nominal voltage ≤ 750 V DC (with a maximum of 900 V DC) between a live conductor and neutral/earth, or ≤ 1 500 V DC (with a maximum 1 800 V DC) between two live conductors. Applicable core identification for DC systems are considered in accordance with local installation regulations.

Specifications and test methods

No.	Clause	Specifications	Limit(s)	Test method(s)
1	15.2	Electrical resistance	INSO 3084 Tables 1,2,3,4	INSO 3084
2	15.3	Hight voltage	No electrical failure	INSO 3569-1
3	16.4	Conductor examination	Cheking and Measurement	INSO 3084 (Clauses 4,5,6)
4	16.8	Measurement of external diameter	----	INSO 5525-203

No.	Clause	Specifications	Limit(s)	Test method(s)
5	16.9	Hot set test for EPR, HEPR and XLPE insulations and elastomeric sheaths	With load max: 175% Without max: 25%	INSO 5525-507
6	17.1	Insulation resistance measurement at ambient temperature	INSO 3569-1 Table 14	INSO 3569-1
7	17.2	Insulation resistance measurement at maximum conductor temperature	INSO 3569-1 Table 14	INSO 3569-1
8	17.3	Voltage test for 4h	No electrical failure	INSO 3569-1
9	17.4	Impulse test for cables of rated voltage 1,8/3(3,6)kV	No electrical failure	INSO 3569-1
10	18.1	Measurement of thickness of insulation	INSO 3569-1 Insulation: Table 5,6,7	INSO 5525-201,
11	18.2	Measurement of thickness of non-metallic sheaths (including extruded separation sheaths, but excluding inner coverings)	non-metallic sheaths: complinc with Clauses 13 INSO 3569-1	INSO 5525-202
12	18.3	Test for determining the mechanical properties of insulation before and after ageing	INSO 3569-1 Table 15	INSO 5525-501

No.	Clause	Specifications	Limit(s)	Test method(s)
13	18.4	Test for determining the mechanical properties of non-metallic sheaths before and after ageing	INSO 3569-1 Table 18	INSO 5525-501
14	18.5	Additional ageing test on pieces of completed cables	INSO 3569-1 Table 15,18	INSO 5525-401
15	18.6	Loss of mass test on PVC sheath of type ST2	INSO 3569-1 Table 19	INSO 5525-409
16	18.7	Pressure test at high temperature on insulation and non-metallic sheaths	Max: 50%	INSO 5525-508
17	18.8	Bending test at low temperature	No cracking	INSO 5525-504
18	18.8	Elongation test at low temperature	Result shall be less than 20%	INSO 5525-505
19	18.8	Impact test at low temperature	No cracking	INSO 5525-506
20	18.9	heat shock test (insulation and sheaths)	No cracking	INSO 5525-509
21	18.10	Ozone resistance test for EPR and HEPR insulations	No cracking	INSO 5525-403
22	18.11	Hot set test for EPR, HEPR and XLPE insulations and elastomeric sheaths	With load max: 175% Without max: 25%	INSO 5525-507
23	18.12	Oil immersion test for elastomeric sheaths	INSO 3569-1 Table 22	INSO 5525-404

No.	Clause	Specifications	Limit(s)	Test method(s)
24	18.13	Water absorption test on insulation	INSO 3569-1 Table 16,17	INSO 5525-402
25	18.14.1	Flame spread test on single cables	INSO 3081-1-2 No propagation the flame	INSO 3081-1-1 INSO 3081-1-2
26	18.14.2	Flame spread test on bunched cables	INSO 3081-3-24 No propagation the flame	INSO 3081-3-24
27	18.14.3	Smoke emission test	INSO 9802-2	INSO 9802-1 INSO 9802-2
28	18.14.4	Acid gas emission test	INSO 20875-2 Table 23	INSO 20875-1 INSO 20875-2
29	18.14.5	pH and conductivity test	INSO 20875-2 Table 23	INSO 20875-1 INSO 20875-2
30	18.14.6	Fluorine content test	INSO 8300-2 Table 23	INSO 8300-2
31	18.16	Shrinkage test for XLPE insulation	INSO 3569-1 Table 17	INSO 5525-502 INSO 5525-503
32	18.22	Water absorption test for non halogen free oversheaths	INSO 3569-1 Table 21	INSO 5525-402

INSO 3569-2:2008(Identical with IEC 60502-2 : 2005-03)

Power cables with extruded insulation and their accessories for rated voltages from 1kV(Um = 1,2Kv) up to 30 kV (Um= 36 Kv) Part 2 : Cables for rated voltages from 6 kV (Um= 7,2 kV) up to 30 kV (Um=36 kV)

Scope

This standard specifies the construction, dimensions and test requirements of power cables with extruded solid insulation from 6 kV up to 30 kV for fixed installations such as distribution networks or industrial installations. When determining applications, it is recommended that the possible risk of radial water ingress is considered. Cable designs with barriers claimed to prevent longitudinal water penetration and an associated test are included in this standard. Cables for special installation and service conditions are not included, for example cables for overhead networks, the mining industry, nuclear power plants (in and around the containment area) nor for submarine use or shipboard application.

Specifications and test methods

No.	Clause	Specifications	Limit(s)	Test method(s)
1	16.2	Electrical resistance	INSO 3084 Tables 1,2,3,4	INSO 3084
2	16.3	Partial discharge test	INSO 3569-2 18.1.4	INSO 5526-3
3	16.4	Hight voltage	No electrical failure	INSO 3569-2
4	17.4	Conductor examination	Cheking and Measurement	INSO 3084 (Clauses 4,5,6)

No.	Clause	Specifications	Limit(s)	Test method(s)
5	17.5	Measurement of thickness of insulation and of non-metallic sheaths(including extruded separation sheaths, but excluding inner extruded coverings)	INSO 3569-2 Insulation: Table 5,6,7 non-metallic sheaths: complinc with Clauses 14 INSO 3569-2	INSO 5525-201, INSO 5525-202,
6	17.8	Measurement of external diameter	---	INSO 5525-203
7	17.9	Voltage test for 4h	No electrical failure	INSO 3569-1
8	17.10	Hot set test for EPR, HEPR and XLPE insulations and elastomeric sheaths	With load max: 175% Without max: 25%	INSO 5525-507
9	18.1.3	Bending test	INSO 3569-2 18.1.4	INSO 3569-2 18.1.3
10	18.1.4	Partial discharge test	INSO 3569-2 18.1.4	INSO 5526-3
11	18.1.5	Tanδ measurement for cables of rated voltage 6/10kV and above	INSO 3569-2 Table 15	INSO 3569-2
12	18.1.6	Heating cycle test, followed by partial discharge test	INSO 3569-2 18.1.4	INSO 3569-2
13	18.1.7	Impulse test followed by a voltage test	No electrical failure	INSO 3569-2
14	18.1.9	Resistivity of semi-conducting screens	Conductor: Max. 1000 Ω.m Insulation: Max. 500 Ω.m	Annex D INSO 3569-2
15	18.2.1	Insulation resistance measurement at ambient temperature	INSO 3569-2 Table 15	INSO 3569-2

No.	Clause	Specifications	Limit(s)	Test method(s)
16	18.2.2	Insulation resistance measurement at maximum conductor temperature	INSO 3569-2 Table 15	INSO 3569-2
17	19.3	Tests for determining the mechanical properties of insulation before and after ageing	INSO 3569-2 Table 17	INSO 5525-501
18	19.4	Tests for determining the mechanical properties of non-metallic sheaths before and after ageing	INSO 3569-2 Table 20	INSO 5525-501
19	19.5	Additional ageing test on pieces of completed cables	INSO 3569-2 Table 17,20	INSO 5525-401
20	19.6	Loss of mass test on PVC sheaths of type ST2	INSO 3569-2 Table 21	INSO 5525-409
21	19.7	Pressure test at high temperature on insulations and non-metallic sheaths	Max: 50%	INSO 5525-508
22	19.8	Bending test at low temperature	No cracking	INSO 5525-504
23	19.8	Elongation test at low temperature	Result shall be less than 20%	INSO 5525-505
24	19.8	Impact test at low temperature	No cracking	INSO 5525-506
25	19.9	heat shock test (insulation and sheaths)	No cracking	INSO 5525-509

No.	Clause	Specifications	Limit(s)	Test method(s)
26	19.10	Ozone resistance test for EPR and HEPR insulations	No cracking	INSO 5525-403
27	19.11	Hot set test for EPR, HEPR and XLPE insulations and elastomeric sheaths	With load max: 175% Without max: 25%	INSO 5525-507
28	19.12	Oil immersion test for elastomeric sheaths	INSO 3569-2 Table 22	INSO 5525-404
29	19.13	Water absorption test on insulation	INSO 3569-2 Table 18,19	INSO 5525-402
30	19.14	Flame spread test on single cables P	INSO 3081-1-2 No propagation the flame	INSO 3081-1-1 INSO 3081-1-2
31	19.17	Thermal stability test for PVC insulation	INSO 3569-2 Table 18	INSO 5525-405
32	19.20	Shrinkage test for PE oversheaths	INSO 3569-2 Table 22	INSO 5525-502 INSO 5525-503

INSO 3569-4:2019 (Identical with IEC 60502-4 : 2010)

Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um=1,2 kV) up to 30 kV (Um=36 kV) – Part 4: Test requirements on accessories for cables with rated voltages from 6 kV (Um=7,2 kV) up to 30 kV (Um=36 kV)

Scope

This standard specifies the test requirements for type testing of accessories for power cables with rated voltages from 3,6/6 (7,2) kV up to 18/30 (36) kV, complying with IEC 60502-2. Accessories for special applications, such as aerial cables, submarine or ship cables or hazardous situations (explosive environments, fire-resistant cables or seismic conditions), are not included. It is not necessary to repeat these tests, once successfully completed, unless changes are made in the materials, design or manufacturing process which might affect the performance characteristics.

Specifications and test methods

No.	Clause	Specifications	Limit(s)	Test method(s)
1	4 and 5	AC and DC voltage	INSO 3569-4 Table 5	INSO 9683
2	7	Partial discharge	INSO 3569-4 Table 5	INSO 9683
3	6	Impulse at θ_t	INSO 3569-4 Table 5	INSO 9683
4	9.2 and 9.3	Heating cycles in air	INSO 3569-4 Table 5	INSO 9683
5	9.5	Immersion test	INSO 3569-4 Table 5	INSO 9683
6	7	Partial discharge at θ_t and ambient temperature	INSO 3569-4 Table 5	INSO 9683
7	10	Thermal short-circuit (screen)	INSO 3569-4 Table 5	INSO 9683
8	11	Thermal short-circuit (conductor)	INSO 3569-4 Table 5	INSO 9683
9	12	Dynamic short-circuit	INSO 3569-4 Table 5	INSO 9683
10	6	Impulse	INSO 3569-4 Table 5	INSO 9683

No.	Clause	Specifications	Limit(s)	Test method(s)
11	13	Humidity	INSO 3569-4 Table 5	INSO 9683
12	13	Salt fog	INSO 3569-4 Table 5	INSO 9683
13	9.2 and 9.3	Heating cycles in air	INSO 3569-4 Table 6	INSO 9683
14	9.2 and 9.3	Heating cycles under water	INSO 3569-4 Table 6	INSO 9683
15	--	Disconnect/connect	INSO 3569-4 Table 6	INSO 9683
16	20	Capacitive test point	INSO 3569-4 Table 8	INSO 9683
17	19.10	Ozone resistance test for EPR and HEPR insulations	No cracking	INSO 5525-403
18	19.11	Hot set test for EPR, HEPR and XLPE insulations and elastomeric sheaths	With load max: 175% Without max: 25%	INSO 5525-507
19	19.12	Oil immersion test for elastomeric sheaths	INSO 3569-2 Table 22	INSO 5525-404
20	19.13	Water absorption test on insulation	INSO 3569-2 Table 18,19	INSO 5525-402
21	19.14	Flame spread test on single cables P	INSO 3081-1-2 No propagation the flame	INSO 3081-1-1 INSO 3081-1-2
22	19.17	Thermal stability test for PVC insulation	INSO 3569-2 Table 18	INSO 5525-405
23	19.20	Shrinkage test for PE oversheaths	INSO 3569-2 Table 22	INSO 5525-502 INSO 5525-503

INSO 11324:2009

Probiotic Doogh - Specification and test methods

Scope

This standard determines microbiological specifications, chemical and sensorial properties, sampling, test methods, packaging, labelling and storage conditions and transportation of plane Probiotic doogh. This standard is applicable to plane probiotic dooghs produced in authorized production units and is not applicable to other types of probiotic dooghs.

Specifications and test methods

No.	Specifications	Limit	Test method
1	pH	Max 4/5	INSO 2852
2	Solid non fat	Min 3/2	INSO 637
3	Milk fat	✹	INSO 384
4	Sodium Chloride	0/2- 1	INSO 694

✹Fat should not be more than 50% of Solid non fat without salt

INSO 3150:2019

Quick frozen shrimp - Specifications and test methods

Scope

This standard specifies for quick frozen shrimp or prawns.

This standard determines the characteristics of frozen shrimp, grading principles, test methods and packaging.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Although the ratio of each shrimp weight to the average weight of shrimp in a sample is a factor that can have a positive and effective effect on the quality of shrimp and this factor is effective in the consumption of this product, but the average weight and number of shrimp per unit weight (number) component Qualitative factors are not characteristic for product classification.	Between 22 up to more than 154 per Kg	-
2	Factors influencing grading: In addition to the conditions mentioned in the shrimp grading standard, shrimp grading is done by considering and examining the product in freezing, thawing and cooking conditions, which is evaluated according to the following characteristics. A. Moisture loss rate B- old age Black spots on the skin or loosening of the shrimp membrane Black spots on the meat E- Cutting and injury and the presence of shrimp parts E- Legs and pieces of skin and tail (swimming limbs) Existence of unacceptable head and shrimp D- Foreign materials The uniformity of the size of the shrimp R- Condition of cooked shrimp	-	-

No.	Specifications	Limit(s)	Test method(s)
3	Taste and smell - is a sensory factor (organoleptic) that is evaluated after cooking the product in the appropriate way as follows: A. Good taste and smell - Good taste and smell (basic condition of grade A shrimp) means that the product has the taste and smell of freshly caught shrimp and is free of any other additional taste and smell. Note: The taste and smell similar to iodoform should not be interpreted as additional taste and smell. B- Acceptable taste and smell - Acceptable taste and smell (minimum necessary condition for grade B and C shrimp) means that the product does not have a good taste and smell like paragraph A, but at the same time free from any excess and nasty taste and smell O be.	-	-
4	Counting (number of shrimps per unit weight): The division of the number of shrimp in a package of pure net is specified Determining the net weight of shrimp: Necessary equipment A- Container of 20 liters or larger B- Flowing water with a temperature of 24 to 30 degrees Celsius and a rubber tube of sufficient length that can reach the bottom of the container. C- Sensitive scales with an accuracy of 0.1 g T- Wired sieve How to work: Place the frozen shrimp in a 20 liter container in which fresh water (24 to 30 ° C) flows from the bottom of the container at an average speed of 37 liters per minute to remove any glaze and stickiness on the surface. Remove it so that the shrimp can be easily separated, then pour the contents of the container into the sieve and hold the sieve obliquely (approximately at a 45 degree angle) until	-	-

No.	Specifications	Limit(s)	Test method(s)
	all the liquids in the sieve are well drained, so continue to clean for two minutes. Weigh the sieve with its contents at this time. The net weight of the shrimp is equal to the weight of the sieve with its contents minus the weight of the sieve.		
5	Packaging and marking Packing: Place the product in suitable containers and then pack them in large cartons. Cartons are made of corrugated cardboard or fiberboard and must be able to withstand pressure and impact during loading. Carton packaging must be reliable. Marking: The following identifications must be written on each package: Name, type, degree of sex and trade name, if any. Name and address of the manufacturer (optional for export) Closed or serial number Shrimp number per kilo according to buyer's request The minimum net weight of the content which is equal to the weight of dry shrimp	-	-

INSO 1806

Restaurant gas stove and fryer

Scope

This standard is for restaurant ovens and fryers that work with the following gases:

- Natural gas
- Liquefied gas
- A mixture of liquefied gas and air

This standard also includes the specifications of electrical appliances and related accessories used in and carried by the oven or fryer. These appliances must comply with the latest edition of internationally accepted standards.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Working conditions-Scope of application-Examination of the use of the type of gas consumed, consumed parts, appliances and electrical accessories in the stove building	1-1	INSO 1806
2	Description of the tested properties - General structure and mounting - Checking the principles of safety and durability of the construction of all parts - Safety and durability against transportation and normal work	1-2-1	INSO 1806
3	Description of the features under test - General construction and mounting - Checking the conformity of the components related to the stove with the national standard with the internationally accepted standard	1-2-2	INSO 1806

No.	Specifications	Limit(s)	Test method(s)
4	Description of the features to be tested - General structure and mounting - Check the general structure and mounting of the device and the absence of any sharp edges	1-2-3	INSO 1806
5	Description of the tested properties - General building and mounting - Checking the durability of consumables in the stove building against the specified temperature	1-2-4	INSO 1806
6	Description of features to be tested - General construction and mounting - Availability of all components (burners, valves, thermostats ..) for cleaning and any repairs	1-2-5	INSO 1806
7	Description of the tested properties - General structure and mounting - Check for any fractures and damage in all parts under normal conditions of use and transportation	1-2-6	INSO 1806
8	Description of test characteristics - General structure and mounting - Building resistance of each part against displacement, rotation, warping and other damages and without any change of position in normal conditions of use and transportation	1-2-7	INSO 1806
9	Description of test features - General construction and mounting - Examination of nozzles related to each burner	1-2-8	INSO 1806

No.	Specifications	Limit(s)	Test method(s)
10	Description of the features to be tested - General construction and mounting - Checking the possibility of final adjustment of the primary air valve and the burner nozzle when the burner is working	1-2-9	INSO 1806
11	Description of the features under test - General building and mounting - Considering sufficient distance for easy access and use of conventional tools when installing the device to the building plumbing system	1-2-10	INSO 1806
12	Description of the tested properties - General structure and mounting - Evaluation of the performance of oven and fryer burners in a chamber	1-2-11	INSO 1806
13	Description of features to be tested - General structure and mounting - Check the availability of adjustable electrical components	1-2-12	INSO 1806
14	Compliance of nut and self-tapping screw and other parts that are screwed with the relevant standards	3	INSO 1806
15	Investigation of thickness and characteristics of steel sheets used in the passage of furnace gases	4-1	INSO 1806
16	Investigation of the characteristics of passing liners of combustion products	1-4-2	INSO 1806
17	Material thickness and polishing - Check the minimum thickness of uncoated sheets without contact with combustion products (0.5 mm) and check the metal components of the oven (excluding belts and decorative items) which should have the same strength and durability as steel sheets (0.5 mm).	1-4-3	INSO 1806

No.	Specifications	Limit(s)	Test method(s)
18	Material thickness and polishing - Check the uniform construction of the body and its durability and the absence of any deformation and color change during the tests	1-4-4	INSO 1806
19	Examining the floors - bases and frames of the stove and fryer	1-5-1 1-5-2 1-5-3	INSO 1806
20	Stoves, Bases, Frames, and Corners - Checking the Sturdy Bases in Place	1-5-4	INSO 1806
21	Stoves, Bases, Stove Frames, and Corners - Checking the Mounting of Detachable Stove Bases	1-5-5	INSO 1806
22	Stoves, bases and hearts of stoves and corners - Check the combustion system when placing stoves with removable base directly on the floor	1-5-6	INSO 1806
23	Stoves, Bases and Fabs of Stoves and Corners - Checking the Alignment of Stove Bases	1-5-7	INSO 1806
24	Floors, Bases, Stoves and Corners - Top Stove Load Test and Tensile Test on Cement Surface	1-5-8 1-5-9	INSO 1806
25	Burners - Check and strengthen the main burners during operation and non-displacement of burners	1-6-1	INSO 1806
26	Burners - Check for the absence of any corrosion, depression, complexity, melting and disappearance of the burner cover	1-6-2	INSO 1806
27	Burners - Check easy access to main burners, separate light rods, pilots for reopening without the need for special tools	1-6-3	INSO 1806
28	Burners - Check the durability and melting point above 780c of the burner body (mixer head and mixer tube)	1-6-4	INSO 1806

No.	Specifications	Limit(s)	Test method(s)
29	Burners - Check the type and thickness of burner parts, do not use wire mesh, burner hole machining	1-6-5 1-6-6 1-6-7	INSO 1806
30	Burners - Check that the burners are gassed, placed on the mixing tube, page holes,	1-6-8 1-6-9 1-6-10	INSO 1806
31	Burners - Check how to remove, clean and install burners, mixer valves, visibility of burners, specifications of light bar if any	1-6-11 1-6-12 1-6-13 1-6-14	INSO 1806
32	Burners - Check that any holes around the mixing tube of the oven and fryer are blocked, check the presence of holes in the oven burner, and the upper burners, and protect the burner holes against liquid overflow.	1-6-15 1-6-16 1-6-17 1-6-18	INSO 1806
33	Strength of burner supports - material and thickness of materials for construction of burner supports and examination of cast iron and ceramic supports of burners,	1-7	INSO 1806
34	Checking the primary air control device - Checking the possibility of adjusting the flames, checking the primary air valve, adjusting the primary air valve, material and thickness of the primary air valve and checking the mixer head of the primary air valve	1-8	INSO 1806
35	Nozzle and nozzle check - material and melting point, number of gears, availability and detailed inspection of nozzle hole	1-9	INSO 1806

No.	Specifications	Limit(s)	Test method(s)
36	Gas hand valve - compliance of gas hand valves with national standard, presence of main control valve, availability of valves, gas uncertainty test between maximum and minimum gas passage	1-10-1 To 1-10-6	INSO 1806
37	Gas Hand Valve - Examination of Upper Torch Valves, Toggle Valves, Torch Valve, Thermostat and Pilot Valve in terms of shape and material	1-10-7 To 1-10-15	INSO 1806
38	Checking gas pipes - compliance with acceptable standard, drilling and nuts, bending method, tightness and sealing, and pipe material and materials	1-11	INSO 1806
39	Examination of upper illuminators - pilot adjustment, material and materials of pilot construction,	1-12	INSO 1806
40	Review of automatic lighters - compliance with national standard, pilot adjustment, availability of adjustment and repair of pilot and thermocouple	1-13	INSO 1806
41	Thermostat check - Check that the device is equipped with a thermostat, in accordance with the national standard, rating and marking on the thermostat,	1-14	INSO 1806
42	Checking automatic valves - Compliance with relevant standard - Installation status and post-installation controls	1-15	INSO 1806
43	Checking the oven crown - suitability of material, shape and size and place of installation	1-17	INSO 1806

No.	Specifications	Limit(s)	Test method(s)
44	flow adjusting cap	1-18	INSO 1806
45	Check oven doors - how to open and close and test and load it	1-19	INSO 1806
46	Burner chamber and its cover - make the necessary predictions for the entry of combustion air and discharge of burnt gases in the burner chamber and its material and cover	1-20	INSO 1806
47	Examination of fine tray - material and coating and method of construction	1-21	INSO 1806
48	Investment of oven and fryer liner - Insulation around oven and fryer, distance between body and insulation	1-22	INSO 1806
49	Examination of the oven floor - removable, double-walled, material and thickness	1-23	INSO 1806
50	Examination of fryer oven trays and floors - strength, easy entry and exit,	1-25	INSO 1806
51	Examination of floor foundations - no overturning, no sharpness and pleats	1-26	INSO 1806
52	Examination of the upper burner tripods	1-27	INSO 1806
53	Checking the integrated and rigid upper plates - passing the load test (placing 360 kg load on a surface with a diameter of 40 cm in the center of the upper part for 15min without impact)	1-28	INSO 1806

No.	Specifications	Limit(s)	Test method(s)
54	Investigation of thermal insulation materials - uniform distribution of insulation materials, approval of insulation materials in terms of quality	1-29	INSO 1806
55	Electrical appliances	1-30	INSO 1806
56	Engines and blowers	1-31	INSO 1806
57	Instructions	1-32	INSO 1806
58	Marking	1-33	INSO 1806
59	Combustion	2-4	INSO 1806
60	Characteristics of the work of burners	2-5	INSO 1806
61	Pilot	2-6	INSO 1806
62	Lighters	2-7	INSO 1806
63	Pilot burners and safety switchgear	2-8	INSO 1806
64	Direct lighting system	2-9	INSO 1806
65	Gas hand valve	2-10	INSO 1806
66	Automatic valve	2-11	INSO 1806
67	watch	2-12	INSO 1806
68	Thermal efficiency of the upper parts of the device	2-13	INSO 1806
69	Heat capacity of hot stoves	2-14	INSO 1806
70	Thermostat	2-15	INSO 1806
71	Heat dissipation in the oven	2-16	INSO 1806
72	Temperature of roast	2-17	INSO 1806
73	Heat dissipation in the roast	2-18	INSO 1806
74	Wall and floor temperatures	2-19	INSO 1806
75	Open the oven door	2-21	INSO 1806
76	Flow adjusting cap	2-22	INSO 1806
77	How to work with appliances that are equipped with self-cleaning oven	2-23	INSO 1806

INSO 127:2021

Rice — Specifications and test methods

Scope

This standard specifies quality, sampling, packaging, labelling requirements and test methods for all kinds of packaged rice for human consumption.

Specifications and test methods

No.	Specifications (Max.)	Limit(s)					Test methods
		Husked (brown) rice	Milled (white) rice	Parboiled husked rice	Parboiled milled rice	Steamed rice	
1	Inorganic extraneous matter (% by weight)	0,25	0,25	0,25	0,25	0,25	INSO 127
2	Organic extraneous matter (% by weight)	0,5	0,25	0,5	0,25	0,25	
3	Paddy, (Number in kilogram) (% by weight)	7	5	7	5	5	
4	Husked (brown) rice (% by weight)	—	0,2	0,2	0,2	0,2	
5	Milled (white) rice (% by weight)	1,0	—	1,0	1,0	—	
6	Parboiled husked (brown) rice (% by weight)	1,0	1,0	—	1,0	1,0	

No.	Specifications (Max.)	Limit(s)					Test methods
		Husked (brown) rice	Milled (white) rice	Parboiled husked rice	Parboiled milled rice	Steamed rice	
7	Parboiled milled (white) rice (% by weight)	1,0	1,0	1,0	—	—	
8	Heat-damaged kernel (% by weight)	0,5	0,5	0,5	0,5	0,5	
9	Damaged kernel (% by weight)	0,5	0,5	0,5	0,5	0,5	
10	Immature or malformed kernel (% by weight)	2,0	1,0	1,5	1,5	1,0	
11	Chalky kernel (% by weight)	5,0a	5,0	—	—	—	
12	Red kernel and red-streaked kernel (% by weight)	1,0	1,0	1,0	1,0	1,0	
13	Partly gelatinized kernel (% by weight)	-	-	1,0	1,0	-	
14	Peck (% by weight)	-	-	0,2	0,2	0,1	
15	Chip (% by weight)	0,1	0,1	0,1	0,1	0,1	
16	Small broken kernel (% by weight)	0,2	0,2	0,2	0,2	0,2	

No.	Specifications (Max.)	Limit(s)					Test methods
		Husked (brown) rice	Milled (white) rice	Parboiled husked rice	Parboiled milled rice	Steamed rice	
17	Medium and large broken kernel (% by weight)	4,0	4,0	2,0	2,0	2,0	
18	Waxy rice (% by weight)	1,0a	1,0	1,0a	1,0	1,0	
19	Other varieties	7,0	7,0	7,0	7,0	7,0	
20	Whole Kernel (% by weight)	Min 80					INSO 127
21	Moisture (% by weight)	13.5					INSO 2705
22	Living pest	Free					INSO 127
23	Heavy metals	Complied with INSO 12968					INSO 9266 & 16722
24	Pesticide residues	Complied with INSO 13120					INSO 17026
25	Mycotoxins	Complied with INSO 5925					INSO 6872&9238
26	Microbiologic specifications	Complied with INSO 11602					INSO 11602
27	GMO	Free					INSO 9617& 10763
Key — not applicable a After milling. b Full red husked (cargo) rice is not considered here.							

INSO 2514:1985

Rice bran as livestock feed - Specification and test methods

Scope

This standard specifies physical, chemical and microbial specifications, sampling, packaging and labelling requirements and test methods for rice bran as livestock feed.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Moisture	10	INSO 321
2	Protein	12	INSO 457
3	Crude fiber	13	INSO 1520
4	FAT	13	INSO 415
5	ash	12	INSO 332
6	insoluble ashes in acid	8	INSO 414

INSO 6924:2016

Road vehicles – Type approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles

Scope

This standard establishes a harmonized framework containing the administrative provisions and general technical requirements for approval of all new vehicles within its scope and of the systems, components and separate technical units intended for those vehicles

This standard also establishes the provisions for the sale and entry into service of parts and equipment intended for vehicles approved in accordance with this Standard.

Specific technical requirements concerning the construction and functioning of vehicles shall be laid down in application of this Standard in regulatory acts, the exhaustive list of which is set out in chapter 5.

1. This standard applies to the type-approval of vehicles designed and constructed in one or more stages for use on the road, and of systems, components and separate technical units designed and constructed for such vehicles.

This standard also applies to parts and equipment intended for vehicles covered by this Standard.

2. This standard does not apply to the type-approval or individual approval of the following vehicles: (a) agricultural or forestry tractors, as defined in INSO 13259 on type-approval of agricultural or forestry tractors, their trailers and interchangeable towed machinery, together with their systems, components and separate technical units and trailers designed and constructed specifically to be towed by them; (b) Quadri

cycles as defined in INSO 7558 relating to the type-approval of two or three-wheel motor vehicles; (c) tracked vehicles.

3. Type-approval or individual approval under this Standard is optional for the following vehicles: (a) vehicles designed and constructed for use principally on construction sites or in quarries, port or airport facilities; (b) vehicles designed and constructed for use by the armed services, civil defense, fire services and forces responsible for maintaining public order; and (c) mobile machinery, to the extent that these vehicles fulfil the requirements of this Standard. Such optional approvals shall be without prejudice to the application of Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery.

4. An individual approval under this Standard is optional for the following vehicles: (a) vehicles intended exclusively for racing on roads; (b) prototypes of vehicles used on the road under the responsibility of a manufacturer to perform a specific test program provided they have been specifically designed and constructed for this purpose.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Sound levels	According to Standard	INSO 4243
2	Rear underrun protective devices (RUPD)	According to Standard	INSO UN ECE-R58
3	Space for mounting and fixing rear registration plate	According to Standard	INSO 6491
4	Steering effort	According to Standard	INSO UN ECE-R79
5	Door latches and hinges	According to Standard	INSO UN ECE-R11
6	Audible warning	According to Standard	INSO UN ECE-R28

No.	Specifications	Limit(s)	Test method(s)
7	Indirect vision devices	According to Standard	INSO UN ECE-R46
8	Electromagnetic Compatibility	According to Standard	INSO UN ECE-R10
9	Interior fittings	According to Standard	INSO UN ECE-R21
10	Strength of seats, their anchorages and head restraints	According to Standard	INSO UN ECE-R17
11	Strength of seats and their anchorages (Buses)	According to Standard	INSO UN ECE-R80
12	External projections (M1)	According to Standard	INSO 6622
13	Speedometer	According to Standard	INSO UN ECE-R39
14	Manufacturers statutory plate and vehicle identification number	According to Standard	INSO 6489
15	Installation of lighting and light-signaling devices	According to Standard	INSO 6479
16	Retro-reflecting devices	According to Standard	INSO UN ECE-R3
17	Position, stop and end-outline lamps	According to Standard	INSO UN ECE-R7
18	Side-marker lamps	According to Standard	INSO UN ECE-R91
19	Direction indicators	According to Standard	INSO UN ECE-R6
20	Illumination of rear registration plates	According to Standard	INSO UN ECE-R4
21	Headlamps (halogen sealed beam (HSB)	According to Standard	INSO 10475
22	Filament lamps	According to Standard	INSO 8500
23	Headlamps with gas-discharge light sources	According to Standard	INSO 10474

No.	Specifications	Limit(s)	Test method(s)
24	Gas-discharge light sources	According to Standard	INSO 10473
25	Headlamps emitting an asymmetrical passing-beam	According to Standard	INSO 10485
26	Front fog lamps	According to Standard	INSO UN ECE-R19
27	Rear fog lamps	According to Standard	INSO UN ECE-R38
28	Reversing lamps and maneuvering lamps	According to Standard	INSO 6492
29	Daytime running lamps	According to Standard	INSO 20457
30	Adaptive front-lighting systems (AFS)	According to Standard	INSO UN ECE-R123
31	Parking lamps	According to Standard	INSO 7033
32	Towing device	According to Standard	INSO EU 1005
33	Forward field of vision of drivers	According to Standard	INSO UN ECE-R125
34	Windscreen defrosting and demisting systems	According to Standard	INSO 4159
35	Windscreen wiper and washer systems	According to Standard	INSO EU 1008
36	Wheel guards	According to Standard	INSO EU 1009
37	Head restraints (Headrests)	According to Standard	INSO UN ECE-R25
38	Lateral protection devices	According to Standard	INSO UN ECE-R73
39	Spray suppression systems	According to Standard	INSO EU109
40	Mass and dimensions	According to Standard	INSO EU1230
41	Speed limitation of devices	According to Standard	INSO UN ECE-R89
42	External projections of commercial vehicles	According to Standard	INSO UN ECE-R61

No.	Specifications	Limit(s)	Test method(s)
43	Mechanical coupling	According to Standard	INSO UN ECE-R55
44	Close coupling device (CCD)	According to Standard	INSO UN ECE-R102
45	Frontal collision protection	According to Standard	INSO UN ECE-R94
46	Lateral collision protection	According to Standard	INSO UN ECE-R95
47	Front underrun protective (FUPD)devices	According to Standard	INSO 7499
48	Hydrogen Systems vehicles	According to Standard	INSO 17470
49	Electric power trained vehicles	According to Standard	INSO 21471
50	Engine power	According to Standard	INSO 6483
51	Light Vehicle (Gasoline, Diesel and Bi-fuel) Vehicles –fuel consumption, criteria for CO2emission and energy labelling instruction	According to Standard	INSO 4241-2
52	Heavy and Medium Duty On-road and Off-road Vehicles and Construction, Building, Mining and Agriculture Machinery Diesel Engines – Criteria for fuel consumption and energy labelling instruction	According to Standard	INSO 8361
53	Handling	According to Standard	INSO 6487
54	Tachograph	According to Standard	INSO 6485

No.	Specifications	Limit(s)	Test method(s)
55	Vehicle – Fire extinguisher installation requirements	According to Standard	INSO 9190
56	CNG vehicles	According to Standard	INSO 7598
57	Fuel tanks	According to Standard	INSO 10941
58	Anti-theft of motor vehicles	According to Standard	
59	Protective steering	According to Standard	INSO UN ECE-R12
60	Identification of controls, tell-tales and indicators	According to Standard	INSO UN ECE-R121
61	Safety glazing	According to Standard	
62	Fire resistance of interior materials	According to Standard	INSO UN ECE-R118
63	General construction of buses and coaches	According to Standard	INSO 4160
64	Strength of superstructure (Buses)	According to Standard	INSO 7815
65	Vehicles for the carriage of dangerous goods	According to Standard	INSO 6741
66	Safety-belts	According to Standard	INSO UN ECE-R16
67	Anti-theft and alarm systems	According to Standard	
68	Vehicle access and maneuverability	According to Standard	INSO EU130
69	Braking of heavy vehicles	According to Standard	INSO UN ECE-R13
70	Braking of passenger cars	According to Standard	INSO UN ECE-R13H
71	Safety-belt anchorages	According to Standard	INSO UN ECE-R14

No.	Specifications	Limit(s)	Test method(s)
72	Heating system	According to Standard	INSO UN ECE-R122
73	Installation of tyres	According to Standard	INSO EU458
74	Tyres for passenger cars and their trailers	According to Standard	
75	Tyres for commercial vehicles and their trailers	According to Standard	
76	Tyre rolling resistance, rolling noise and wet grip	According to Standard	INSO 15877
77	Temporary use spare unit, run flat tyres, run flat-system and tyre pressure monitoring system	According to Standard	
78	Pedestrians protection	According to Standard	INSO 14438
79	Air-conditioning systems	According to Standard	INSO 16444
80	General Safety	According to Standard	INSO 17471
81	Gear shift indicators	According to Standard	INSO 16443
82	Advance emergency braking system	According to Standard	INSO EU347
83	Lane departure warning system	According to Standard	INSO 17479
84	Vehicle Alarm Systems (VAS)	According to Standard	INSO UN ECE-R97
85	Protection of the occupants of the cab of a commercial vehicle.	According to Standard	INSO 7034

INSO 5759:2011

Rose water - Specifications

Scope

This standard specifies the quality characteristic, sampling, packaging and labelling and test methods for rose water.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Apparent	Clear, no color, without any sediment	INSO 1487
2	Odor(aroma)	Pleasant aroma of Rose Water	INSO 1487
3	Taste	Taste of rose water and a little bitter	INSO 1487
4	Rel.density in 20 ^{o}C	Max 0.999	INSO 1487
5	pH	3.8-5.5	INSO 1487
6	Acid valve (mg NaOH/100ml)|	Max 6	INSO 1487
7	Ester value (mgKOH0.1N/100ml)	Min 1	INSO 1487
8	Iodine value (ml $I_2$0.01N/100ml)	Min 8	INSO 1487
9	Oxidation value ($Kmno_4$0.01N/100ml)	Min 120	INSO 1487
10	Volatile Oils (mg/100ml)	Min 12	INSO 1487

No.	Specifications	Limit(s)	Test method(s)
11	Nitrite (mg/kg)	Max 0.01	INSO 1053
12	Nitrate (mg/kg)	Max 5	INSO 1053
13	Sulphate (mg/kg)	Max 100	INSO 1053
14	Chloride (mg/kg)	Max 100	INSO 1053
15	Ethyl alcohd (gr/100ml)	Max 0.25	INSO 1487
16	Methanol (ppm)	Max 100	INSO 1487
17	Arsenic (As) (ppm)	0.05	INSO 1487
18	Lead (Pb) (ppm)	0.1	INSO 1487
19	Copper (Cu) (ppm)	0.4	INSO 1487
20	Microbiologic specifications	Complied with INSO 3270	INSO 3270

INSO 259-1:2012

Saffron - Specifications

Scope

This standard specifies the quality characteristic, sampling, packaging and labelling requirements and test methods for dried saffron (in forms of filament, cut filament or powder)

Specifications and test method

Specifications	Limits				
Grades	cut filament	filament	filament	filament	filament
	Super	1	2	3	4
Stile with saffron stigma	0.5	5	10	20	30
Foreign matter, max. %	0.1	1	2	2	2
Water and volatile matter, max. % Saffron in filaments Powdered saffron	10	10	12	12	12
Total ash, as dry matter, max. %	5/5	6	7	7	7
Acid-insoluble ash, %, as dry matter, max.	0.5	1	1	1	1
Soluble extract in cold water, as dry matter, max. %	65	65	65	65	65
$E_{1cm}^{1\%}$ 257 nm on dry basis, min.	85	80	70	70	70
$E_{1cm}^{1\%}$ 330 nm Min.(Safranal)	20-50	20-50	20-50	20-50	20-50
Colouring strength, $E_{1cm}^{1\%}$ 440 nm on dry basis, min.	220	200	180	150	140
Artificial water-soluble acid colourants	Absent	Absent	Absent	Absent	Absent
Safranal content (% of total volatile components), min.				65	65

INSO 17:2012

Seedless raisin - Specification and test methods

Scope

This standard specifies quality specifications, classification, packaging, labelling and sampling requirements and test methods of Seedless raisin.

Specifications and test methods

No.	Specifications		Limit(s)	Test method(s)
1	Unacceptable Items	pest	free	INSO 17
2		sand, glass and other extraneous matters (Except plant origin)	free	INSO 17
3	taste and smell		natural	INSO 17
4	SO_2 residual	sun dried raisin	free	INSO 569
		Sultanu: max	Max. 0.07 %	
		Golden bleach	Max. 0.15 %	
5	Damage of pests		Max. 3%	INSO 17
6	Extraneous matters of plant origin		Max. 2%	INSO 17
7	Moisture		Max. 16 %	INSO 672
8	Immature	Large and medium class	Max. 2.5%	INSO 17
		small class	Max.5%	

No.	Specifications	Limit(s)	Test method(s)
9	Physical damage	Max.2%	INSO 17
10	Moldy	Max.2%	INSO 17
11	Sugar- crystallized	Max.10 %	INSO 17
12	Attached extraneous matters	Max.5 % (number)	INSO 17
13	Stem	Max.5 (centimeters per kilogram)	INSO 17
14	Tailed raisin	Max.10 % (number)	INSO 17
15	Seeded raisin	Max.2% (number)	INSO 17
16	pesticide residue	Complied with legal limits	BS:EN 15662
17	Aflatoxin BG	Complied with INSO 5925	INSO 6872
18	Ochratoxin A	Complied with INSO 5925	INSO 9237

Classification according to size

No.	Size	Number per 100 gr
1	Large	300 or less
2	Medium	301 to 360 (and 360)
3	Small	more than 360

INSO 2510:2012

Shahani date - Specifications and test methods

Scope

This standard determines the physical and chemical specifications, classification, sampling, test methods, packaging and labelling of Shahani date.

This standard applies for Shahani date of Iran product.

Specifications and test methods

No.	Specifications		Limit(s)	Test method(s)
1	Classification	large	Up to 110 in 1000 g	INSO 2510
		medium	From 111 up to 140 in 1000 g	
		small	More than 140 in 1000 g	
2	Unacceptable	Foreign matter including sand, gravel, metal and glass	Free	INSO 2510
		living pest	Free	INSO 2510
		Abnormal smell, taste, flavor and rancidity taste	Free	INSO 2510
		Kharak date and Rotab	free	INSO 2510
3	Damaged by pests		Max 6% Numerical	INSO 2510
4	Date belonging to other varieties		Max 1% Numerical	INSO 2510

No.	Specifications	Limit(s)	Test method(s)
5	unripe and not inseminated fruit	Max 2% Numerical	INSO 2510
6	• Moisture content	Max 23% v/w	INSO 672
7	Discolored	Max 2% Numerical	INSO 2510
8	Mechanical damage	Max 10% Numerical	INSO 2510
9	Date with clung foreign matter except sand, gravel, metal and glass	Max 3% Numerical	INSO 2510
10	Crystallized date	Max 7% Numerical	INSO 2510
11	Pesticide residues	At the request of the buyer	EN15662

INSO 3572:2018

Shampoo - Specifications and test methods

Scope

This standard specifies the specifications, testing and sampling method(s) of shampoos used to wash human hair, body and face.

This standard applies to all shampoos licensed by the Food and Drug Administration of Islamic Republic of Iran.

This standard does not apply to medicated shampoos and rinse less (dry) shampoo.

Specifications and test methods

No.	Specifications	Unit	Limit(s)		Test method(s)
1	Total matter extractable with ethyl alcohol-Min	W/W%	Adults	Childs	INSO 3572 Sub-Clause of 1-6
2	pH of 10% aqueous solution	-	12	10	INSO 3572 Sub-Clause of 2-6
3	Thermal and cryogenic stability	-	4-7.5	4-7	INSO 3572 Sub-Clause of 3-6
4	Heavy metals content as Pb-Max	µg/g	20	20	INSO 3572 Sub-Clause of 4-6
5	Arsenic content as As_2O_3-Max	µg/g	2	2	Sub-Clause of 5-6

No.	Specifications	Unit	Limit(s)		Test method(s)
6	Free Formaldehyde content-Max	µg/g	500	250	INSO 3572 Sub-Clause of 6-6
7	N-nitrosodiethanolamine content-Max	µg/g	50	50	INSO 3572 Sub-Clause of 7-6
8	1,4-dioxane content-Max	µg/g	10	10	INSO 3572 Sub-Clause of 8-6
9	Zein number-Max	Miligram of nitrogen in 100 ml of sample solution	400	100	INSO 3572 Sub-Clause of 9-6
10	Microbial characteristics	-	According to INSO 20111		INSO 3572 Sub-Clause of 10-6

INSO 3827:2014

Soup – Specifications and Test Methods

Scope

This standard specifies the quality characteristic, sampling, packaging and labelling requirements and, test methods for all types of soups.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Oil	According to the label	INSO 3827
2	protein	According to the label	INSO 3827
3	dry matter	Max 2.5%	INSO 3827
4	Salt	Max 2%	INSO 3827
5	pH	Min 4.5%	INSO 3827
6	Ash	Max 2.5%	INSO 3827
7	moisture	Max 12%	INSO 3827

INSO 14:2013

Spices – Cumin (Cuminum cyminum L.) – Specification and test methods

Scope

This standard specifies the quality properties of cumin (whole or milled and packaged).

Specifications and test methods

No.	Specifications for powder cumin	Limit(s)	Test method(s)
1	Moisture	Max 12%	INSO 1196
2	Total ash	Max 9.5%	INSO 1197
3	Insoluble ashes in acid	Max 1.5%	INSO 1253
4	Non-volatile ether extract based onDry matter	Min 15%	INSO 1031
5	Volatile oils	Min1.3ml/100gr	INSO 1818
6	Taste and smell	Cumin should have its natural taste and odor and should not have any moldy odor and should not have any additives and contaminants.	INSO 14
7	Unacceptable items	Free from live/ dead insects, molds, insect body parts and rodent feces (such as mouse droppings) that are visible to the naked eye should be free.	INSO 14

No.	Specifications for whole cumin	Limit(s)			Test method(s)
		Class I	Class II	Class III	
1	moisture	Max 9	Max 10	Max 12	INSO 1196
2	Total ash	Max 8.5%	Max 10%	Max 12%	INSO 1197
3	Insoluble ashes in acid	Max 1.5%	Max 3%	Max 4%	INSO 1253
4	Non-volatile ether extract based onDry matter	Min 15%	Min 15%	Min 12%	INSO 1031
5	Volatile oils	Min 2ml/100gr	Max 1.5ml/100gr	Max 1.5ml/100gr	INSO 1818
6	The amount of impurities and extraneous matter	1	2	3	INSO 1032
7	Taste and smell	Cumin should have its own taste and odor and should not have any moldy odor and should not have anyadditives and contaminants.			INSO 14
8	Unacceptable	Must live insects, molds, dead insects, insect body parts and fecesRodents (such as mouse droppings) that are visible to the naked eye should be free.			INSO 14

INSO 1219-2:2004

Storage gas water heaters – Test method for energy consumption and energy labelling instruction

Scope

This standard is used for storage water heaters equipped with non-gradual thermostats, natural or forced suction combustion systems, which are made of new components and materials and are designed to work with natural gas or liquid with a maximum energy consumption of 50 MJ/h.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	capacity	6-2	INSO 1219-2
2	Heat input	6-3	INSO 1219-2
3	efficiency	6-4	INSO 1219-2
4	Heat output	6-5	INSO 1219-2
5	Compensatory energy consumption	6-6	INSO 1219-2
6	Saving percent	6-7	INSO 1219-2
7	Energy label	8	INSO 1219-2

INSO 69:2020

Sugar - Specifications and test methods

Scope

This standard specifies physical, chemical, microbial, sampling, packaging and labelling requirements and test methods for all type of sugars.

Specifications and test methods

<table>
<tr><th>No.</th><th colspan="3">Specifications</th><th>Limit(s)</th><th>Test method(s)</th></tr>
<tr><td>1</td><td colspan="3">Appearance</td><td>Clean and normal</td><td>INSO 69</td></tr>
<tr><td>2</td><td colspan="3">Taste and smells</td><td>Natural</td><td>INSO 69</td></tr>
<tr><td>3</td><td colspan="3">extraneous matters</td><td>Free</td><td>INSO 69</td></tr>
<tr><td>4</td><td colspan="3">Additives</td><td>Free</td><td>INSO 69</td></tr>
<tr><td rowspan="4">5</td><td rowspan="4">Insoluble sugar solution</td><td colspan="2">White sugar</td><td>Negative</td><td rowspan="4">INSO 69</td></tr>
<tr><td rowspan="2">Powdered sugar</td><td>Without anticaking agent</td><td>Negative</td></tr>
<tr><td>With anticaking agent</td><td>Negative</td></tr>
<tr><td colspan="2">Brown sugar</td><td>Negative</td></tr>
<tr><td rowspan="4">6</td><td rowspan="4">Polarization (°Z)</td><td colspan="2">White sugar</td><td>Min 99.7</td><td rowspan="4">INSO 69</td></tr>
<tr><td rowspan="2">Powdered sugar</td><td>Without anticaking agent</td><td>Min 99.7</td></tr>
<tr><td>With anticaking agent</td><td>Min 95</td></tr>
<tr><td colspan="2">Brown sugar</td><td>Min 96</td></tr>
</table>

No.	Specifications			Limit(s)	Test method(s)
7	Moisture (% m/m)	White sugar		Max 0.06	INSO 69
		Powdered sugar	Without anticaking agent	Max 0.1	
			With anticaking agent	Max 0.5	
		Brown sugar		Max 1	
8	invert sugar (% m/m)	White sugar		Max 0.04	INSO 69
		Powdered sugar	Without anticaking agent	Max 0.04	
			With anticaking agent	Max 0.04	
		Brown sugar		Max 1	
9	Sulphated ash (% m/m)	White sugar		-	INSO 69
		Powdered sugar	Without anticaking agent	-	
			With anticaking agent	-	
		Brown sugar		Max 2	

No.	Specifications			Limit(s)	Test method(s)
10	Conductivity ash (% m/m)	White sugar		Max 0.04	INSO 69
		Powdered sugar	Without anticaking agent	Max 0.04	
			With anticaking agent	Max 0.04	
		Brown sugar		-	
11	color soluble	White sugar		Max 8	INSO 69
		Powdered sugar	Without anticaking agent	Max 8	
			With anticaking agent	Max 8	
		Brown sugar		-	
12	Appearance color	White sugar		Max 8	INSO 69
		Powdered sugar	Without anticaking agent	Max 8	
			With anticaking agent	Max 8	
		Brown sugar		-	

No.	Specifications			Limit(s)	Test method(s)
13	sulphureous anhydride (SO2) (mg/Kg)	White sugar		Max 10	INSO 69
		Powdered sugar	Without anticaking agent	Max 10	
			With anticaking agent	Max 10	
		Brown sugar		Max 10	
14	Starch(% m/m)	White sugar		-	INSO 69
		Powdered sugar	Without anticaking agent	-	
			With anticaking agent	Max 5	
		Brown sugar		-	
15	Particle size (%m/m)	White sugar		-	INSO 69
		Powdered sugar	Without anticaking agent	Max 2	
			With anticaking agent	Max 2	
		Brown sugar		-	
16	Additive color	White sugar		Negative	INSO 69
		Powdered sugar	Without anticaking agent	Negative	
			With anticaking agent	Negative	
		Brown sugar		Negative	
17	Microbiological features			-	INSO 3544

INSO 3680:2020

Sugar loaf - Specifications and test methods

Scope

This standard specifies physical, chemical, microbial, sampling, packaging and labelling requirements and test methods for sugars loaf.

Specifications and test methods

No.	Specifications		Limit(s)	Test method(s)
1	cleaning		Free of any dirt	INSO 3680
2	Taste and smells		Natural	INSO 3680
3	Foreign matters		Free	INSO 3680
4	Additives		Free	INSO 3680
5	Insoluble sugar solution	White	Negative	INSO 3680
		Brown	Negative	
6	Polarization (°Z)	White	Min 99.7	INSO 3680
		Brown	Min 96	
7	Moisture (% m/m)	White	Max 0.6	INSO 3680
		Brown	Max 1	
8	invert sugar (% m/m)	White	Max 0.04	INSO 3680
		Brown	Max 1	
9	Sulphated ash (% m/m)	White	-	INSO 3680
		Brown	Max 2	
10	Conductivity ash (% m/m)	White	Max 0.04	INSO 3680
		Brown	-	
11	color soluble	White	Max 8	INSO 3680
		Brown	-	
12	sulphureous anhydride (SO_2) (mg/Kg)	White	Max 10	INSO 3680
		Brown	Max 10	
13	Additive color	White	-	INSO 3680
		Brown	-	
14	Microbiological features		-	INSO 3544

INSO 6944:2016

Sweetened condensed milk - Specifications and test methods

Scope

This standard specifies the sensory, physical, chemical, microbial properties, sampling, test methods, packaging and labelling of sweetened condensed milk.

This standard applies to all types of sweetened condensed milk that are consumed directly or used in the food industry.

Note 1- This standard does not apply to a mixture of nonfat sweetened condensed milk with vegetable fat.

Note 2- This standard applies to imported sweetened condensed milk.

Specifications and test methods

No.	Specifications	Sweetened condensed milk (from whole milk)	Sweetened condensed milk (nonfat)	Sweetened condensed milk (moderately fat)	Sweetened condensed milk (full fat)	Test method(s)
1	Fat (%)	Min 8	Min 1	1-8	Min 16	INSO 1532
2	Total dry matter (%)	Min 28	Min 24	Min 24	-	INSO 14620
3	Nonfat dry matter (%)	-	-	Min 20	Min 14	deducting row 1 from row 2
4	Protein based nonfat dry matter (%)	Min 34	Min 34	Min 34	Min 34	INSO 1811
5	Vegetable sterol (%)	Max 3				INSO 9670

INSO 462-1 :2018 (Modification of IEC 60669-1:2017)

Switches for household and similar fixed electrical installations – Part 1: General requirements

Scope

This standard applies to manually operated general purpose functional switches, for alternating current (AC) only with a rated voltage not exceeding 440 V with a rated current not exceeding 63 A, intended for household and similar fixed electrical installations, either indoors or outdoors. For switches provided with screwless terminals, the rated current is limited to 16 A.

NOTE 1 - An extension of the scope to switches for rated voltages higher than 440 V is under consideration. The rated current is limited to 16 A for switches provided with insulation piercing terminals (IPT's) according to Annex D.

Switches covered by this document are, where applicable, intended for the control in normal

use of all of the following loads:

– a circuit for a tungsten filament lamp load;
– a circuit for an externally ballasted lamp load (for example LED, CFL, fluorescent lamp load);
– a circuit for a self ballasted lamp load (for example LEDi or CFLi);
– a circuit for a substantially resistive load with a power factor not less than 0,95;
– a single phase circuit for motor load with a rated current not exceeding 3 A at 250 V
(750 VA) and 4,5 A at 120 V (540 VA) and a power factor not less than 0,6. This applies to both switches rated not less than 10 A that

have not undergone additional tests and to momentary switches rated not less than 6 A that have not undergone additional tests.

NOTE 2 -In the following country the suitability of a switch intended to control the inrush current of a motor shall be tested: AU.

This document also applies to boxes for switches, with the exception of mounting boxes for flush-type switches.

NOTE 3 - In this standard specific requirements are given for boxes, while General requirements for boxes for ordinary* flush-type switches are given in IEC 60670-1.

It also applies to switches such as:

– switches incorporating pilot lights;
– electromagnetic remote control switches (particular requirements are given in part 2 IEC 60669-2-2);
– switches incorporating a time-delay device (particular requirements are given in part 2 IEC 60669-2-3);
– combinations of switches and other functions (with the exception of switches combined with fuses);
– electronic switches (particular requirements are given in part 2 IEC 60669-2-1);
– switches having facilities for the outlet and retention of flexible cables (see Annex A);
– isolating switches (particular requirements are given in IEC 60669-2-4);
– switches and related accessories for use in home and building electronic systems

(particular requirements are given in IEC 60669-2-5);

– firemen's switches (particular requirements are given in IEC 60669-2-6).

NOTE 3 – The minimum length of the flexible cable used with these switches may be governed by National Wiring Rules.

Switches complying with this document are suitable for use at ambient temperatures not normally exceeding +25 40 °C, but occasionally reaching their average over a period of 24 h does not exceed +35 °C, with a lower limit of the ambient air temperature of –5 °C.

NOTE 4 - Additional requirements for flush-type non-ordinary switches are under consideration. For lower

temperatures see Annex E.

NOTE 5 - Switches complying with this document are suitable only for incorporation in equipment in such a way and in such a place that it is unlikely that the surrounding ambient temperature exceeds +35 °C.

In locations where special conditions prevail, such as in ships, vehicles and the like and in

hazardous locations, for example where explosions are liable to occur, special construction

and/or additional requirements may be required.

Specification and Test methods

NO	Specification	Limit(s)	Test method according to INSO 462-1 (clause number)
1	Marking	Having symptoms and their durability	8
2	Dimensions	Measured with calipers and compliance with standard sheets	9
3	Protection against electric shock	Do not contact the test finger with electrical parts	10
4	Provision for earthing	Measurements with calipers	11
5	Terminals	Visual inspection and application of torque	12
6	Constructional requirements	Compliance is checked by inspection	13
7	mechanism	Functional tests and visual inspection	14
8	Resistance to ageing, to harmful ingress of water and to humidity	Compliance is checked by inspection	15
9	Insulation resistance and electric strength	Compliance is checked by inspection	16
10	Temperature-rise test	The maximum temperature increase measured is less than 45 degrees	17

NO	Specification	Limit(s)	Test method according to INSO 462-1 (clause number)
11	Making and breaking capacity tests specified according to the ratings	-During the test, no sustained arcing shall occur -Compliance is checked by inspection, safety standard	18
12	Normal operation, tests specified according to the ratings	Compliance is checked By cluase 19	19
13	Mechanical strength	Impact test and match finger test and visual inspection	20
14	Resistance to heat	Compliance is checked by inspection	21
15	Screws, current carrying parts and connections	Bearing the necessary torques and manual test and eye inspection	22
16	Creepage distances, clearances	- Compliance is checked by inspection -Measurements according to the table	23
18	Resistance of insulating material to abnormal heat, to fire and to tracking	Compliance is checked by inspection	24
19	Resistance to rusting	Compliance is checked by inspection	25

INSO 3119:2011

Tea bag - Specifications and test methods

Scope

This standard specifies for tea bag.This standard determines the characteristics, sampling, test methods, packaging and labelling of tea bag.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Moisture	3-7%	INSO 3276
2	Total ash	4-8	INSO 3273
3	Water-soluble ash relative to total ash (minimum)	Min 45	INSO 3275
4	In-soluble ash in acid	Max 0.8%	INSO 3278
5	Alkalinity of water-soluble ash (based on KOH)	1-3	INSO 3274
6	Aqueous extract	Min 32%	INSO 3220
7	Crude fiber	Max 16%	INSO 3394
8	Caffeine	Min 2%	INSO 3393 and INSO 10244

INSO 10753:2011

Textile floor covering - Machine made woven carpets - Specifications

1. SCOPE

This standard specifies specifications, sampling and packaging of machine-made woven carpets with cut or loop pile or both types loop piles.

2. NORMATIVE REFERENCES

The following referenced documents are indispensable for the application of this standard. The latest edition of the referenced document (including any amendments) applies.

– INSO 1360 - Textile floor coverings – Machine made carpet – Label information and technical characteristics

– ISO/TR 11827 - Textiles — Composition testing — Identification of fibres

– ISO 1957 – Machine-made textile floor coverings – Selection and cutting of specimens for physical tests

– ISO 1766 – Textile floor coverings – Determination of thickness of pile above the substrate

– ISO 2094 – Textile floor coverings – Determination of thickness loss under dynamic loading

– ISO 1763 – Carpets – Determination of number of tufts and/or loops per unit length and per unit area

– ISO 3018 – Textile floor coverings – Rectangular textile floor coverings – Determination of dimensions

– ISO 4919 – Carpets – Determination of tuft withdrawal force

– ISO 3416 – Textile floor coverings – Determination of thickness loss after prolonged, heavy static loading

– ISO 8543 – Textile floor coverings – Methods for determination of mass
– ISO 18168 – Textile floor coverings – Colour fastness to shampooing
– ISO105-B02 – Textiles – Tests for Colour fastness – Part B02: Colour fastness to
artificial light: Xenon arc fading lamp test.
– ISO 105-X12 – Textiles – Tests for colour fastness – Part X12: Colour fastness to
rubbing
– ISO 105-C10 – Textiles – Tests for colour fastness – Part C10: Colour fastness to
washing
– ISO 105-X05 – Textiles — Tests for colour fastness — Part X05: Colour fastness to
organic solvents

3. TERMS AND DEFINITIONS

For the purposes of this standard, the following terms and definitions apply.

3.1 tuft

length of yarn, for example J-, U- or W-shaped, or a length of yarn in the form of a knot, the leg or legs of which form the pile of a carpet.

Note 1 to entry: Examples of tufts are given in Figure 1 and examples of knots are given in Figure 2.

Note 2 to entry: Flocked carpets and certain bonded carpets are not considered to be composed of tufts. In the case of Jacquard-weave carpets, the length shall be considered as the length of tuft taken from a portion of a carpet with a surface of a single colour.

Note 3 to entry: When two or more pile yarns are delivered to a single binding site, they are considered to create one tuft.

Figure 1 – Examples of "U" tuft, "W" tuft and "J" tuft

Figure 2 – Examples of tufts in the form of knots

3.2 loop

length of the pile-forming yarn between two successive lowest points of fixation in the backing of a carpet.

Figure 3 – Diagram of two successive loops of pile

3.3 loop pile

pile of a carpet consisting of uncut loops.

3.4 number of tufts and/or loops and spaces per unit length

number of tufts and/or loops and spaces occupying 100 mm when counted longitudinally, i.e., parallel to the selvedge (denoted by S), and when counted transversely, i.e., at right angles to the selvedge (denoted by G)

3.5 Substrate

construction integral with the pile which serves as a support for the use-surface

4. REQUIREMENTS

The following requirements shall be fulfilled in a finished woven carpet:

4.1 The pile yarn shall be made from natural, Synthetic, regenerated fibres or blended of them.

Note: Polypropylene fibres shall be thermal treated.

4.2 Physical and mechanical properties of the finished carpet shall be as specified in Table 1.

Table 1 – Physical and mechanical properties of finished carpets

No.	characteristic	Pile materials	tolerance	Test method
1	Fiber contents	all fibers	according to the stated value on labelling	ISO/TR 11827
2	pile height (mm)	all fibers	10 - 25	
3	number of tufts per unit area	all fibers	according to the stated value on labelling	ISO 1763
4	C.V. % of pile mass above the substrate in all part of carpet (max)	all fibers	5	ISO 8543
5	effective pile thickness (mm)	all fibers	according to the stated value on labelling	ISO 1766

No.	characteristic	Pile materials	tolerance	Test method
6	tuft withdrawal force N (min)	all fibers	8.5 [a]	ISO 4919
7	loss in thickness under dynamic loading % (max)	wool	27	ISO 2094
		acrylic	20	
		polypropylene	30	
		polyester	25	
		viscose	30	
8	loss in thickness after prolonged, heavy static loading % (max)	wool	20	ISO 3416
		acrylic	25	
		polypropylene	35	
		polyester	30	
		viscose	35	
9	tolerance of dimensions %	all fibers	+2.5 %, -1.5% (machine direction) on stated length ±1.5 % (across machine direction) on stated width	ISO 3018
a- minimum force for testing of each pile (20 piles in total) shall be 4 N.				

4.3 Colour fastness requirements of the dyed pile yarns shall be as specified in Table 2.

Table 2 – Colour Fastness Requirements of Pile Yarns

No.	characteristic	Colour change (min grade)	Staining (min grade)	Test method
1	artificial light a	5	-	ISO 105-B02
2	washing	4	4	ISO 105-C10-method A
3	rubbing (dry)[a]	4	4	ISO 105-X12
4	rubbing (wet)[a]	4	4	ISO 105-X12
5	organic solvent[b]	4	4	ISO 105-X05
6	shampooing	4	4	ISO 18168
a- Color fastness tests shall be done for each colored pile yarns separately. b- Acetone (≥99%) and ethanol (≥96%) shall be used as solvents.				

4.4 The back of the carpet shall be coated with latex or any other suitable coating. The back coating shall be evenly spread with no build-up at the selvedges of the carpet and shall ensure a fray resistant finish to cut edges.

4.5 All seams shall be machine sewn at carpet edges with threads matching the predominant colour of the carpet.

4.6 The carpet shall be free from any defects that might affect the appearance, durability and serviceability:

– Visible stains or dirties,

– Undesirable unevenness of weaving structure or design affecting appearance,

– Undesirable unevenness on carpet surface,

– Missing areas of pile,

– Holes or tear through to back,

– Unevenness of hem and edges,

– Unevenness of back coating.

5. PACKING

The following shall be considered on packing:

5.1 Each carpet piece shall be tightly rolled in warp direction with its pile face inside.

5.2 The rolls shall be wrapped using adequate packing materials.

5.3 The packing material shall be strong, moisture-proof, non-staining and of sufficient size to completely cover the package with adequate overlapping which will not allow foreign matter to reach the carpet.

6. MARKING

A label shall be securely attached to one of the corners on the back of the rolled carpet, indelibly and clearly marked in English and other language according to country with the information indicated in INSO 1360.

7. SAMPLING

Sampling shall be as follows unless otherwise agreed upon.

7.1 The consignment shall be divided into lots, so that each lot contain the quantity (number) of woven carpet of the same composition, size, colour and construction particulars.

7.2 Woven carpets rolls shall be taken from the lot at random for testing. The sample size shall be in accordance with Table 3.

Table 3 – Sample Size

Lot size (carpet roll)	Sample size (carpet roll)
Up to 50	2
51 to 250	3
251 to 1200	5
1201 and above	8

7.3 Specimens shall be cut from the carpet according to the method specified in the ISO 1957.

INSO 1395:2014

Textile floor coverings – Handmade carpet – Label information and technical characteristics

Scope

This standard determines technical specifications and labelling of all kinds of handmade carpets.

This standard is applicable for of all kinds of handmade carpets which are fished and are ready to use.

Specifications and test methods

No.	Characteristics	Limit(s)	Test method(s)
1	Label's material	Fabric or covered paper	-
2	Size and shape of label	all information shall be legible	-
3	color fastness of label's records	The label information should be made by weaving or printing or any methods in which that are fixed and indelible. They shall not stain the carpet.	-
4	Label location	The label shall be attached permanently to the bottom back of the carpet so that can be visible through packaging.	-

No.	Characteristics	Limit(s)	Test method(s)
5	Information of the label	The information of label shall be in Persian for Iranian user and for export in any language agreed between purchaser and manufacturer. The label shall include the following information: -Trademark (the font of all letters shall be equal and even) - tuft material - warp material - weft material -the number of knots in 1dm^2 - type of knot -height of pile (in mm) -Size of carpet (length /width/diameter in cm or m with ±1% tolerance) -the colorfastness of piles of carpet including Light fatness and washing fastness of piles (the lowest fastness of all kinds of pile which are used in carpet shall be declared) - name or code of design - city of producer - maintenance requirements (including washing and drying methods and the statement of "Keep away from moisture" If more information required, they should be added in adjacent brochure	Checked visually INSO 1143 INSO 2265

INSO 1360:2005

Textile floor coverings – Machine made carpet – Label information and technical characteristics

Scope

This standard determines the technical specifications and labelling of various types of machine-made carpets.

This standard applicable to all kinds of labels on machine-made carpets which are finished and are ready to use.

Specifications and test methods

No.	Characteristic	Requirements	Test method(s)
1	Label's material	Appropriate material (Fabric or coated paper)	-
2	Shape and size of label	all the necessary information included, shall be legible	-
3	Color of label text	Label information should be woven or printed or in any other form with an indelible color	-
4	Place of label	The label shall be permanently attached to one of the corners of the carpet so that it is visible through the packaging.	-

No.	Characteristic	Requirements	Test method(s)
5	Information of the label	The information of label shall be in Persian for Iranian user and for export in the language agreed between purchase and manufacturer The label shall include following information : Name and address of the manufacture (the font of all letters shall be equal and even) Label certificate number and date Pile yarn material Warp yarn material Weft yarn material Reeds per meter Picks per meter Knots/m^2 Length of pile in mm(with ±10% tolerance from declared pile length) Size of carpet in m or cm (tolerance of length is +2.5% & -1.5% of declared length and tolerance of width is ±1%) Design Requirements for maintenance (Necessary information for proper and appropriate maintenance of the product, including washing method, drying method and the expression of “Don’t put hot objects on the carpet” Grade of carpet	INSO 2265

INSO 2628:2014

Traditional breads – Specification and test methods

Scope

This standard specifies sampling packaging, labelling, physical and chemical requirements and, test methods for Iranian traditional breads, produced in industrial, semi-industrial or traditional bakeries.

Specifications and test methods

No.	Specifications		Limit(s)				Test method(s)
			Sangak	Barbari	Tafton	Lavash	
1	Unacceptable materials	Extraneous matter including sand, gravel, metal and glass	Free				INSO 2628
2		Blancite (D-tionate sodium)	Free				INSO 2628
3		Sodium bicarbonate	Free				INSO 2628
4		Moldy	Free				INSO 2628
5	Sensory analysis		Acceptable				INSO 2628
6	Moisture (%)		25-33	24-30	21-27	18-25	INSO 2705
7	Max. total ash (% , on dry matter base)		2.8	2.8	2.8	2.8	INSO 2628
8	pH		4.6-5.6	5-6	5-6	5-6	INSO 37
9	Acid insoluble ash (% , on dry matter base)		0.1	0.1	0.1	0.1	INSO 37
10	Max. Salt (% , on dry matter base)		1.8	1.8	1.8	1.8	INSO 2628
11	Pb (mg/kg)		0.15				INSO 9266 & 16722
12	Cd (mg/kg)		0.03				
13	Mycotoxins		Complied with INSO 5925				INSO 6872 & 9238 &9239 & 9240

INSO 143:2015+A1:2018

Vegetable butter (Margarine) - Specifications and test methods

Scope

This standard determines physicochemical, sampling, test methods, packaging, and marking of kinds of vegetable butter (margarin). This standard is applied for all kinds of vegetable butter (margarin).

Note 1- This standard is not applied for pomace olive oil, coconut oil, and all kinds of palm kernel oil (kernel palm, olein kernel palm, and stearin kernel palm) and palm stearin, alone or mixed in preparation of vegetable butter (margarin).

Note 2- For this product, the use of name and type of other unit "different of name and type animal butter product" is essential.

Note 3- For packaging of kinds of vegetable butter (margarin), the color of molded aluminum foil, color cup cover and label of other types, must be golden color.

Note 4- Palm stearin can be applied just for preparation of flour and confectionery vegetable butter (margarin).

Specifications and test methods

No.	Specifications		Limit(s)	Test method(s)
1	Fat content (w%), minimum of total percentage	Liquid margarin	80	INSO 1255
		Spread margarin	41-70	
		Table margarin-Breakfast margarin	80	
		Cooking margarin	80	
		Flour &Confectionary margarin	41	

No.	Specifications		Limit(s)	Test method(s)
2	Melting point (°C)-Open capillary tube method)	Liquid margarin	-	INSO 5111
		Spread margarin	36	
		Table margarin-Breakfast margarin	37	
		Cooking margarin	-	
		Flour &Confectionary margarin	-	
3	Saturated fatty acids (w%), maximum, (Oily phase)	Liquid margarin	-	INSO 13126-1,2
		Spread margarin	35	
		Table margarin-Breakfast margarin	48	
		Cooking margarin	37	
		Flour &Confectionary margarin	65	
4	Trans fatty acids (w%), maximum, (Oily phase)	Liquid margarin	1	INSO 13126-1,2
		Spread margarin	2	
		Table margarin-Breakfast margarin	2	
		Cooking margarin	2	
		Flour &Confectionary margarin	5	

No.	Specifications		Limit(s)	Test method(s)
5	Linoleic fatty acid (w%), minimum, (Oily phase)	Liquid margarin	-	INSO 13126-1,2
		Spread margarin	20	
		Table margarin-Breakfast margarin	15	
		Cooking margarin	15	
		Flour &Confectionary margarin	-	
6	Linolenic fatty acid (w%), maximum, (Oily phase)	Liquid margarin	-	INSO 13126-1,2
		Spread margarin	-	
		Table margarin-Breakfast margarin	-	
		Cooking margarin	5	
		Flour &Confectionary margarin	-	
7	Lauric fatty acid (w%), maximum, (Oily phase)	Liquid margarin	2	INSO 13126-1,2
		Spread margarin	2	
		Table margarin-Breakfast margarin	2	
		Cooking margarin	2	
		Flour &Confectionary margarin	2	

No.	Specifications		Limit(s)	Test method(s)
8	Anisidine (Oily phase)	Liquid margarin	6	INSO 4093
		Spread margarin	6	
		Table margarin-Breakfast margarin	6	
		Cooking margarin	6	
		Flour &Confectionary margarin	6	
9	Peroxide value (meqO2/kg) (Oily phase)	Liquid margarin	After production (1.5) At the time of discharge (2) Limit of consumption (5)	INSO 4179
		Spread margarin	After production (1.5) At the time of discharge (2) Limit of consumption (5)	
		Table margarin-Breakfast margarin	After production (1.5) At the time of discharge (2)	

No.	Specifications		Limit(s)	Test method(s)
			Limit of consumption (5)	
		Cooking margarin	After production (1.5) At the time of discharge (2) Limit of consumption (5)	
		Flour &Confectionary margarin	After production (1.5) At the time of discharge (2) Limit of consumption (5)	
10	Free fatty acids based on oleic acid (maximum) (Oily phase)	Liquid margarin	At time of production (0.5) At the time of discharge (0.2)	INSO 4178
		Spread margarin	At time of production (0.5) At the time of discharge (0.2)	
		Table margarin-Breakfast margarin	At time of production (0.5) At the time of discharge (0.2)	

No.	Specifications		Limit(s)	Test method(s)
		Cooking margarin	At time of production (0.5) At the time of discharge (0.2)	
		Flour &Confectionary margarin	At time of production (0.5) At the time of discharge (0.2)	
11	Ni (mg/kg), maximum		0.1	INSO 4088
12	Fe (mg/kg), maximum		0.1	INSO 4088
13	Cu (mg/kg), maximum		2	INSO 4088
14	Sorbic acid and sodium, potassium, and calcium salts (mg/kg)		1000 Maximum, alone or with benzoic acid and their salts	INSO 7513
15	Pb (mg/kg), maximum		0.1	INSO 4089
16	As (mg/kg), maximum		0.1	INSO 6076
17	Benzo (α) pyrene (µg/kg)		2	INSO 6415
18	Mineral oil		Lower than limit of detection (LOD)	AOCS –official method –ca6c-6s-1990 Hydrocarbons (mineral oil)
20	Curcumin (mg/kg)		maximum (10)	INSO 12843

No.	Specifications	Limit(s)	Test method(s)
21	Riboflavin (mg/kg)	maximum (300)	INSO 7632
22	Carmines (mg/kg)	maximum (500)	INSO 14477
23	Caramel II - caustic sulfite process (mg/kg)	maximum (500)	INSO 12844
24	Caramel III - ammonia process (mg/kg)	maximum (500)	INSO 12844
25	Caramel IV - sulfite ammonia process (mg/kg)	maximum (500)	INSO 12844
26	beta-Carotenes, (vegetable) (mg/kg)	maximum (1000)	INSO 8023
27	beta-Carotenes (synthetic) (mg/kg)	Alone or with combination maximum (35)	INSO 8023
28	beta-Carotenes (Blakeslea trispora) (mg/kg)	Alone or with combination maximum (35)	INSO 8023
29	beta-apo-8.-Carotenal (mg/kg)	Alone or with combination maximum (35)	INSO 8023
30	beta-apo-8.-Carotenoic acid, methyl or ethyl ester (mg/kg)	Alone or with combination maximum (35)	INSO 8023

No.	Specifications	Limit(s)	Test method(s)
31	Annattoextracts,bixin-based (mg/kg)	Maximum (100)	INSO 14476, 14410
32	Polysorbates (mg/kg)	Maximum (10)	-
33	Diacetyltartaric and fatty acid esters of glycerol (mg/kg)	Maximum (10)	-
34	Sucrose esters of fatty acids (mg/kg)	Maximum (10)	-
35	Sucroglycerides (mg/kg)	Maximum (10)	-
36	Polyglycerol esters of fatty acids (mg/kg)	Maximum (5)	-
37	Polyglycerol esters of interesterified ricinoleic acid (mg/kg)	Maximum (4)	-
38	Propylene glycol esters of fatty acid (mg/kg)	Maximum (20)	-
39	Thermally oxidized soya bean oil interacted with mono- and diglycerides of fatty acids (mg/kg)	Maximum (5)	-
40	Stearoyl-2-lactylates (mg/kg)	Maximum (10)	-
41	Stearyl citrate (mg/kg)	Maximum (100)	-
42	Sorbitan esters of fatty acids (mg/kg)	Maximum (10)	-
43	Monoglycerides (mg/kg)	GMP	-
44	Diglycerides (mg/kg)	GMP	-
45	Lecithin (mg/kg)	GMP	INSO 3567

No.	Specifications	Limit(s)	Test method(s)
46	Tocopherol , alpha and delta (mg/kg)	Maximum (500), alone or as combination	INSO 13670
47	Tocopherol concentrate, mixed (307b)(mg/kg)	Maximum (500), alone or as combination	INSO 13670
48	Tocopherol, dl-alpha (307a, 307c)(mg/kg)	Maximum (500), alone or as combination	INSO 13670
49	Ascorbyl esters (based on ascorbyl stearate) (mg/kg)	Maximum (500)	-
50	Propyl Gallate (PG) (mg/kg)	Maximum (100)	INSO 21111
51	Tertiary butylhydroquinone (TBHQ) (mg/kg)	Maximum (75)	INSO 21111
52	Butylated hydroxy anisole (BHA) (mg/kg)	Maximum (175)	INSO 21111
53	Butylated hydroxy toluene (BHT) (mg/kg)	Maximum (75)	INSO 21111
54	All compounds of PG, TBHQ, BHA, BHT	Maximum (200) and each one alone must not more than mentioned limits values	INSO 21111
55	Isopropyl citrates (mg/kg)	Maximum (100)	-

No.	Specifications	Limit(s)	Test method(s)
56	Ethylene diamine tetra acetic acid	Maximum (100) (based on calcium di-sodium anhydro EDTA)	-
57	Thio dipropionates	Maximum (200) (based on Tio-di-propionate acid	-
58	Diacetate sodium (mg/kg)	Maximum (1000)	-
59	Tartrates (based on tartaric acid) (mg/kg)	Maximum (100)	INSO 15395
60	Phosphates (based on phosphorus's) (mg/kg)	Maximum (1000)	-
61	Propylene glycol alginate (mg/kg)	Maximum (3000)	-

INSO 1220-2 (Identical with AS 4553: 2008)

Vented gas space heaters – Technical specification and test method for energy consumption and energy labelling instruction

Scope

This standard determines the minimum conditions for operation and rational use of energy in flue gas heaters. In this standard, the quantities of thermal efficiency at minimum and maximum, net total efficiency, annual energy consumption and output power are measured and calculated.

This standard is used for flue heaters with natural or flue-suction combustion systems designed to run on natural gas or liquefied petroleum gas with a maximum energy consumption of less than 150 MJ / h.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Heat input	6-1	INSO 1220-2
2	Heat efficiency	6-2	INSO 1220-2
3	net efficiency	6-3	INSO 1220-2
4	energy label	8	INSO 1220-2

INSO 592:2015

Wafer - Specifications and test methods

Scope

This standard determines the characteristics, sampling, and test methods, packaging and marking of different types of wafers.

This standard specifies for different types of wafers (according to the definition of paragraph 4-8 of this standard), packaged, produced and supplied in the country.

NOTE 1 - This standard also applies to a variety of imported wafer products.

NOTE 2 - This standard does not apply to products with a wafer of less than 35% of the total weight of the product.

Specifications and test methods

No.	Specifications	Limit(s)	Test method(s)
1	Moisture (%)	Max. 2.5	INSO 2705
2	pH	6-7	INSO 37
3	Acidity (%)	Max 0.25	INSO 608
4	Peroxide (%)	Max 2	INSO 37
5	Iodine index (%)	Min 30	INSO 37
6	Acid insoluble ash (%)	Max 0.05	INSO 37

INSO 3477-2:2004

Washing machines - Specification for energy consumption and energy labelling of electrical house hold

Scope

This standard determines the criteria and technical specifications of energy consumption for fully automatic washing machines. In this standard, energy consumption label characteristics of washing machines and test methods and also the relevant energy label form are provided.

Fully automatic electric washing machines for home usage is in the scope of application of this standard

Note:This standard does not include the following:

-Washing machine without the ability to dehydrate the fabric,

-Washing machine with two separate tanks for washing and dehydration of textiles (such as twin washing machine),

-Washing machines- Dryer

Specifications and test methods

Washing machine performance test (energy label)

NO	Specification	Limit(s)	Test method
1	Energy label (in terms of readability, resolution, type of installation)	Clause 5	INSO3477-2 Diagram1,2,3
2	Items on the label	Clause5-1	INSO3477-2 Diagram2
3	Label dimensions	Clause5-2	INSO3477-2 Diagram3
4	Colors used in energy labels	Clause5-3	INSO3477-2 table4
5	Energy efficiency group (A to G)	Clause4 and table1	INSO3477 clause12
6	Cleaning power group (A to G)	Clause4-1 and table2	INSO3477 clause9
7	Dehydration capability group (A to G)	Clause4-1 and table3	INSO3477 clause10

Table 1 - Classification of energy efficiency groups

Energy Consumption (C) KWh / kg	Energy efficiency group
$C \leq 0.19$	A
$0.19 < C \leq 0.23$	B
$0.23 < C \leq 0.27$	C
$0.27 < C \leq 0.31$	D
$0.31 < C \leq 0.35$	E
$0.35 < C \leq 0.39$	F
$0.39 < C$	G

Table 2 - Classification of cleansing power groups

" p" Cleaning group	Cleaning power group
$P > 1.03$	A
$1.03 \geq p > 1.00$	B
$1.00 \geq p > 0.97$	C
$0.97 \geq p > 0.94$	D
$0.94 \geq p > 0.91$	E
$0.91 \geq p > 0.88$	F
$0.88 \geq p$	G

Table 3 - Classification of dewatering groups

"D" Dehydration capability group	Dehydration capability group
%٤٥ < D	A
%٥٤ < D ≤ 45%	B
%٦٣ < D ≤ 54%	C
%٧٢ < D ≤ 63%	D
%٨١ < D ≤ 72%	E
%٩٠ < D ≤ 81%	F
D ≤ 90%	G

Table 4 - Washing machine energy efficiency groups

Combination	Energy efficiency group
X0X0	A
70X0	B
30X0	C
00X0	D
03X0	E
07X0	F
0XX0	G

INSO 103:2014

Wheat flour – Specifications and test methods

Scope

This standard specifies physical and chemical, sampling and labelling requirements and test methods for all kinds of wheat flour.

Specifications and test methods

No.	Specifications		Nol flour	Setareh flour	Barbari flour	Tafton &lavash flour	Sangak flour	Complete flour	Macaroni flour	semolina	Test methods
1	Unacceptable matter	Extraneous matter including sand, gravel, metal and glass	Free								INSO 103
2		living pest	Free								
3		Abnormal smell, taste and flavor	Free								
4	Moisture (% by weight)		14.2	14.2	14.2	14.2	14.2	12.5	14.2	14.2	INSO 2705
5	Ash content (Max. % by weight of dry matter)		0.380-0.500	0.501-0.700	0.701-0.850	0.851-1.225	1.226-1.500	Min 1.501	Max 0.650	0.651-0.750	INSO 2706
6	pH		5.6- 6.5								INSO 37
7	Acid insoluble ash (% by weight of dry matter)		0.05								INSO 103
8	Protein content (% by weight of dry matter)		7-10	Min. 11	Min. 11	Min. 11	Min. 11.5	Min. 12	Min. 12	Min. 12.5	INSO 19052
9	Wet gluten		20-27	Min. 26	Min. 26	Min. 25	Min. 24	Min. 23	-	-	INSO I9639
10	Acidity (Max.)		2.4	2.4	2.4	3.5	4.1	4.1	2.4	3.5	INSO 103

No.	Specifications		Nol flour	Setareh flour	Barbari flour	Tafton &lavash flour	Sangak flour	Complete flour	Macaroni flour	semolina	Test methods
11	Particle size (% by weight)	Larger than 475 micron	-	-	Max. 2	Max. 2.5	Max. 5	Max. 5	-	-	INSO 103
		Larger than 180 micron	Max. 5	Max. 10	Max. 18	Max. 20	Max. 25	Max. 25	Min. 10	Min. 95% (mesh 150 -350 micron)	
		Larger than 125 micron	Max. 20	Max. 30	Max. 30	Max. 32.5	Max. 30	Max. 30	Min. 35		
		Pass through a 125 micron sieve	Min. 75	Min. 60	Min. 50	Min. 45	Min. 40	Min. 40	Max. 55		
12	Pb (mg/kg)		0.15								INSO 9266 & 16722
13	Cd (mg/kg)		0.03								
14	Mycotoxins		Complied with INSO 5925								INSO 6872& 9238 &9239 & 9240
15	Pesticide residues		Complied with INSO 13120								INSO 17026
16	Microbiological specifications		Complied with INSO 2393								INSO 2393

INSO 695:2019

Yoghurt - Specifications and test methods

Scope

This standard determines physical, chemical, microbial, sensorial, packaging, labelling properties, sampling methods and test methods of different types of plane and enriched yoghurt.

Specifications and test methods

Chemical specification of yoghurt (except drained yoghurt)

No.	specification	Limit		Methods
1	pH	Maximum 4.6		INSO 2852
2	Acidity (w/w lactic acid)	Minimum 0.7		INSO 2852
3	Solid non fat	zero fat	≧10.5	INSO 11328
		Low fat	≧9.5	
		Semi fat	≧9	
		Full fat	≧8.5	
		Creamy	≧8.5	
4	fat	Zero fat	<0.5	INSO 695
		Low fat	0.5≤fat<1.5	
		Semi fat	1.5≤fat<3	
		Full fat	3≤fat<6	
		Creamy	6≤	
5	Phytosterol[a] (% of total sterol)	Maximum 3		INSO 9189, INSO 2156
6	salt[b]	Maximum 0.25		INSO 694

[a] determination of phytosterols is not applicable for low and zero fat.
[b] Addition of salt to yoghurt (except stirred yoghurt) is banned and the mentioned value of the salt in table is related to its nature.
[c] the maximum permitted level of salt in stirred yoghurt is 0.8%

Chemical specification of drained yoghurt

No.	specification	Limit		Methods
1	pH	Maximum 4.6		INSO 2852
2	Acidity (w/w lactic acid)	Minimum 0.7		INSO 2852
3	Solid non fat	zero fat	≧15	INSO 11328
		Low fat	≧14	
		Semi fat	≧13	
		Full fat	≧12	
		Creamy	≧12	
4	fat	zero fat	<0.5	INSO 695
		Low fat	0.5≤fat<1.5	
		Semi fat	1.5≤fat<3.5	
		Full fat	3.5≤fat<7	
		Creamy	7≤	
5	Phytosterol[a] (% of total sterol)	Maximum 3		INSO 9189, INSO 2156
6	salt[b]	Maximum 0.25		INSO 694

[a] determination of phytosterols is not applicable for low and zero fat.

[b] Addition of salt to drained yoghurt (except stirred yoghurt) is banned and the mentioned value of the salt in table is related to its nature.

[c]

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1402(2023)