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Resilient floor coverings — Specification for rubber sheet floor coverings with backing

Revêtements de sol résilients — Spécifications pour les revêtements de sol en caoutchouc avec dossier

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10575 was prepared by Technical Committee ISO/TC 219, *Floor coverings*.

Resilient floor coverings — Specification for rubber sheet floor coverings with backing

1 Scope

This International Standard specifies the characteristics of rubber sheet floor coverings with backing.

This International Standard includes a classification system based on intensity of use, which shows where resilient floor coverings should provide satisfactory service.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 105-B02, *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: Xenon arc fading lamp test*

ISO 4649:2010, *Rubber, vulcanized or thermoplastic — Determination of abrasion resistance using a rotating cylindrical drum device*

ISO 4918, *Resilient, textile and laminate floor coverings — Castor chair test*

ISO 7619-1, *Rubber, vulcanized or thermoplastic — Determination of indentation hardness — Part 1: Durometer method (Shore hardness)*

ISO 23999, *Resilient floor coverings — Determination of dimensional stability and curling after exposure to heat*

ISO 24340, *Resilient floor coverings — Determination of thickness of layers*

ISO 24341, *Resilient and textile floor coverings — Determination of length, width and straightness of sheet*

ISO 24343-1, *Resilient and laminate floor coverings — Determination of indentation and residual indentation — Part 1: Residual indentation*

ISO 24344, *Resilient floor coverings — Determination of flexibility and deflection*

ISO 24346, *Resilient floor coverings — Determination of overall thickness*

ASTM D883, *Standard Terminology Relating to Plastics*

ASTM D1566, *Standard Terminology Relating to Rubber*

ASTM D3389, *Standard Test Method for Coated Fabrics Abrasion Resistance (Rotary Platform Abrader)*

ASTM F1515, *Standard Test Method for Measuring Light Stability of Resilient Flooring by Colour Change*

EN 431, *Resilient floor coverings — Determination of peel resistance*

EN 663, *Resilient floor coverings — Determination of conventional pattern depths*

3 Terms and definitions

3.1
rubber material
polymeric binder in the rubber sheet floor covering with backing satisfying the definition of rubber in ASTM D1566, and having been vulcanized such that it became thermoset as defined in ASTM D883

3.2
reliefed
having a permanent multi-level surface produced by mechanical means, with a minimal differential in height of 0,25 mm

4 Categories of rubber sheet floor coverings with backing

Rubber sheet floor coverings covered by this International Standard shall be categorized as:

— Category A: Homogeneous rubber sheet floor covering with backing — Floor covering based on natural and/or synthetic rubber with one or more layers of the same composition and colour, patterned throughout its thickness with either fibrous or foamed backing.

— Category B: Heterogeneous rubber sheet floor covering with backing — Floor covering based on natural and/or synthetic rubber consisting of a wear layer and other compact layers which differ in composition and/or design and can contain a reinforcement with either fibrous, foamed or other backing.

— Category C: Rubber sheet floor covering with backing with a decorative layer — Floor covering based on natural and/or synthetic rubber consisting of a decorative layer and other compact layer which differ in composition and/or design and can contain a reinforcement with either fibrous, foamed or other backing.

The thickness of the decorative layer shall at least reach the values given in Table 2. These values are based on the relationship of the appearance retaining after removing a specified thickness and the abrasion value measured.

The floor covering may have smooth, embossed or reliefed pattern wearing surfaces.

5 Requirements

All rubber floor sheet with backing shall conform to the appropriate general requirements specified in Table 1, when tested in accordance with the test methods given therein.

Table 1 — General minimum requirements

Characteristic		Requirements		Test method
Overall thickness; Tolerance on nominal total gauge mm		average	Individual results	ISO 24346
	reliefed	Nominal value ± 0,20 mm	Nominal value ± 0,25 mm	
	smooth or embossed	Nominal value ± 0,20 mm	Nominal value ± 0,25 mm	
Width		not less than specified		ISO 24341
Length		not less than specified		ISO 24341
Thickness of wear layer		not less than specified		ISO 24340
Dimensional stability		tolerance allowed 0,4 %		ISO 23999
Flexibility: diameter of mandrel 20 mm		no cracking		ISO 24344 Method A
Residual indentation		≤ 0,25 mm		ISO 24343-1
Abrasion resistance of wear layer		≤ 250 mm^3		ISO 4649:2010, Method A, vertical load (5 ± 0,1) N
	or	< 1 g		ASTM D3389 H18/500 g
Peel resistance		Mean value ≥ 50 N/50 mm or rupture in the foam		EN 431
Colour fastness to artificial light [a]		6 minimum on blue wool scale ≥ 3 on grey scale		ISO 105-B02 Method 3
	or	ΔE not greater than 8,0 after 300 h exposure		ASTM F1515

[a] Expose a full size test specimen. Store a further test specimen in the dark, which will constitute the reference standard for assessment of colour change.

6 Classification

The classification scheme for resilient floor coverings is described in ISO 10874. The requirements for rubber sheet floor coverings with backing in accordance with this scheme are specified in Table 2.

Table 2 — Classification minimum requirements

Class	Symbol	Level of use	Overall thickness nominal value (mm)		Minimum thickness of wear layer	Relation PD[a]/TL[b]	Resistance to castor chair for smooth or embossed pattern	Hardness of wear layer
			Category A, B, C		Category B, C	Category C	ISO 4918	ISO 7619-1
			Reliefed pattern	Smooth or embossed		EN 663		Shore A
21		domestic moderate	2,5	2,5	1,0	≥ 0,6	No requirement	≥ 60
22		domestic general/medium						
23		domestic heavy	3,2	3,5				
31		commercial moderate						
32		commercial general				≥ 0,8	No disturbance to the surface other than slight change in appearance and no delamination shall occur after 25 000 cycles	≥ 75
33		commercial heavy						
34		commercial very heavy						
41		light industrial moderate						

Table 2 *(continued)*

Class	Symbol	Level of use	Overall thickness nominal value (mm)		Minimum thickness of wear layer	Relation PD[a]/TL[b]	Resistance to castor chair for smooth or embossed pattern	Hardness of wear layer
			Category A, B, C		Category B, C	Category C	ISO 4918	ISO 7619-1
			Reliefed pattern	Smooth or embossed		EN 663		Shore A
42		light industrial general	3,5		1,0	≥ 0,8	No disturbance to the surface other than slight change in appearance and no delamination shall occur after 25 000 cycles	≥ 75
43		light industrial heavy						

[a] PD = Pattern depth in mm.

[b] TL = Thickness loss in mm, calculated according to the formula below (EN 663).