

norm**NEN-EN 12878**

Pigmenten voor het kleuren van
bouwmaterialen gebaseerd op cement
en/of kalk - Specificaties en
beproevingmethoden

Publicatie uitsluitend voor commentaar

Pigments for the colouring of building materials based on cement and/or
lime - Specifications and methods of test

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Voorbeeld
Preview

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 12878

May 2018

ICS 91.100.10/87.060.10

Will supersede EN 12878:2014

English Version

**Pigments for the colouring of building materials based on
cement and/or lime - Specifications and methods of test**

Pigments de coloration des matériaux de construction
à base de ciment et/ou de chaux - Spécifications et
méthodes d'essai

Pigmente zum Einfärben von zement- und/oder
kalkgebundenen Baustoffen - Anforderungen und
Prüfverfahren

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 298.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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prEN 12878:2018 (E)

European foreword

This document (prEN 12878:2018) has been prepared by Technical Committee CEN/TC 298 “Pigments and extenders”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 12878:2014.

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association.

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

The main changes with respect to the previous edition are listed below:

- a) revision according to TFN548rev1, TFN 577 and TFN687rev1;
- b) correction of the “chlorine” to “chloride”;
- c) general editorial revision.

Original
Preview

1 Scope

This document specifies the characteristics and the methods of test for pigments for use in the colouring of building materials based on cement and cement/lime combinations.

Pigments covered by this document may also be used in pure lime mortar. For this application, see EN 459-1 and EN 459-2.

Pigments for this purpose may be single pigments, blends of pigments, or blends of pigments and extenders, in powder or granular form, or aqueous preparations.

Pigments typically belong to one of the following classes of compounds:

- synthetic or natural oxides and hydroxides of iron;
- oxides of chromium, titanium and manganese;
- complex inorganic pigments, for example combinations of the above mentioned metal oxides and hydroxides with cobalt, aluminium, nickel and antimony oxides and hydroxides;
- ultramarine pigments;
- phthalocyanine blue and green;
- elemental carbon (shall be regarded as an inorganic pigment);
- blends of the above materials (which may also include extenders).

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.

EN 196-1:2016, *Methods of testing cement — Part 1: Determination of strength*

EN 196-3, *Methods of testing cement — Part 3: Determination of setting times and soundness*

EN 197-1, *Cement — Part 1: Composition, specifications and conformity criteria for common cements*

EN 934-1:2008, *Admixtures for concrete, mortar and grout — Part 1: Common requirements*

EN ISO 591-1, *Titanium dioxide pigments for paints — Part 1: Specifications and methods of test (ISO 591-1)*

EN ISO 787-3, *General methods of test for pigments and extenders — Part 3: Determination of matter soluble in water — Hot extraction method (ISO 787-3)*

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

EN ISO 787-9, *General methods of test for pigments and extenders — Part 9: Determination of pH value of aqueous suspension (ISO 787-9)*

EN ISO 787-13, *General methods of test for pigments and extenders — Part 13: Determination of water-soluble sulfates, chlorides and nitrates (ISO 787-13)*

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EN ISO 1248, *Iron oxide pigments — Specifications and methods of test (ISO 1248:2006 including Technical Corrigendum 1:2007)*

EN ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling (ISO 15528)*

EN ISO 18451-1, *Pigments, dyestuffs and extenders — Terminology — Part 1: General terms (ISO 18451-1)*

EN ISO 18451-2, *Pigments, dyestuffs and extenders — Terminology — Part 2: Classification of colouring materials according to colouristic and chemical aspects (ISO 18451-2)*

ISO 788, *Ultramarine pigments for paints*

ISO 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

ISO 4621, *Chrome oxide green pigments — Specifications and methods of test*

ISO 9277, *Determination of the specific surface area of solids by gas adsorption — BET method*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 18451-1, EN ISO 18451-2 and the following apply.

3.1 pigment

colourant consisting of particles, insoluble in the application medium (e.g. coating material or plastic)

Note 1 to entry: Pigments can be further described on the basis of their chemical composition, their optical or technical properties, e.g. inorganic pigment, organic pigment, coloured pigment, white pigment, effect pigment, corrosion-inhibiting pigment, magnetic pigment.

Note 2 to entry: Pigments for ceramics, glass and vitreous enamels are called stains.

Note 3 to entry: Whether a given substance is to be considered as pigment or extender depends on its application.

[SOURCE: EN ISO 18451-1:2017, definition 2.95]

3.2 single pigment

pigment that is of singular (chemical) composition

Note 1 to entry: Single pigments contain no substances other than those originating from the pigment manufacturing process.

Note 2 to entry: Surface treatment of the primary pigment particles is considered as a part of the pigment manufacturing process.

3.3 pigment blend

blend of at least two single pigments, or at least one single pigment and an extender

3.4**aqueous pigment preparation**

preparation in which a pigment (single pigment or pigment blend) is dispersed in water, with or without a dispersion or other agent

EXAMPLES of agents are:

- dispersants;
- binding agents (resins);
- solvents;
- wetting agents;
- or combinations thereof.

3.5**pigment in granular form**

preparation in which a pigment (single pigment or pigment blend) is converted into granules, by the use of the binding agent which retains the integrity of the granule

3.6**reference sample; standard pigment**

sample of a single pigment or a blend (powder, or preparation) retained by the interested parties for comparison for the evaluation of the product properties (e.g. colour)

3.7**extender**

substance in granular or powder form, insoluble in the medium (e.g. coating material) and used to modify or influence certain physical properties

Note 1 to entry: The German terms "Extender", "Extenderpigment", "Pigmentextender" or "Verschnittmittel" should be avoided.

Note 2 to entry: Whether a given substance is to be considered as pigment or extender depends on its application.

[SOURCE: EN ISO 18451-1:2017, definition 2.34]

4 Characteristics**4.1 Effects on concrete properties****4.1.1 General**

Pigments for steel reinforced concrete shall additionally meet all Category B characteristics given in 4.1.3, 4.2.3 to 4.2.5.

The inorganic pigment dosage shall be 5,0 % solids, carbon black and organic pigment dosage of 2,0 % solids, by mass, based on the cement amount for testing according 5.1.

If a higher dosage of pigment is recommended the tests shall be carried out with that dosage.

The dosage in percent by mass shall be specified by the manufacturer.

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