DIN EN ISO 18451-1

ICS 01.040.87; 87.060.10

Einsprüche bis 2018-05-02
Vorgesehen als Ersatz für
DIN EN ISO 18451-1:2017-12

Entwurf

Pigmente, Farbstoffe und Füllstoffe – Begriffe – Teil 1: Allgemeine Begriffe (ISO/DIS 18451-1:2018); Deutsche und Englische Fassung prEN ISO 18451-1:2018

Pigments, dyestuffs and extenders –
Terminology –
Part 1: General terms (ISO/DIS 18451-1:2018);
German and English version prEN ISO 18451-1:2018

Pigments, colorants et matières de charge –
Terminologie –
Partie 1: Termes généraux (ISO/DIS 18451-1:2018);
Version allemande et anglaise prEN ISO 18451-1:2018

Anwendungswarnvermerk

Dieser Norm-Entwurf mit Erscheinungsdatum 2018-03-02 wird der Öffentlichkeit zur Prüfung und Stellungnahme vorgelegt.

Weil die beabsichtigte Norm von der vorliegenden Fassung abweichen kann, ist die Anwendung dieses Entwurfs besonders zu vereinbaren.

Stellungnahmen werden erbeten

- vorzugsweise online im Norm-Entwurfs-Portal von DIN unter www.din.de/go/entwuerfe bzw. für Norm-Entwürfe der DKE auch im Norm-Entwurfs-Portal der DKE unter www.entwuerfe.normenbibliothek.de, sofern dort wiedergegeben;
- oder als Datei per E-Mail an npf@din.de möglichst in Form einer Tabelle. Die Vorlage dieser Tabelle kann im Internet unter www.din.de/go/stellungnahmen-norm-entwuerfe oder für Stellungnahmen zu Norm-Entwürfen der DKE unter www.dke.de/stellungnahme abgerufen werden;
- oder in Papierform an den DIN-Normenausschuss Pigmente und Füllstoffe (NPF), 10772 Berlin, Burggrafenstr. 6, 10787 Berlin.

Die Empfänger dieses Norm-Entwurfs werden gebeten, mit ihren Kommentaren jegliche relevanten Patentrechte, die sie kennen, mitzuteilen und unterstützende Dokumentationen zur Verfügung zu stellen.

Gesamtumfang 62 Seiten

DIN-Normenausschuss Pigmente und Füllstoffe (NPF)

© DIN Deutsches Institut für Normung e. V. · Jede Art der Vervielfältigung, auch auszugsweise, nur mit Genehmigung des DIN Deutsches Institut für Normung e. V., Berlin, gestattet.
Alleinverkauf der Normen durch Beuth Verlag GmbH, 10772 Berlin

Preisgruppe 22
www.din.de
www.beuth.de

Documents
Document Sharing Hub
2828380

Full document details: E DIN EN ISO 18451-1:2018-04

Nationales Vorwort

Der Text von ISO/DIS 18451-1 wurde vom Technischen Komitee ISO/TC 256 „Pigments, dyestuffs and extenders“ der Internationalen Organisation für Normung (ISO) erarbeitet und als prEN ISO 18451-1 durch das Technische Komitee CEN/TC 298 „Pigmente und Füllstoffe“ übernommen, dessen Sekretariat von DIN (Deutschland) gehalten wird.

Das zuständige deutsche Normungsgremium ist der Arbeitsausschuss NA 078-00-01 AA „Begriffe“ im DIN-Normenausschuss Pigmente und Füllstoffe (NPF).

Die deutschen Begriffe sind alphabetisch nach der englischen Referenzfassung sortiert. Am Ende jeder Sprachfassung ist ein Stichwortverzeichnis vorhanden, um die Suche nach einzelnen Begriffen zu erleichtern.

DIN EN ISO 18451 besteht unter dem allgemeinen Titel *Pigmente, Farbstoffe und Füllstoffe — Begriffe* aus den folgenden Teilen:

— *Teil 1: Allgemeine Begriffe*

— *Teil 2: Einteilung nach koloristischen und chemischen Gesichtspunkten*

Änderungen

Gegenüber DIN EN ISO 18451-1:2017-12 wurden folgende Änderungen vorgenommen:

a) die Definitionen für Vollton (3.41) und Purton (3.69) wurden vertauscht, um sie der Praxis und Definitionen in anderen Normen, z. B. ISO 787-25 anzupassen;

b) in den Definitionen 2.34 (Füllstoff) und 2.82 (Nanofüllstoff) wurde eine Anmerkung bezüglich der Verwendung der Benennung „Füller“ als Synonym für „Füllstoff“ in einigen Industriezweigen, z. B. Kautschuk und Beschichtungsstoffe, ergänzt;

c) in der englischen Sprachfassung wurde in einigen Anmerkungen „may“ in „can“ geändert;

d) der Text wurde redaktionell überarbeitet.

Documents
Document Sharing Hub

Full document details: E DIN EN ISO 18451-1:2018-04

– Entwurf –

CEN/TC 298

Datum: 2018-04

prEN ISO 18451-1:2018

CEN/TC 298

Sekretariat: DIN

Pigmente, Farbstoffe und Füllstoffe — Begriffe — Teil 1: Allgemeine Begriffe (ISO/DIS 18451-1:2018)

Pigments, colorants et matières de charge — Terminologie — Partie 1 : Termes généraux (ISO/DIS 18451-1:2018)

Pigments, dyestuffs and extenders — Terminology — Part 1: General Terms (ISO/DIS 18451-1:2018)

ICS:

Deskriptoren:

Dokument-Typ: Europäische Norm
Dokument-Untertyp:
Dokumentstufe: parallele Umfrage
Dokumentsprache: D

STD Version 2.9d

Documents
Document Sharing Hub

Full document details: E DIN EN ISO 18451-1:2018-04

Europäisches Vorwort

Dieses Dokument (prEN ISO 18451-1:2018) wurde vom Technischen Komitee ISO/TC 256 „Pigments, dyestuffs and extenders“ in Zusammenarbeit mit dem Technischen Komitee CEN/TC 298 „Pigmente und Füllstoffe“ erarbeitet, dessen Sekretariat von DIN gehalten wird.

Dieses Dokument ist derzeit zur parallelen Umfrage vorgelegt.

Dieses Dokument wird EN ISO 18451-1:2017 ersetzen.

Anerkennungsnotiz

Der Text von ISO/DIS 18451-1:2018 wurde von CEN als prEN ISO 18451-1:2018 ohne irgendeine Abänderung genehmigt.

Documents
Document Sharing Hub

Full document details: E DIN EN ISO 18451-1:2018-04

Contents

Page

Foreword iv
1 Scope 1
2 Terms and definitions 1
Annex A (informative) Alphabetical index 20
Bibliography 26
1 Anwendungsbereich 30
2 Begriffe 30
Annex B (informativ) Alphabetisches Stichwortverzeichnis 51
Literaturhinweise 56

© ISO 2018 – All rights reserved

Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 256, *Pigments, dyestuffs and extenders*.

This second edition cancels and replaces the first edition (ISO 18451-1:2015), which has been technically revised.

The main changes compared to the previous edition are as follows:

— the definitions for full shade (3.41) and mass tone (3.69) have been interchanged to align them with the practical use and with definitions in other standards, e. g. ISO 787-25;

— a note has been added to definitions 2.34 (extender) and 2.81 (nanoextender) concerning the use of the term “filler” as synonym for “extender” in some industries, e. g. rubber and paints;

— “may” has been changed to “can” in several notes;

— the text has been editorially revised.

A list of all parts in the ISO 18451 series can be found on the ISO website.

© ISO 2018 – All rights reserved
AVA Documents Document Sharing Hub

Full document details: E DIN EN ISO 18451-1:2018-04

Pigments,dyestuffs and extenders — Terminology — Part 1: General terms

1 Scope

This part of ISO 18451 defines terms that are used in the field of pigments, dyestuffs and extenders.

For some terms, reference is made to ISO 4618 in which also terms and definitions for colourants are given, relating to their use in coating materials.

In addition to terms in English and French (two of the three official ISO languages), this part of ISO 18451 gives the equivalent terms in German; these are published under the responsibility of the member body for Germany (DIN). However, only the terms and definitions given in the official languages can be considered as ISO terms and definitions.

NOTE Those terms that are defined elsewhere in this part of ISO 18451 are shown in italics.

2 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

2.1
abrasiveness
property of *pigments* (2.95) or *extenders* (2.34) and their preparations to cause wear at the used apparatus by mechanical action

2.2
aluminium pigment
pigment (2.95) consisting essentially of finely divided pure aluminium Al 99,5

Note 1 to entry: The aluminium particles have lamellar form.

2.3
apparent density after tamping
ratio of mass to volume of a powder after compressing (e.g. by tamping or vibration) under specified conditions

2.4
barite
naturally occurring barium sulfate, $BaSO_4$

© ISO 2018 – All rights reserved

Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

2.5
binder demand
amount of a binder or binder solution that is required to obtain, under specified dispersion conditions, a mass of defined rheology

2.6
bismuth vanadate pigment
yellow inorganic *pigment* (2.95) consisting of bismuth vanadate with or without isomorphous inclusion of bismuth molybdate

2.7
blanc fixe
barium sulphate
synthetic barium sulphate, produced by a precipitation process

Note 1 to entry: Naturally occurring barium sulfate is called *barite* (2.4).

2.8
bleeding
migration (2.76) of a *colourant* (2.19) from a material into another material being in contact with it

2.9
blooming
migration (2.76) of a *colourant* (2.19) to the surface of the coloured material

2.10
cadmium pigment
inorganic coloured pigment consisting essentially of cadmium zinc sulphide (yellow pigments) or of mixed crystals of cadmium sulphide and cadmium selenide (red pigments)

2.11
calcined clay
calcined aluminium silicate
aluminium silicate ($Al_2O_3 \cdot 2SiO_2$), lamellar, mainly amorphous in structure as determined by X-ray diffraction, produced from natural clay by thermal dehydration, consisting partly of cristalline mullite $3(Al_2O_3 \cdot 2SiO_2)$

2.12 Calcite terms

2.12.1
calcite
crystalline calcium carbonate
<mineralogy> calcium carbonate of trigonal crystal structure

2.12.2
calcite
crystalline calcium carbonate
<pigments> designation for *extenders* (2.34) produced from calcareous spar of marble or for precipitated calcitic calcium carbonates

2.13
carbon black
pigment (2.95) synthetically produced by thermally oxidative cracking of aromatic oils and gases

© ISO 2018 – All rights reserved
Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

Note 1 to entry: It is distinguished between carbon black and industrial carbon black.

2.14
ceramic decoration colour
preparation consisting of coloured or colourless glass powder and inorganic *pigments* (2.95) for coating of ceramics or glass by melting at temperatures above 450 °C

2.15
chalking
appearance of a loosely adherent fine *powder* (2.97) on the surface of a film or pigmented plastic arising from the degradation of the binder

2.16
chroma
difference of a *colour* (2.20) from an achromatic colour of the same lightness

2.17
chromium oxide pigment
inorganic coloured pigment consisting essentially of chromium (III) oxide (Cr_2O_3) in the form of a dry powder

2.18
CIC-pigment
coloured inorganic complex pigment
coloured pigment, rutile or spinell based, produced by replacement of titanium in the rutile lattice or aluminium or magnesium in the spinel lattice through other atoms

Note 1 to entry: Such pigments are incorrectly named mixed phase pigments.

2.19
colourant
generic term for all colouring substances

Note 1 to entry: Colourants comprise *pigments* (2.95) which are insoluble in the medium as well as *dyestuffs* (2.30) which are soluble in the medium.

Note 2 to entry: A colourant can contain the pure chemical substance and/or a surface treatment and/or additives.

Note 3 to entry: A colourant can also contain traces of impurities, which can originate from raw materials and/or the production processes.

Note 4 to entry: In order to improve application properties, a colourant can contain additives.

2.20
colour
sensation resulting from the visual perception of electromagnetic radiation of a given spectral composition

Note 1 to entry: The use of the German word “Farbe” alone, i.e. not in combinations of words, for coating materials is to be rejected.

Note 2 to entry: A colour is characterized by *hue* (2.49), *saturation* (2.105) or *chroma* (2.16), and *lightness* (2.65).

Note 3 to entry: It is distinguished between chromatic and achromatic colours.

© ISO 2018 – All rights reserved

Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

2.21
colour difference
differences in *lightness* (2.65), *chroma* (2.16) and *hue* (2.49)

Note 1 to entry: Colour differences, for example, occur between different specimens, between the same specimens but of different history and within a specimen inhomogeneous with regard to colour.

2.22
colour strength equivalent
reciprocal of the *relative tinting strength* (2.104) of a *pigment* (2.95)

Note 1 to entry: It indicates how many parts of a sample are colouristically equivalent to 100 parts of a reference sample. In other words, the colour strength equivalent of a weaker *pigment* (2.95) is greater than 100.

2.23 Compound terms

2.23.1
compound
<pigments> mixture of *pigments* (2.95) and/or *extenders* (2.34), ready for use

2.23.2
compound
<plastics> moulding material, ready for use, containing all the *colourants* (2.19), *extenders* (2.34) and additives

2.24
core pigment
pigment (2.95) the mostly inorganic core of which is enveloped with one or more (mostly inorganic) substances so that its optical properties are hardly effected by the material of the shell but its application properties are improved

2.25
corrosion-inhibiting pigment
anticorrosive pigment
pigment (2.95) that inhibits or avoids, in priming coats on metals, the corrosion of the metal surface, normally by chemical or physicochemical action

2.26
depth of shade
measure for the intensity of a colour perception that increases with increasing *chroma* (2.16) and decreases with increasing *lightness* (2.65)

Note 1 to entry: Colourations having the same depth of shade appear to be prepared using the same concentrations of colourants having the same *tinting strength* (2.121).

2.27
dispersibility
property of a *pigment* (2.95) or *extender* (2.34) characterized by its ability to be wetted, separated and distributed in a medium

Note 1 to entry: The dispersibility depends on its wettability and on the number and strength of the adhering areas between the components of the *agglomerates* (2.93.3).

© ISO 2018 – All rights reserved
Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

Note 2 to entry: As a measure of the dispersibility under specified dispersion conditions, e.g. the speed of the *tinting strength* (2.121) development and/or the decrease of the *fineness of grind* (2.37) can be taken.

2.28
dispersing
separation of the *agglomerates* (2.93.3) of the *pigment* (2.95) or *extender* (2.34) powder into smaller particles [*agglomerates* (2.93.3), *aggregates* (2.93.2) and *primary particles* (2.93.1)] and their wetting by the medium at the same time

Note 1 to entry: Occasionally, separation of *aggregates* (2.93.2) and breaking, for example, of needle-shaped *primary particles* (2.93.1) also takes place. Furthermore, a statistically uniform distribution of the *particles* (2.93) formed in this way to all volume elements of the medium is a part of the dispersing process.

2.29
dolomite
natural calcium magnesium carbonate containing between 1,18 and 1,23 parts by mass of $CaCO_3$ to 1 part by mass of $MgCO_3$

2.30
dyestuff
colourant (2.19), soluble in the application medium

Note 1 to entry: *Colourants* (2.19) for glass, ceramics and vitreous enamel that are dissolved in the glass phase are also called “Lösungsfarben” in German language. In these cases, oxides of transition elements are used.

Note 2 to entry: In German usage, in the pharmaceutical and foodstuffs fields, the term “Farbstoff” is used as a synonym for “colourant”.

2.31
earth pigment
pigment (2.95) produced from earths, e.g. by classification, if necessary with additional thermal treatment

2.32
effect pigment
platelet-like *pigment* (2.95) that confers not only *colour* (2.20) but additional properties such as iridescence (interference at thin layers), angle dependency of colour (colour travel, colour flop, light-dark flop), or texture

Note 1 to entry: See also *metal effect pigment* (2.72), *nacreous pigment* (2.78), *interference pigment* (2.51).

2.33
electro chromic pigment
pigment (2.95) which changes its *colour* (2.20) depending on the electric current or the voltage

2.34
extender
substance in granular or powder form, insoluble in the medium and used to modify or influence certain physical properties

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

© ISO 2018 – All rights reserved

Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

Note 2 to entry: Whether a given substance is to be considered as *pigment* (2.95) or extender depends on its application.

Note 3 to entry: In some industries, e.g. rubber industries, “extender” is also called “filler” (see ISO 1382). In coatings industries, the term “extender” is preferred, because in ISO 4618, "filler" is defined as “coating material with a high proportion of extender, intended primarily to even out irregularities in substrates to be painted and to improve surface appearance”.

2.35
fastness
stability of the *colour* (2.20)

Note 1 to entry: For characterization of the respective stress, the term fastness, e.g. of a coating, is used in word combinations such as light fastness, acid fastness, solvent fastness. The acid fastness, for example, of a coating is the stability of the *colour* (2.20) of the coating under the influence of acids.

2.36
final level of dispersion
level of dispersion (2.62) when it has become constant under the defined conditions

Note 1 to entry: The final level of dispersion of a *pigment* (2.95) depends on the binder system in which it is dispersed, on the dispersion process and on the composition of the milling base.

2.37
fineness of grind
measure for the largest solid particles in a liquid matrix

Note 1 to entry: The term fineness of grind is not to be confused with the term grain hardness.

2.38
floating
separation of one or more *pigments* (2.95) from a coloured coating material, casing streaks or areas on the surface of the coating material

2.39
flooding
separation of the *pigments* (2.95) in a liquid coating giving rise to a *colour* (2.20) which, although uniform over the whole surface, is markedly different from that of the freshly applied wet film before drying/hardening

Note 1 to entry: See *leafing* (2.61).

2.40
food dyestuff
substance that gives *colour* (2.20) to a foodstuff or restores the colour of a foodstuff

2.41
full shade
colour (2.20) of a *mass tone system* (2.70) in optically infinite (hiding) layer

2.42
functional extender
extender (2.34), when applied in the application medium, processes or enhances specific functions due to its physical or chemical properties

© ISO 2018 – All rights reserved
Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

Note 1 to entry: Examples for physical properties are: elasticity, durability, hardness, anti-fatigue.

2.43
functional pigment
pigment (2.95), when applied in the application medium, possesses specific functions due to its unique physical or chemical properties rather than only colouring

Note 1 to entry: Examples for specific functions are: UV absorption, electric properties such as conductivity, anti-corrosion properties, photocatalytical properties, function as barrier pigment, infrared absorption or infrared reflection.

2.44
goniochromatic pigment
effect pigment (2.32) showing an angle-depending colour change between different interference colours

2.45
heat stability
resistance to a heat treatment of the *colour* (2.20) of the test specimens under specified conditions of test

2.46
heavy-metal containing pigment
pigment (2.95) containing heavy metal(s) as constituent

Note 1 to entry: Heavy metals are all metals having a density greater than 4,5 g/cm^3.

2.47
hiding power
ability of material, containing *colourants* (2.19), to obliterate the *colour* (2.20) or *colour differences* (2.21) of the *substrate* (2.114)

Note 1 to entry: The use of the German expressions “Deckkraft” und “Deckfähigkeit” should be avoided.

[SOURCE: ISO 4618:2014, 2.138, modified — Note 2 deleted]

2.48
hiding power value
numerical value of the *hiding power* (2.47), as determined using a defined method

2.49
hue
type of *chroma* (2.16) of a *colour* (2.20)

Note 1 to entry: The hue is designated in daily life by words such as red, yellow, green, blue, violet, etc.

2.50
inclusion pigment
pigment (2.95), the colouring component of which is included in a coat of high thermal and chemical resistance

Note 1 to entry: The coat renders it possible that the colouring component can be used at much higher temperatures. Furthermore, the resistance, e.g. to acids and alkalies, will be improved essentially.

© ISO 2018 – All rights reserved

AVA Documents Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

2.51
interference pigment
pearlescent pigment
effect pigment (2.32), the effect of which is based completely or predominantly on the phenomenon of interference, e.g. *pearlescent pigment*, fire-coloured metal bronze

Note 1 to entry: Interference pigments can be coated with one or more layers.

2.52
intrinsic hardness
hardness of the primary particle of a *pigment* (2.95) or *extender* (2.34) as a property of the material

Note 1 to entry: Only indirect conclusions to the practically effective intrinsic hardness can be made, for example, from abrasion tests.

Note 2 to entry: In the case of inorganic pigments, the Mohs hardness is often given as a reference value for the intrinsic hardness.

2.53
iron blue pigment
pigment (2.95) formed by the reaction of iron salts with cyanoferrate(II) or cyanoferrate(III) ions and followed, if necessary, by treatment with oxidizing agents

2.54
iron oxide pigment
pigment (2.95) consisting of natural or synthetic iron oxides, if necessary with additions of extenders

2.55
kaolinite
main constituent of *natural clay* (2.88)

2.56
lake
pigment (2.95) produced by precipitation of a dissolved organic *dyestuff* (2.30) with a precipitating agent

Note 1 to entry: Lake is not “Lack” as commonly used in German language but a *colourant* (2.19). In Austrian and Swiss usage, the German expression “Farblack” is not usual.

2.57 Lake pigment terms

2.57.1
lake pigment
<type 1> *pigment* (2.95) produced by precipitation of a sulphone or carbonic acid-containing azo dyestuff with one or more suitable metal salts

Note 1 to entry: Lake pigments predominantly contain metal cation magnesium, calcium, strontium, barium, aluminium or manganese.

2.57.2
lake pigment
<type 2> *pigment* (2.95) produced by precipitation of a basic *dyestuff* (2.30) with heteropoly acids

© ISO 2018 – All rights reserved
Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

2.58
lead chromate pigment
yellow, orange or red *pigment* (2.95) consisting of lead chromate with or without lead sulphate and/or lead molybdate

Note 1 to entry: Designations in common use for lead chromate pigments are, for example, chrome yellow, molybdate orange and molybdate red.

2.59
lead chrome green pigment
inorganic *pigment* (2.95) produced from *lead chromate pigments* (2.58) and *iron blue pigments* (2.53) without additions of *extenders* (2.34) and other *colourants* (2.19)

2.60
lead chrome/phthalocyanine pigment
pigment (2.95) produced from *lead chromate pigments* (2.58) and phthalocyanine blue pigments without additions of other *colourants* (2.19)

2.61
leafing
flooding (2.39) of specially treated *effect pigments* (2.32) to the surface of a coating material shortly after application

2.62
level of dispersion
extent to which *pigment* (2.95) particles have been separated, distributed and stabilized by milling in a binder system under defined conditions

2.63
light fastness
resistance to colour changes due to exposure to light, without direct atmospheric effects (therefore, not "weather resistance")

Note 1 to entry: Light fastness commonly is evaluated by visual assessment using standard reference colour standards (or by instrumental assessment).

2.64
lightening power
ability of a *pigment* (2.95) to increase the *lightness* (2.65) of a coloured, grey or black medium

2.65
lightness
intensity of a light perception as it is inseparable connected with each colour perception

Note 1 to entry: Definition aligned to CIELAB.

2.66
lithopone™
white pigment obtained by combined precipitation of zinc sulphide (ZnS) and barium sulphate ($BaSO_4$)

2.67
luminance factor
measure of the *lightness* (2.65) of *surface colours* (2.115)

© ISO 2018 – All rights reserved

Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

Note 1 to entry: Generally, this luminance factor is 100 times the reflectance factor R_v. Depending on the object and the measuring geometry 100 times the reflectance, ρ, or the transmittance factor, T, can be taken as the luminance factor. The luminance factor is connected with the tristimulus values by the luminance coefficients.

2.68
luminous pigment
pigment (2.95) that absorbs radiation and emits light (of higher wavelength)

Note 1 to entry: This effect is called luminescence.

Note 2 to entry: The optical effect is based on its ability to absorb radiation and to emit light of higher wavelength with temporal delay (phosphorescence) or without temporal delay (fluorescence).

2.69
mass tone
colour (2.20) of a *mass tone system* (2.70) in a non-hiding layer

2.70
mass tone system
pigmented system, containing one *pigment* (2.95) only

2.71
masterbatch
preparation which, in a solid polymer carrier, contains substances [*colourants* (2.19), *extenders* (2.34), additives] in much higher concentration than in the moulded component or semi-finished product to be produced using this preparation

Note 1 to entry: The substances are present either completely dispersed or dissolved.

2.72
metal effect pigment
platelet-like *pigment* (2.95) consisting of metal

Note 1 to entry: Metal effect pigments can be orientated in parallel and show then metallic gloss due to light reflection at the flakes.

2.73
metal pigment
pigment (2.95) consisting of metals or metal alloys

EXAMPLE Zinc dust pigment.

2.74
mica
alkali-containing hydrated aluminium silicates in lamellar form

EXAMPLE Muscovite, biotite and phlogopite.

Note 1 to entry: Not to be confused with *micaceous iron oxide* (2.75).

2.75
micaceous iron oxide
refined mineral or synthetic product consisting essentially of iron (III) oxide (Fe_2O_3)

Note 1 to entry: Micaceous iron oxide has lamellar form and is grey in *colour* (2.20) with metallic gloss.

© ISO 2018 – All rights reserved
Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

2.76
migration
transfer of a *colourant* (2.19) from a medium coloured with it to the surface [*blooming* (2.9)] or into another medium [*bleeding* (2.8)]

2.77
muscovite
natural lamellar hydrated potassium aluminium silicate

Note 1 to entry: Muscovite can be used as raw material for *effect pigments* (2.32).

2.78
nacreous pigment
gloss *pigment* (2.95) consisting of transparent flakes with high refractive index

Note 1 to entry: Nacreous pigments can be orientated in parallel and show then nacreous lustre as characterized by multiple reflection. Nacreous pigments that also show interference colours are also called pearl pigment or *interference pigment* (2.51).

2.79
nanodispersion
material in which *nano-objects* (2.82) are dispersed in a continuous phase of a different composition

Note 1 to entry: Nanodispersions comprise *nanosuspensions* (2.86) and *nanoemulsions* (2.80).

Note 2 to entry: Gaseous matrices are excluded (solid and liquid drops in gases are “aerosols”).

[SOURCE: ISO 4618:2014, 2.165]

2.80
nanoemulsion
nanodispersion (2.79) with a liquid matrix and at least one or more liquid *nano-objects* (2.82)

[SOURCE: ISO 4618:2014, 2.166]

2.81
nanoextender
extender (2.34) made of *nano-objects* (2.82)

[SOURCE: ISO 4618:2014, 2.167]

Note 1 to entry: In some industries, e.g. rubber industries, “nanoextender” is also called “nanofiller”. In coatings industries, the term “nanoextender” is preferred because in ISO 4618, filler is defined as “coating material with a high proportion of extender, intended primarily to even out irregularities in substrates to be painted and to improve surface appearance”.

2.82
nano-object
material with one, two or three external dimensions in the *nanoscale* (2.85)

Note 1 to entry: This is a generic term for all discrete objects in the *nanoscale* (2.85).

[SOURCE: ISO 4618:2014, 2.169]

© ISO 2018 – All rights reserved

Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

2.83
nanopigment
pigment (2.95), made of *nano-objects* (2.82)

[SOURCE: ISO 4618:2014, 2.170]

2.84
nanopowder
particulate material only composed of *nano-objects* (2.82)

Note 1 to entry: Nanopowder can include *agglomerates* (2.93.3) and/or *aggregates* (2.93.2) in the *nanoscale* (2.85) (largest dimension ≤100 nm).

2.85
nanoscale
size range from approximately 1 nm to 100 nm

[SOURCE: ISO 4618:2014, 2.171]

2.86
nanosuspension
heterogeneous mixture of materials comprising a liquid and finely dispersed solid *nano-objects* (2.82)

Note 1 to entry: As examples, nanosuspension can apply to either suspensions of *nanopigments* (2.83) or *nanoextenders* (2.81) (minerals), or to polymeric nanosuspensions.

[SOURCE: ISO 4618:2014, 2.173]

2.87
natural calcium carbonate
calcium carbonate
calcium carbonate produced by beneficiation of geological deposits of chalk, calcareous spar or marble

2.88
natural clay
clay
natural hydrated aluminium silicate
natural occurring hydrated aluminium silicates with lamellar crystal structure, predominantly consisting of kaolinite of chemical composition $Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O$ | $Al_4((OH)_8/Si_4O_{10})$

Note 1 to entry: In common use, natural clay is also called china clay.

2.89
natural silica
natural ground quartz
ground *quartz* (2.100) consisting of the low-temperature modification of quartz with a theoretical density 2,65 g/cm³

Note 1 to entry: Particularly fine ground natural quartz is called quartz powder.

© ISO 2018 – All rights reserved
Documents Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04

2.90
near-infrared reflecting pigment
NIR reflecting pigment
pigment scattering near-infrared radiation in the wavelength range above the visible range up to 2 500 nm

Note 1 to entry: This spectral range comprises the non-visible part of the solar radiation (except UV).

Note 2 to entry: The term "IR-reflective" is mistakable and should be avoided because it also includes the mid infrared or "thermal" infrared. Many technical pigments, which are designed to be solar reflective, reflect near infrared but absorb mid infrared. The absorption of mid infrared is important for the emission of heat resulting from the incomplete reflection of solar radiation in the near infrared.

2.91
non leafing
enrichment of *effect pigments* (2.32) on the lower level of a freshly applied base coat

2.92
oil absorption value
quantity of refined linseed oil that is absorbed under defined conditions by a sample of *pigment* (2.95) or *extender* (2.34)

Note 1 to entry: The oil absorption value can be expressed either on a volume/mass basis or on a mass/mass basis.

2.93
particle
distinguishable *pigment* (2.95) or *extender* (2.34) unit, which can have any structure

Note 1 to entry: Differentiations between the terms specified in 2.93.1 to 2.93.3 cannot always be formulated with a desired clarity in practice; often there are no clear distinctions. In Figures 1 to 3, the terms specified under 2.93.1 to 2.93.3 are being defined with the example of rectangular, spherical, rod-shaped, and irregularly shaped particles in a highly schematized way.

2.93.1
primary particle
single particle
by means of appropriate physical procedures (e.g. by means of light microscope, electron microscope) recognizably as individual detectable particle

Note 1 to entry: See Figure 1.

© ISO 2018 – All rights reserved

Documents
Document Sharing Hub
Full document details: E DIN EN ISO 18451-1:2018-04