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Low modulus adhesives for exterior tile finishing

Adhésifs à faible module d'élasticité pour le collage extérieur des carreaux céramiques

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Contents

Page

Foreword ... **iv**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**

4 Classification and designation ... **2**

5 Requirement ... **2**

6 General test conditions and procedures ... **3**
6.1 Testing conditions ... 3
6.2 Test materials ... 3
6.2.1 General ... 3
6.2.2 Cement mortar substrate ... 4
6.2.3 Ceramic tiles ... 4
6.2.4 Fibre cement flat sheets ... 4
6.3 Notched trowel ... 4
6.4 Pull head plate ... 4

7 Test methods ... **5**
7.1 Shelf life ... 5
7.2 Mixing homogeneity inspection ... 5
7.3 Adhesive strength ... 5
7.3.1 Materials for the testing ... 5
7.3.2 Preparation of test pieces ... 6
7.3.3 Curing of test assembly ... 7
7.3.4 Treating of test assembly ... 7
7.3.5 Adhesive strength ... 8
7.4 Cured film test ... 12
7.4.1 Preparation of sample ... 12
7.4.2 Tensile test ... 13
7.5 Heat stability ... 15
7.5.1 Materials for the testing ... 15
7.5.2 Preparation of test pieces ... 15
7.6 Slip test ... 16
7.6.1 Materials for the testing ... 16
7.6.2 Preparation of test pieces and test procedure ... 17
7.7 Pot-life (2 component adhesives) ... 17
7.7.1 General ... 17
7.7.2 Apparatus ... 17
7.7.3 Procedure ... 18
7.8 Open time (1 component adhesives) ... 18
7.8.1 Materials for the testing ... 18
7.8.2 Preparation of test pieces and testing procedure ... 18
7.8.3 Determination of open time ... 19
7.9 Density ... 19

8 Nomenclature of product ... **19**

9 Labeling ... **19**

10 Handling precaution ... **19**

Bibliography ... **20**

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Foreword

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The committee responsible for this document is ISO/TC 189, *Ceramic tile*.

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Low modulus adhesives for exterior tile finishing

1 Scope

This International Standard specifies a quality standard and test methods for a low modulus adhesive composed of chemical reaction resins and used for the installation of tiles to exterior walls.

2 Normative references

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

ISO 37:2011, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 188:2011, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 679:2009, *Cement — Test methods — Determination of strength*

ISO 2811-1, *Paints and varnishes — Determination of density — Part 1: Pycnometer method*

ISO 6344-2, *Coated abrasives — Grain size analysis — Part 2: Determination of grain size distribution of macrogrits P12 to P220*

ISO 8336, *Fibre-cement flat sheets — Product specification and test methods*

ISO 10364:2007, *Structural adhesives — Determination of the pot life (working life) of multi-component adhesives*

ISO 13006, *Ceramic tiles — Definitions, classification, characteristics and marking*

ISO 21948, *Coated abrasives — Plain sheets*

3 Terms and definitions

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

3.1
pot-life
time interval during which the adhesive can be used after mixing

3.2
open time
maximum time interval after application at which tiles can be embedded in the applied adhesive and meet the specified tensile adhesion strength requirement

3.3
shelf life
time of storage under stated conditions during which an adhesive may be expected to maintain its working properties

3.4
slip
downward movement of a tile applied to a combed adhesive layer on a vertical surface

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3.5
reaction resin adhesive
single- or multi-component mixture of synthetic resin, mineral fillers and organic additives in which curing occurs by chemical reaction

3.6
notched trowel
toothed tool, which makes it possible to apply the adhesive as a series of ribs of a uniform thickness onto the fixing surface and/or the reverse face of the tile

3.7
cohesive failure ratio
percentage of total cohesive failure area of adhesive, substrate or tile, over total adhesion area

3.8
low modulus adhesive
adhesives curing to elastomeric rubbery film which has minimum 35 % of elongation at tensile testing break point

3.9
cement
finely ground inorganic material that, when mixed with water, forms a paste that sets by means of hydration reactions and processes, and that, after hardening, retains its strength and stability, even under water

Note 1 to entry: Cement for mortar substrate shall be Portland cement which is specified in ASTM C150 type 1.

[SOURCE: ISO 6707-1:2014, 6.4.16, modified]

4 Classification and designation

Adhesives shall be sorted into four groups as shown in Table 1, based on the principal components and the reaction modes.

Table 1 — Grouping of tile adhesive

Sort		Remarks
Polyurethane resin	1 component reaction-cure	Urethane resin based 1 component adhesive
	2 component reaction-cure	Urethane resin based 2 component adhesive
Silyl terminated polymers (exclude silicone)	1 component reaction-cure	Silyl terminated polymers based 1 component adhesive
	2 component reaction-cure	Silyl terminated polymers based 2 component adhesive

5 Requirement

The adhesives shall meet the requirements of Table 2.

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