SLOVENSKI STANDARD
SIST EN 1062-1:2004

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Nadomeġļa:
SIST EN 1062-1:1997

Barve in laki ï Premazni materiali in premazni sistemi za zunanjo zaġļito zidov in betona ï 1. del: Razvrstitev

Paints and varnishes - Coating materials and coating systems for exterior masonry and concrete - Part 1: Classification

Beschichtungsstoffe - Beschichtungsstoffe und Beschichtungssysteme für mineralische Substrate und Beton im Außenbereich - Teil 1: Einteilung

Peintures et vernis - Produits de peinture et systemes de revetement pour maçonnerie et béton extérieurs - Partie 1: Classification

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This European Standard was approved by CEN on 24 March 2004.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Foreword

This document (EN 1062-1:2004) has been prepared by Technical Committee CEN/TC 139 “Paints and varnishes”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2004, and conflicting national standards shall be withdrawn at the latest by December 2004.

This document supersedes EN 1062-1:1996.

The main changes are:

— classifications for water vapour transmission rate, liquid water permeability, crack bridging and carbon dioxide permeability are included;

— the description of a designation code of coating materials according to this standard is included.

Guidance for selection of coating systems for exterior masonry and concrete is given in informative annex A.

EN 1062 consists of the following parts under the general title *Paints and varnishes — Coating materials and coating systems for exterior masonry and concrete*:

— *Part 1: Classification*

— *Part 3: Determination and classification of liquid-water transmission rate (permeability)*

— *Part 6: Determination of carbon dioxide permeability*

— *Part 7: Determination of crack bridging properties*

— *Part 11: Methods of conditioning before testing*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

EN 1062-1 identifies criteria that need to be considered when assessing the suitability of a coating system for a particular end use and provides a framework for communicating this information between manufacturer and user. This should assist in the removal of technical barriers to trade. It is the responsibility of the manufacturer of a coating system to designate the appropriate categories for end use and appearance.

NOTE 1 Where applicable, the relevant properties can also be used to describe products designed for use on interior surfaces of buildings.

NOTE 2 The characteristics of the coating material should conform to national regulations with regard to health, safety and the environment.

1 Scope

This European Standard specifies a general system for the description of coating materials and coating systems for the preservation, decoration and protection of exterior new and old, coated or uncoated masonry and concrete. It also includes a classification system based on certain physical properties.

This European Standard is applicable to all coating materials and coating systems for exterior masonry and concrete, including those for use in external thermal insulation systems.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 971-1:1996, *Paints and varnishes — Terms and definitions for coating materials — Part 1: General terms.*

EN 1062-3, *Paints and varnishes — Coating materials and coating systems for exterior masonry and concrete — Part 3: Determination and classification of liquid-water transmission rate (permeability).*

EN 1062-6, *Paints and varnishes — Coating materials and coating systems for exterior masonry and concrete — Part 6: Determination of carbon dioxide permeability.*

EN 1062-7, *Paints and varnishes — Coating materials and coating systems for exterior masonry and concrete — Part 7: Determination of crack-bridging properties.*

EN 1062-11, *Paints and varnishes - Coating materials and coating systems for exterior masonry and concrete - Part 11: Methods of conditioning before testing.*

EN ISO 1524, *Paints, varnishes and printing inks - Determination of fineness of grind (ISO 1524:2000).*

EN ISO 787-18, *General methods of test for pigments and extenders — Part 18: Determination of residue on sieve — Mechanical flushing procedure (ISO 787-18:1983).*

EN ISO 2813, *Paints and varnishes — Determination of specular gloss of non-metallic paint films at 20°, 60° and 85° (ISO 2813:1994, including Technical Corrigendum 1:1997).*

EN ISO 7783-2, *Paints and varnishes — Coating materials and coating systems for exterior masonry and concrete — Part 2: Determination and classification of water-vapour transmission rate (permeability) (ISO 7783-2:1999).*

ISO 787-7, *General methods of test for pigments and extenders — Part 7: Determination of residue on sieve — Water method — Manual procedure.*

ISO 3233, *Paints and varnishes -- Determination of percentage volume of non-volatile matter by measuring the density of a dried coating.*

3 Terms and definitions

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

3.1
coating material
product, in liquid or in paste or powder form, that, when applied to a substrate, forms a film possessing protective, decorative and/or other specific properties

[EN 971-1:1996]

3.2
coating system
sum total of the coats of coating materials which are to be applied or which have been applied to a substrate

[EN 971-1:1996]

3.3
coating system for masonry and concrete
coating system for the treatment of mineral substrates in order to preserve, decorate and/or protect them

3.4
decoration
treatments with the primary objective to change or restore the appearance of the substrate

NOTE Functions of these treatments are colour, gloss and texture. They can also include protective functions.

3.5
preservation
treatments with the primary objective to keep the substrate in a condition as near as possible to its original state and appearance of gloss, colour and texture

NOTE Functions of these treatments are, for example, water repellence and/or improvement of the integrity of the substrate. They can also include protective functions and may be used for pre-treatment.

3.6
protection
treatments with the primary objective to protect the substrate against one or more of the following influences: water, atmospherical, chemical, biological, mechanical or other actions

NOTE These treatments can also include decorative functions.

4 Description

4.1 Description by chemical type of binder

Description by chemical type of binder shall be derived from that component of the binder which is decisive for the characteristic properties of the final coating system.

The chemical type of the binder shall be given using, for example, the following terms for binders:

Acrylic resin, alkyd resin, bitumen, cement, chlorinated rubber, epoxy resin, hydraulic lime, oil, polyester, silicate, silicone resin, polyurethane, vinyl resin.

NOTE 1 This list of terms is not exhaustive to allow for additional binders to be described as coating technology advances.

NOTE 2 The quality of a masonry coating material is not dependent solely on the binder types used. The amount of binder(s) and/or other constituents can be of greater importance.

4.2 Description by the state of dissolution or dispersion of the binder in the coating material

Water-dilutable: binders dissolved or dispersed in water. Viscosity adjustment can be performed with water according to manufacturers recommendations

Solvent-dilutable: binders dissolved or dispersed in organic solvents. Viscosity adjustment can be performed with organic solvents according to manufacturers recommendations

5 Classification

5.1 General

Coating systems in terms of this standard have to be suitable for exterior masonry (e.g. facades) and concrete. The durability of the coating system on the substrate depends on the local climatic environmental conditions. Indications of the durability of the coating system on the respective substrate can be provided after conditioning according EN 1062-11. The conditioning according EN 1062-11 shall be adapted to the local climatic conditions at the usage site.

NOTE Assessment of the properties of the coating system after conditioning can be done according to EN ISO 4628-1, EN ISO 4628-2, EN ISO 4628-4, EN ISO 4628-6 and EN ISO 4628-7. Different criteria for the assessment of the change of the properties can be agreed between the parties involved.

Properties and characteristics of coating systems for masonry and concrete are classified in 5.2 to 5.8. The coating systems are assessed independently of the substrate to which the material is intended to be applied. Properties such as adhesion and texture that depend on the substrate have, therefore, not been included. It is essential that the coating system adheres properly to the appropriately prepared substrate to which it is applied.

Where applicable, the characteristics of the complete coating system, including method(s) of application, colour and opacity, should be agreed between supplier, specifier, applicator and end user. Requirements for substrate preparation shall also be specified and observed.

Coating thickness and texture are subject to the manufacturer's recommendations for use and can be affected by the method of application, the properties of the substrate and the formulation. These factors affect many important properties of the coating system such as dirt pick-up, water vapour and carbon dioxide permeability, liquid water permeability and general appearance.

To achieve an effective coating system, the materials shall be applied in line with manufacturer's recommendations. It is recommended that the coating system be applied to a trial area in order to determine whether it will require sealers and/or primers (reference surface).

5.2 Gloss

Specular gloss shall be determined in accordance with EN ISO 2813.

Table 1 — Classes for specular gloss (*G*)

Class		Angle of Incidence	Requirement
G_1	Gloss [a]	60°	> 60
G_2	Mid-sheen [b]	60°	≤ 60
		85°	> 10
G_3	Matt	85°	≤ 10
a According the national preference, the designation of "gloss" can vary e.g. high sheen.			
b According the national preference, the designation of "mid sheen" can vary e.g. semi-gloss, semi-matt, satin.			

If the reflectance measured at 60° is less than 10, the measurement shall be repeated at 85°, the value obtained at 85° determines the class.

NOTE 1 In practice, the gloss level achieved will depend on the state and nature of the substrate.

NOTE 2 Gloss cannot be measured on textured coatings and coatings with coarse or very coarse granularity.

5.3 Dry film thickness

Dry film thickness *E*, in micrometres, shall be calculated from the consumption, using the following equation: