

INTERNATIONAL STANDARD

ISO
4618

Third edition
2023-02

Paints and varnishes — Vocabulary

Peintures et vernis — Vocabulaire

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Reference number
ISO 4618:2023(E)

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Published in Switzerland

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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).

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For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 139, *Paints and varnishes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 4618:2014), which has been technically revised.

The main changes are as follows:

- the title has been changed from “Terms and definitions” to “Vocabulary”;
- the following terms have been added: brush marks, catalyst, clouding, cold checking, conventional spraying, crater, creeping, dirt-resistant paint, distinctness of image, DOI, drawdown blade, dry spray, film applicator, flocculate, nanocomposite coating, nanoparticle, particle, pigment-binder ratio, primary particle, semi-volatile organic compound, semi-volatile organic compound content, SVOC, SVOC content, SVOC;
- the following terms have been deleted: after tack, brush-drag, bubbling, cratering, cutting-in, dilatant flow behaviour, flash point, flocculation, flow properties, graining, marbling, pseudoplastic flow behaviour, rheopexy, rheoplectic behaviour, rust back, shear-thickening flow behaviour, shear-thinning behaviour, sheen, tack-free, thixotropic behaviour, thixotropy, UV-curing, viscoelasticity, viscosity, yield point, yield stress, yield value;
- many definitions have been amended;
- the text has been editorially revised and the bibliography and scope have been updated.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Paints and varnishes — Vocabulary

1 Scope

This document defines terms used in the field of coating materials (paints, varnishes and raw materials for paints and varnishes).

Terms relating to specific applications and properties are dealt with in standards concerning those applications and properties, including corrosion protection (see the ISO 12944 series), coating powders (see ISO 8130-14), electro-deposition coatings (see ISO 22553-1) and rheology (see ISO 3219-1).

Terms on nanotechnologies are harmonized with the ISO 80004 series.

Terms on pigments and extenders are harmonized with ISO 18451-1.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

abrasion

<testing of coatings> process of removing matter or deformation of a surface by friction as a result of rubbing

3.2

abrasion

<surface preparation> process of removing matter in the surface as a result of friction or impact

3.3

accelerator

additive (3.6) to increase the speed of chemical reactions

3.4

acid value

mass in milligrams of potassium hydroxide (KOH) required to neutralize 1 g of a sample under specified test conditions

3.5

acrylic resin

synthetic resin (3.249) resulting from the polymerization or copolymerization of acrylic and/or methacrylic monomers, frequently together with other monomers

**3.6
additive**

substance, which, when added in small quantities to a *coating material* (3.48), improves or modifies one or more properties

Note 1 to entry: A surfactant or surface-active agent is an additive that has the fundamental property of reducing the interfacial tension between a solid and liquid or a liquid and air.

**3.7
adhesion**

phenomenon of attachment at the interface between a solid surface and another material caused by molecular forces

Note 1 to entry: Adhesion should not be confused with *cohesion* (3.52).

**3.8
adhesive strength**

force required to detach a *coating* (3.46) from a *substrate* (3.245) or another coating

**3.9
aerosol**

solid or liquid particles in *dispersion* (3.83) in a gaseous medium

**3.10
ageing**

change of one or more initial properties of a *coating* (3.46) during the passage of time

**3.11
alkyd resin**

synthetic resin (3.249) resulting from the polycondensation of fatty acids (or oils) and carbonic acids with polyols

**3.12
amino resin**

synthetic resin (3.249) resulting from the condensation of urea or melamine or derivatives such as benzo-guanamine with formaldehyde

Note 1 to entry: These *resins* (3.211) are often etherified with alcohols.

**3.13
anti-blocking agent**

additive (3.6) that usually rises to the surface during the *drying* (3.88) process and thus prevents *blocking* (3.27)

**3.14
anti-foaming agent**

additive (3.6) that prevents foaming or reduces the foaming tendency of a *coating material* (3.48)

Note 1 to entry: See also *defoaming agent* (3.74).

**3.15
anti-fouling paint**

coating material (3.48) applied on a structure to prevent the accumulation of fouling or biological growth

**3.16
anti-settling agent**

additive (3.6) that prevents or retards the *settling* (3.229) of *pigments* (3.193) and/or *extenders* (3.104) during storage of a *coating material* (3.48)

3.17**anti-skinning agent**

additive (3.6) that prevents or retards *skinning* (3.236) caused by oxidation during storage

3.18**apparent density**

ratio between the mass and the volume of a non-tamped powder

Note 1 to entry: See also *bulk density* (3.35) and *tamped density* (3.251).

3.19**appearance**

visual characteristics of a surface

Note 1 to entry: Appearance is not a single measure or a general property of a material. It is not characterized by a single parameter but a combination of *colour* (3.55), *gloss* (3.132), *distinctness of image* (3.85), *haze* (3.136), surface structure, *texture* (3.254), *orange peel* (3.178), etc.

Note 2 to entry: The word appearance has no special paint related meaning but is included here for clarification for non-English speakers.

3.20**application rate**

quantity of a *coating material* (3.48) that is required to produce, under defined working conditions, a dry *film* (3.111) or *coat* (3.45) of given thickness on unit area

3.21**barrier coating material**

coating material (3.48) used to isolate a *coating system* (3.51) from the *substrate* (3.245) to which it is applied, in order to prevent chemical or physical interaction

Note 1 to entry: A barrier coating material e.g. prevents *bleeding* (3.25) or migration from an underlying *coat* (3.45) or substrate.

Note 2 to entry: The German term "Isoliermittel" which is still currently used should be avoided, in order to prevent confusion with heat- and sound-deadening materials as well as with electrical insulators.

3.22**binder**

non-volatile part of a *medium* (3.153)

Note 1 to entry: The main purpose of the binder is to build-up a network around the coating components.

3.23**biocide**

additive (3.6) added to a *coating material* (3.48) to prevent organisms responsible for microbiological degradation from attacking a *substrate* (3.245), a coating material or a *film* (3.111) thereof

3.24**blast-cleaning**

impingement of a kinetic-energy stream of an abrasive on the surface to be prepared

3.25**bleeding, verb**

migration of a coloured substance from a material into another material in contact with it, which can produce an undesirable staining or discoloration

Note 1 to entry: The substance can be a constituent of the *coating* (3.46) or of the *substrate* (3.245) to which the coating is applied.

3.26**blister**

convex deformation in a coating, arising from local detachment of one or more of the constituent coats

3.27

blocking

unwanted *adhesion* (3.7) between two surfaces, at least one of which has been coated, when they are left in contact under load after a given *drying* (3.88) period

3.28

blooming

migration of a substance to form a deposit on the *coating* (3.46) surface

Note 1 to entry: Blooming can occur when the amount of condensate causes soluble compounds to migrate from the body of the coating to the coating surface.

Note 2 to entry: The substance can be a constituent of the coating or of the *substrate* (3.245) to which the coating is applied.

3.29

blushing, noun

optical property of a transparent or translucent *film* (3.111) that gives a milky *appearance* (3.19) or tint, with iridescent reflections reminiscent of opal

Note 1 to entry: Blushing can be caused by the deposition of moisture from the air and/or precipitation of one or more of the solid constituents of the lacquer.

3.30

brightness

combination of the lightness and *colour* (3.55) intensity of a material

Note 1 to entry: Lightness is most commonly expressed numerically by the tristimulus value Y.

3.31

brittleness

condition whereby a *film* (3.111) or *coat* (3.45) has such poor *flexibility* (3.122) that it disintegrates easily into small fragments

3.32

bronzing

intentional change in the *colour* (3.55) of the surface of an object by coating, giving the *appearance* (3.19) of aged bronze

Note 1 to entry: An unintentional colour change is left out in the definition, as it is no longer applicable for actual *pigments* (3.193).

3.33

brush marks

ridges remaining in a dry *coat* (3.45) after brush application

3.34

bubble

closed or open spherical cavity in a coating, often caused by evaporating *solvents* (3.237)

3.35

bulk density

ratio of mass to volume of a powder when poured gently under specified conditions

Note 1 to entry: The value of the bulk density depends to a large extent on the method of measurement used and the manner in which it is carried out.

Note 2 to entry: See also *tamped density* (3.251).

3.36

burning off

process in which the *coating* (3.46) is changed by heat and then removed

3.37**catalyst**

substance that promotes the chemical *curing* (3.71) of a *coating* (3.46)

3.38**chalking**

surface change in the form of a loosely adherent powder which appears with degradation of a *coating* (3.46)

3.39**checking**

form of fine cracks which do not penetrate to the *substrate* (3.245) distributed over the surface of a dry *film* (3.111) or *coat* (3.45) in a more or less regular pattern

Note 1 to entry: An example of checking is shown in [Figure 1](#).



Figure 1 — Checking

3.40**chemical pretreatment**

chemical process applied to a surface prior to the application of a *coating material* (3.48)

Note 1 to entry: See *phosphating* (3.191).

3.41**chipping**

removal, in flakes, of a *coating* (3.46) or rust or *mill scale* (3.156) by use of hand or power tools

3.42**chlorinated rubber**

polymeric material resulting from the action of chlorine on natural and/or synthetic rubber

3.43**cissing**

appearance (3.19) in a *coating* (3.46) of areas of non-uniform thickness which vary in extent and distribution

3.44**coalescing agent**

additive (3.6) added to a *coating material* (3.48) based on a *polymer dispersion* (3.200) to facilitate *film formation* (3.112)

3.45

coat

continuous layer of a *coating material* (3.48) resulting from a single application

Note 1 to entry: In some industries the word coat is used interchangeably with *film* (3.111).

3.46

coating

layer formed from a single or multiple *coats* (3.45) of one specific *coating material* (3.48) to a *substrate* (3.245)

3.47

coating

process of applying a coat

3.48

coating material

DEPRECATED: coating

product, in liquid, paste or powder form, that, when applied to a *substrate* (3.245), forms a layer possessing protective, decorative and/or other specific properties

3.49

coating powder

coating material (3.48) in powder form which, after fusing and possibly *curing* (3.71), gives a continuous coat (3.45)

3.50

coating process

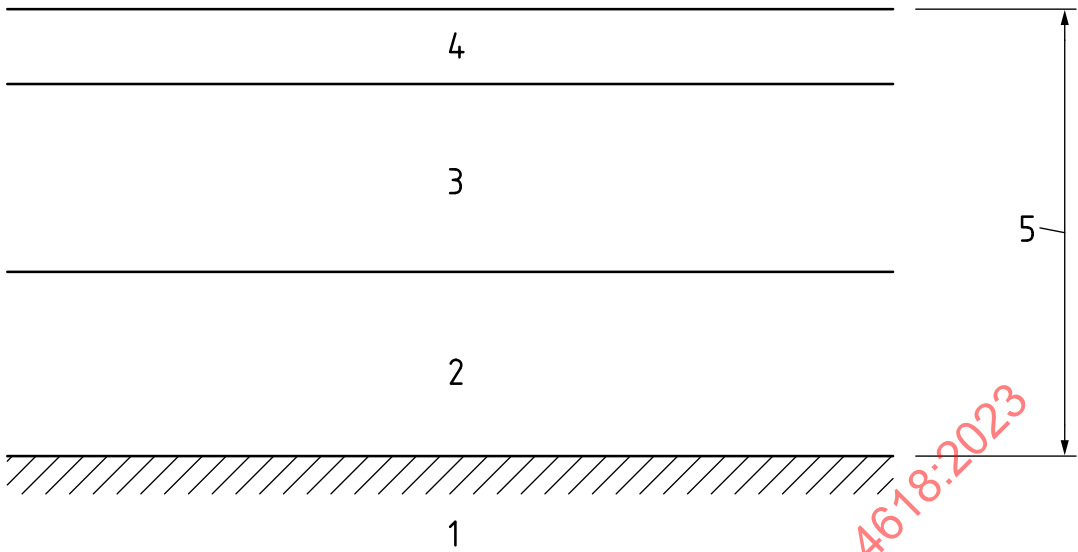
application of a *coating material* (3.48) to a *substrate* (3.245)

3.51

coating system

layer combined of all coats of the same or multiple *coating materials* (3.48)

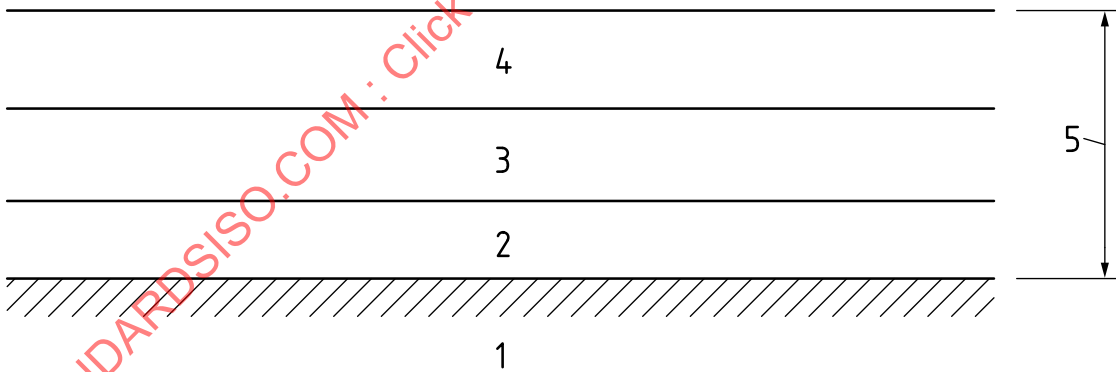
Note 1 to entry: Examples of multiple coating systems are shown in [Figure 2](#) and [Figure 3](#).



- Key**
- 1 substrate
 - 2 coating A
 - 3 coating B
 - 4 coating C
 - 5 coating system

NOTE The coating system in this example consists of coating A + coating B + coating C.

Figure 2 — Example of a coating system consisting of different coating materials



- Key**
- 1 substrate
 - 2 coat A
 - 3 coat A
 - 4 coat A
 - 5 coating system A

NOTE The coating system in this example consists of three coats of coating material A.

Figure 3 — Example of a coating system with coats of the same coating material

3.52

cohesion

internal forces that hold molecules together in a *film* (3.111) or *coat* (3.45)

Note 1 to entry: Cohesion should not be confused with *adhesion* (3.7).

3.53

coil coating

coating process (3.50) whereby the *coating material* (3.48) is applied continuously to a coil of metal which may be rewound after the *film* (3.111) has been dried

3.54

cold cracking

cold checking

formation of cracks or checks in a *film* (3.111) resulting from exposure to low temperatures

3.55

colour

sensation resulting from the visual perception of light of a given spectral composition by the human eye

Note 1 to entry: The use of the German word “Farbe” alone, i.e. not in combinations of words, for *coating materials* (3.48) is deprecated.

Note 2 to entry: A colour is characterized by hue, saturation or chroma, and lightness.

3.56

colour retention

degree of permanence of a *colour* (3.55)

Note 1 to entry: Colour retention can be influenced by weathering.

3.57

colouring material

colourant

substance that confers *colour* (3.55) to other materials

Note 1 to entry: Colouring materials comprise *pigments* (3.193) that are insoluble in the application medium as well as *dyes* (3.92) that are soluble in the application medium.

3.58

compatibility

<of materials> ability of two or more materials to be mixed together without causing undesirable effects

3.59

compatibility

<of a *coating material* (3.48) with the *substrate* (3.245)> ability of a coating material to be applied to a substrate without causing undesirable effects

3.60

consistency

body

subjectively assessed flow behaviour of a *coating material* (3.48) when applying a shear force

3.61

contrast ratio

ratio of the reflectance of a *coating material* (3.48) applied under specified conditions over a black surface to the reflectance of the same thickness of this *coating material* (3.48) applied over a white surface

3.62**corrosion**

physicochemical interaction between a metallic material and its environment that results in changes in the properties of the metal, and that may lead to significant impairment of the function of the metal, the environment or the technical system, of which these form a part

Note 1 to entry: This interaction is often of an electrochemical nature.

[SOURCE: ISO 8044:2020, 3.1]

3.63**cracking**

rupturing of a dry *film* (3.111), *coat* (3.45) or *coating system* (3.51)

Note 1 to entry: The English term “cracking” is also used for a specific form of cracking illustrated in [Figure 4](#).

Note 2 to entry: *Crocodiling* (3.69) and *crow's foot cracking* (3.70) are examples of forms of cracking.

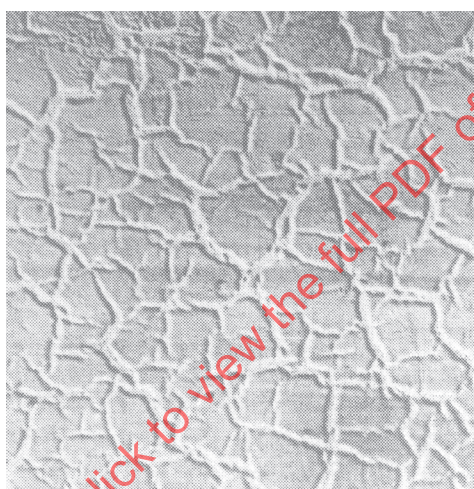


Figure 4 — Cracking

3.64**crater**

small depression in a *film* (3.111) or *coat* (3.45) that persist after *drying* (3.88)

Note 1 to entry: Examples of craters are shown in [Figure 5](#). Some pinholes are also shown in [Figure 5](#).

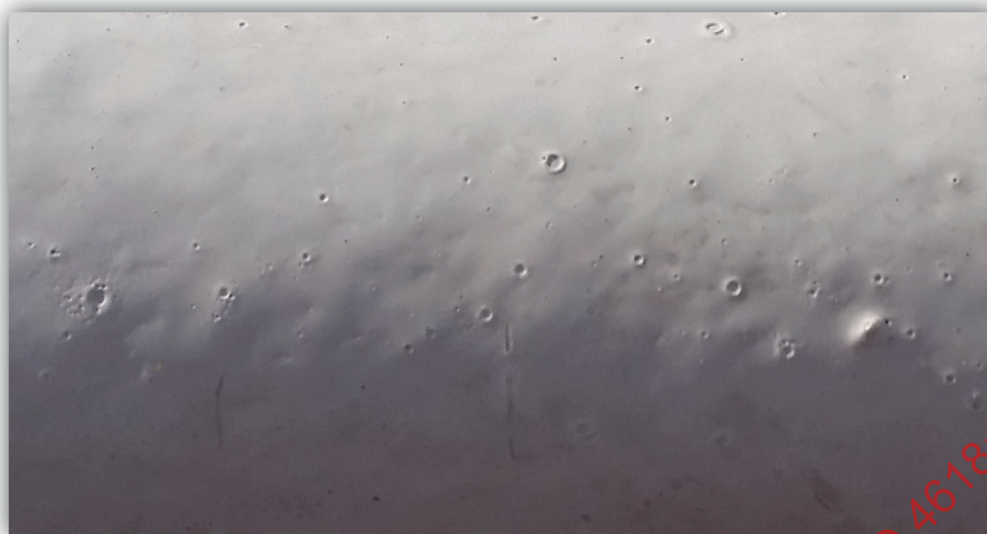


Figure 5 — Craters

Note 2 to entry: Craters can extend into preceding layers of *coating* ([3.46](#)) or to the *substrate* ([3.245](#)).

Note 3 to entry: Craters are caused by local inhomogeneities in the surface tension of the coating, most frequently due to incompatible contamination substances on the substrate, in the applied *coating material* ([3.48](#)) or in the form of foreign particles or small oil drops.

Note 4 to entry: A small crater without a raised edge is called a dimple.

3.65

crawling

extreme form of *cissing* ([3.43](#))

Note 1 to entry: There is no German term for “crawling”.

3.66

crazing

form of *cracking* ([3.63](#)) characterized by wide, deep cracks distributed over the surface of a dry *coating* ([3.46](#)) in a more or less regular pattern

Note 1 to entry: An example of crazing is shown in [Figure 6](#).

Note 2 to entry: There is no German term for “crazing”.



Figure 6 — Crazing

3.67**creeping**

spreading of the wet *coating material* (3.48) beyond the area to which it was applied

3.68**critical pigment volume concentration****CPVC**

value of the *pigment volume concentration* (3.195) at which the voids between the solid particles which are nominally touching are just filled with *binder* (3.22) and above which certain properties of the *film* (3.111) are markedly changed

3.69**crocodiling**

form of *cracking* (3.63) characterized by a pattern of cracks resembling a crocodile skin

Note 1 to entry: An example of crocodiling is shown in Figure 7.

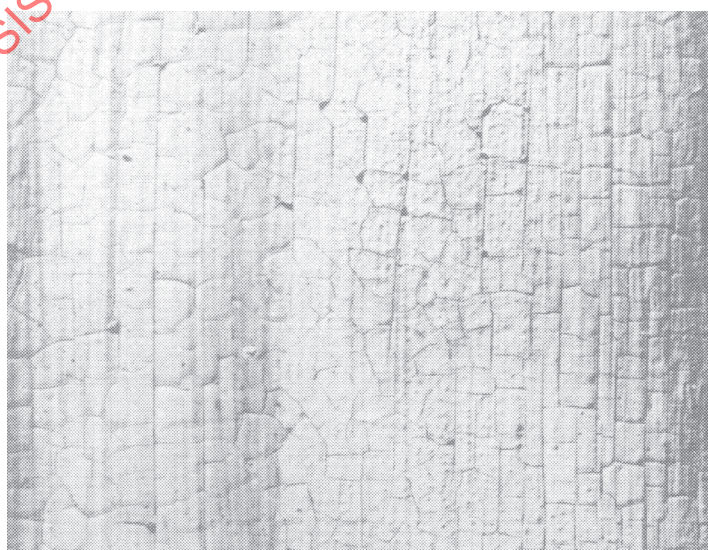


Figure 7 — Crocodiling

3.70

crow's foot cracking

form of *cracking* (3.63) characterized by a pattern of cracks resembling a crow's foot

Note 1 to entry: An example of crow's foot cracking is shown in [Figure 8](#).



Figure 8 — Crow's foot cracking

3.71

**curing
hardening**

process by which a material changes from its original state into a stable solid *coating* (3.46)

Note 1 to entry: Curing can be achieved by heat, UV or electron beam radiation or a *catalyst* (3.37).

3.72

curing agent

substance that takes part in the crosslinking [*curing* (3.71)] of a *coating* (3.46), and will be a part of the final coating matrix

Note 1 to entry: See also *hardener* (3.134).

3.73

curtain coating

application of a *coating material* (3.48) by passing the article to be coated horizontally through a descending sheet of a continuously recirculated coating material

3.74**defoaming agent**

additive (3.6) that reduces foam which can form during manufacture and/or application of the *coating material* (3.48)

Note 1 to entry: See also *anti-foaming agent* (3.14).

3.75**degreasing**

removal of oil, grease and similar substances from a surface by either an organic *solvent* (3.237) or a water-based cleaning agent

3.76**de-nibbing**

removal of small particles protruding from the dry surface of a *coating* (3.46) or of a *substrate* (3.245)

3.77**de-scaling**

removal of *mill scale* (3.156) or laminated rust from steel or other ferrous *substrates* (3.245)

3.78**diluent**

volatile liquid, single or blended, which, whilst not a *solvent* (3.237), may be used in conjunction with the solvent without causing any deleterious effects

Note 1 to entry: See also *solvent* (3.237) and *thinner* (3.259).

3.79**dipping**

application of a *coating material* (3.48) by immersing the object to be coated in a bath containing the *coating material* (3.48) and then, after withdrawal, allowing it to drain

3.80**dirt pick-up**

tendency of a dry *film* (3.111) or *coat* (3.45) to attract to the surface appreciable amounts of soiling material

3.81**dirt-resistant paint**

coating material (3.48) that protects against soiling by foreign material deposited on, or embedded in, the dried *coating* (3.46)

3.82**dirt retention**

tendency of a dry *film* (3.111) or *coat* (3.45) to retain on the surface soiling material which cannot be removed by simple cleaning

3.83**dispersion**

heterogeneous mixture of at least two materials, which are insoluble or only sparingly soluble in each other and not chemically bonded

Note 1 to entry: Dispersion is the generic term for *suspension* (3.247) and *emulsion* (3.99).

3.84**dispersing agent****dispersant**

additive (3.6) that facilitates the *dispersion* (3.83) of solids in the *medium* (3.153) during manufacture and that increases the stability of the mixture thereafter

3.85
distinctness of image
DOI

image quality of a reflection without distortion as observed with normal corrected vision

3.86
drawdown blade
film applicator

device used for applying a *coat* (3.45) of uniform thickness on a *substrate* (3.245)

EXAMPLE Doctor blade, wire bar and spiral coater.

3.87
drier

compound, usually a metal soap, that is added to products *drying* (3.88) by oxidation in order to accelerate this process

3.88
drying

process through which an applied *coating material* (3.48) passes in going from the liquid to the solid state

Note 1 to entry: "Oxidative drying" is used frequently, instead of the more correct term "oxidative hardening".

Note 2 to entry: See also *curing* (3.71).

3.89
drying oil

oil based on unsaturated fatty acids, yielding a *film* (3.111) by oxidation

3.90
dry spray

irregular, non-continuous layer, formed during spray application

Note 1 to entry: The non-continuity can be caused by properties such as viscosity and spray position.

3.91
durability

ability of a *coating* (3.46) to resist the damaging effects of the environment to which it is exposed

3.92
dyestuff

colourant, soluble in the application medium

[SOURCE: ISO 18451-1:2019, 3.30, modified — Notes 1 and 2 to entry have been deleted.]

3.93
effect pigment

platelet-like *pigment* (3.193) that, confers not only *colour* (3.55) but additional properties such as iridescence (interference at thin layers), angle dependency of colour (colour travel, colour flop, light-dark flop), or *texture* (3.254)

[SOURCE: ISO 18451-1:2019, 3.32 modified — Note 1 to entry has been deleted.]

3.94
efflorescence

phenomenon that occurs when water-soluble salts in a dry *coating* (3.46) or from the *substrate* (3.245) migrate to the surface and form a crystalline deposit

3.95**elasticity**

<general> ability of a dry *film* (3.111) to return to its original form after the removal of stress applied in any lateral direction

Note 1 to entry: See also *flexibility* (3.122).

3.96**elasticity**

<rheology> property of a material to show a reversible recovery after deformation

3.97**electrodeposition**

process whereby a *film* (3.111) of a *water-based coating material* (3.272) is deposited, under the influence of electric current, on an object that forms either the anode or cathode, depending on the nature of the *coating material* (3.48)

3.98**electron beam curing**

process for the rapid *curing* (3.71) of specially formulated *coating materials* (3.48) by means of a concentrated stream of electrons

3.99**emulsion**

finely dispersed mixture of at least two liquids which are insoluble, or only sparingly soluble, in each other

3.100**epoxy ester**

synthetic resin (3.249) resulting from the reaction between an *epoxy resin* (3.101) and fatty acids and/or oils

3.101**epoxy resin**

synthetic resin (3.249) containing epoxy groups, generally prepared from epichlorohydrin and a bisphenol

3.102**etch primer**

primer (3.207), often supplied as two reactive components mixed immediately prior to application, designed to react with a metal surface to improve the *adhesion* (3.7) of subsequent coats

3.103**etching**

cleaning, roughening or removal of a natural oxide layer from a surface using a chemical agent prior to painting in order to increase *adhesion* (3.7)

3.104**extender**

material in granular or powder form, practically insoluble to somewhat soluble in the application *medium* and used to modify or influence certain physical properties

Note 1 to entry: Whether a given substance is to be considered as *pigment* (3.193) or extender depends on its application.

Note 2 to entry: In some industries, such as rubber industries, extender is also called “filler” (see ISO 1382:2020, 3.196). In coatings industries, the term extender is preferred.

[SOURCE: ISO 18451-1:2019, 3.34, modified — The original Note 1 to entry has been deleted. Note 2 to entry has been shortened.]

3.105
exudation
sweating

migration of liquid components of a *coating material* (3.48) to the surface of a *film* (3.111)

3.106
fading

loss of *colour* (3.55) of a *film* (3.111) of a *coating material* (3.48)

3.107
feather edging

reducing the thickness of the edge of an area of *coating* (3.46) prior to recoating in order to avoid a ridge appearing in the merged layers

3.108
feeding

change in the *consistency* (3.60) of a *coating material* (3.48) during storage, to such an extent as to make it unusable, for example increase in the viscosity

3.109
filler

coating material (3.48) with a high proportion of *extender* (3.104), intended primarily to even out irregularities in *substrates* (3.245) to be painted and/or to improve surface *appearance* (3.19)

Note 1 to entry: In some industries, e.g. rubber industries, “extender” is also called “filler” (see ISO 1382:2020, 3.196).

3.110
filling

application of a *filler* (3.109) to give a level surface

3.111
film

continuous layer of a *coating material* (3.48) resulting from a single or multiple application

3.112
film formation

transition of an applied *coating material* (3.48) from the liquid to the solid state or, in the case of a powder coating material, through a liquid phase to the solid phase

Note 1 to entry: Film formation is brought about by *drying* (3.88) and/or *curing* (3.71). Both changes can proceed simultaneously.

3.113
fineness of grind

term related to the size of the largest *particles* (3.185) in a *mill base* (3.155) or in a *coating material* (3.48)

3.114
finishing coat
top coat

final *coat* (3.45) of a *coating system* (3.51)

3.115
fish eyes

presence of *craters* (3.64) in a *coat* (3.45) each having a small particle of impurity in the centre

3.116
flaking

detachment of small parts of a *coating* (3.46) due to a loss of *adhesion* (3.7)

3.117**flame cleaning**

process by which a reducing flame is applied to a surface, followed by manual or mechanical cleaning operations

3.118**flame treatment**

pretreatment, by a flame, where the surface of a plastics material (e.g. polyethylene) is oxidized to improve the wetting properties of the *coating material* (3.48) and the *adhesion* (3.7) of the *coating* (3.46), or even to render these possible

3.119**flash-off time**

time necessary between the application of successive coats *wet-on-wet* (3.275) or the time for the evaporation of most of the volatile matter before *stoving* (3.243) or *curing* (3.71) by radiation

3.120**flash rust**

<surface preparation> rapid formation of rust on ferrous *substrates* (3.245) after surface preparation

Note 1 to entry: Flash rust can be formed after surface preparation related to cleaning in the presence of water or high humidity.

3.121**flash rust**

<water-based coatings> rapid formation of rust after the application of a water-based *coating material* (3.272) on a ferrous *substrate* (3.245)

Note 1 to entry: Flash rust is an oxidation product that forms as a wetted carbon steel substrate dries.

3.122**flexibility**

ability of a dry *film* (3.111) or *coat* (3.45) to follow without damage the deformations of the *substrate* (3.245) to which it is applied

Note 1 to entry: The use of the term *elasticity* (3.95) to describe the flexibility is incorrect.

3.123**floating**

separation of one or more *pigments* (3.193) from a coloured *coating material* (3.48), causing streaks or areas of uneven *colour* (3.55) on the surface of the *coating* (3.46)

3.124**flooding**

movement of *pigment* (3.193) *particles* (3.185) in a liquid *coating* (3.46) producing a *colour* (3.55) which, although uniform over the whole surface, is markedly different from that of the freshly applied wet *film* (3.111)

Note 1 to entry: See “*leafing*” (3.147).

3.125**flow**

property of a *coating material* (3.48) that enables *levelling* (3.148)

Note 1 to entry: Flow in this context is not a term for rheology.

3.126**flow agent**

additive (3.6) that improves the *levelling* (3.148) of a *coating material* (3.48) on a *substrate* (3.245)

3.127

flow coating

application of a *coating material* (3.48) either by pouring or by allowing it to flow over the object to be coated, and allowing the excess to drain off

3.128

force drying

process by which the *drying* (3.88) of an applied *coating material* (3.48) is accelerated by exposing it to a temperature higher than ambient, but below that normally used for *stoving* (3.243)

3.129

frosting

formation of a large number of very fine wrinkles in the form of frost-like patterns

3.130

functional pigment

pigment (3.193), which based on its chemical or physical properties fulfils additional functions in addition to its *colour* (3.55)

Note 1 to entry: Additional functions may be corrosion protection, function as barrier pigment, photocatalytical properties, infrared absorption or infrared reflection.

3.131

gassing

formation of gas during storage of a *coating material* (3.48)

3.132

gloss

optical property of a surface, characterized by its ability to reflect light specularly

Note 1 to entry: Examples of degrees of gloss are high gloss, gloss, silk gloss, semigloss, satin, matt, deep matt and dead matt.

3.133

grit blasting

process of abrasive *blast-cleaning* (3.24) using particulate material, such as steel, slag or aluminium oxide (corundum)

Note 1 to entry: For a fuller description of the term "grit", see ISO 11124-1 or ISO 11126-1.

3.134

hardener

component of a *multi-pack product* (3.159) that, mixed together, forms by chemical reaction a *film* (3.111) having the desired properties

Note 1 to entry: See also *curing agent* (3.72).

3.135

hardness

ability of a dry *coating* (3.46) to resist indentation or penetration by a solid object

3.136

haze

milky opalescence in high-gloss or clear *coatings* (3.46)

3.137

hiding power

ability of a *coating* (3.46) to obliterate the *colour* (3.55) or colour differences of the *substrate* (3.245)

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

Note 2 to entry: The term “coverage” is ambiguous because it is used in some instances to refer to hiding power and in others to mean *spreading rate* (3.239). The more precise terms hiding power and spreading rate should always be used.

3.138

holiday

defect of a paint *film* (3.111)

EXAMPLE Pinholes and craters.

3.139

hydrocarbon resin

resin (3.211) resulting from copolymerization of aliphatic and/or aromatic hydrocarbons

3.140

impregnating material

low viscosity *coating material* (3.48) for the treatment of absorptive *substrates* (3.245) to reduce their absorptivity or to make mineral and wooden surfaces hydrophobic

Note 1 to entry: See also *sealer* (3.226).

3.141

in-can preservative

biocide (3.23) used to prevent growth of microorganisms during storage of a stock solution of a *coating material* (3.48) or *water-based coating material* (3.272)

3.142

induction period

minimum time interval needed between mixing and application of *coating materials* (3.48) supplied as a *multi-pack product* (3.159)

Note 1 to entry: Not to be confused with *pot life* (3.202).

3.143

intermediate coat

coat (3.45) applied between the *priming coat* (3.208) and the *finishing coat* (3.114)

3.144

isocyanate resin

synthetic resin (3.249), containing free or blocked isocyanate groups, based on aromatic, aliphatic or cycloaliphatic isocyanates

3.145

lap

visible zone where a *coat* (3.45) extends over an adjacent freshly applied coat

Note 1 to entry: A lap can occur where an attempt to merge two recently applied adjacent applications of a *coating material* (3.48) gives a visual discontinuity due to the partial *drying* (3.88) of the first applied coat.

3.146

lasure

coating material (3.48) containing small amounts of a suitable *pigment* (3.193) used to form a transparent or semi-transparent *film* (3.111) for decoration and/or protection of the *substrate* (3.245)

Note 1 to entry: In this document, the term “lasure” is similar to “exterior wood stain”.

Note 2 to entry: In some countries the terms *wood stain* (3.277) or “exterior wood stain” are also used to designate any transparent or semi-transparent coating material. Some kinds of (interior) wood stains are not in the scope of EN 927-1.

3.147

leafing

flooding (3.124) of *effect pigments* (3.193) to the surface of a *coating material* (3.48) shortly after application

3.148

levelling

ability of a *coating material* (3.48) to flow out after application so as to minimize any surface irregularities caused by the application process

3.149

lifting

softening, *swelling* (3.248), or separation from the *substrate* (3.245) of a *dry film* (3.111), resulting from the application of a subsequent *coat* (3.45) or the influence of a *solvent* (3.237)

3.150

mar

blemish on the surface of a *coating* (3.46), extending over a particular area of the coating and visible due to the difference in the light-reflection properties of the area affected compared with the light-reflection properties of adjacent areas

3.151

masking

temporary covering of that part of a surface which is to remain uncoated

3.152

matting agent

flatting agent

product incorporated in a *coating material* (3.48) to reduce the *gloss* (3.132) of the *dry film* (3.111)

3.153

medium

vehicle

constituents of the liquid phase of a *coating material* (3.48)

Note 1 to entry: This definition does not apply to *coating powders* (3.49).

Note 2 to entry: There is no German term for “medium” or “vehicle”.

3.154

metamerism

phenomenon perceived when two specimens have the same *colour* (3.55) under the lighting of an illuminant, but different spectral reflection and transmission curves

3.155

mill base

proportion of those constituents of a *coating material* (3.48) necessary to obtain the optimum degree of *dispersion* (3.83)

3.156

mill scale

layer of iron oxides formed during the hot rolling of steel

3.157

mottling

sheariness

clouding

non-uniform *appearance* (3.19) of a *film* (3.111) caused by presence of irregularly shaped, randomly distributed areas on the surface that vary in *colour* (3.55) and/or *gloss* (3.132)

3.158**mud cracking**

formation of an irregular broken network of cracks in a *coating system* (3.51), which occurs due to volume reduction during non-uniform *drying* (3.88) or *curing* (3.71), especially on rough surfaces

3.159**multi-pack product**

coating material (3.48) that is supplied in two or more separate components which must be mixed before use in the proportions specified by the manufacturer

3.160**nano-aerosol**

nanodispersion (3.163) with gaseous matrix and at least one liquid or solid nanophase [including *nano-objects* (3.167)]

[SOURCE: ISO 80004-1:—¹, A.3]

3.161**nanocoating**

coating (3.46) having a dry film thickness in the range 1 nm to 100 nm

3.162**nanocomposite coating**

solid *coating* (3.46) comprising a mixture of two or more phase-separated materials, with one or more phase in the *nanoscale* (3.170)

Note 1 to entry: Materials with nanophases formed by precipitation are included (e.g. a -C:H:Me coatings).

Note 2 to entry: See ISO 80004-1:—¹, 3.1.18 for the definition of nanocomposite.

[SOURCE: ISO 80004-1:—¹, A.6]

3.163**nanodispersion**

material in which *nano-objects* (3.167) or a nanophase are dispersed in a continuous phase of a different composition

[SOURCE: ISO 80004-1:—¹, 3.1.19]

3.164**nano-emulsion**

fluid *nanodispersion* (3.163) with at least one liquid nanophase

[SOURCE: ISO 80004-1:—¹, 3.1.19.1]

3.165**nanoextender**

extender (3.104) made of *nano-objects* (3.167)

3.166**nanofilm**

film (3.111) with thickness in the *nanoscale* (3.170)

Note 1 to entry: A nanofilm is a nanolayer which can be freestanding.

Note 2 to entry: A nanofilm can be made of solids or liquids (e.g. liquid film).

Note 3 to entry: A nanofilm can be composed of a monomolecular layer (e.g. Langmuir-Blodgett film).

[SOURCE: ISO 80004-1:—¹, 3.6.7]

1) Under preparation. Stage at the time of publication: ISO/DIS 80004-1:2023.

3.167

nano-object

discrete piece of material with one, two or three external dimensions in the *nanoscale* (3.170)

[SOURCE: ISO 80004-1:—¹], 3.1.5]

3.168

nanoparticle

nano-object (3.167) with all external dimensions in the *nanoscale* (3.170)

Note 1 to entry: If the dimensions differ significantly (typically by more than three times), terms such as nanofibre or nanoplate may be preferred to the term nanoparticle.

[SOURCE: ISO 80004-1:—¹], 3.3.4]

3.169

nanopigment

pigment (3.193), made of *nano-objects* (3.167)

3.170

nanoscale

length range from approximately 1 nm to 100 nm

[SOURCE: ISO 80004-1:—¹], 3.1.1]

3.171

nanostuctured coating

coating (3.46) having internal structure or *surface structure* (3.256) in the *nanoscale* (3.170)

[SOURCE: ISO 80004-1:—¹], 3.7.2]

3.172

nanosuspension

fluid *nanodispersion* (3.163) where the dispersed phase is a solid

Note 1 to entry: The use of the term nanosuspension carries no implication regarding thermodynamic stability.

Note 2 to entry: As examples, nanosuspension can apply to either *suspensions* (3.247) of *nanopigments* (3.169) or *nanooxtenders* (3.165) (minerals), or to polymeric nanosuspensions.

[SOURCE: ISO 80004-1:—¹], 3.1.19.2, modified — Note 2 to entry has been added.]

3.173

nanotexture

regular *surface structure* (3.246) pattern in the *nanoscale* (3.170)

3.174

natural resin

unmodified *resin* (3.211) of vegetable or animal origin

3.175

non-volatile matter

NV

residue by mass obtained by evaporation of the volatile matter under specified conditions

Note 1 to entry: Instead of the term “non-volatile matter”, different terms such as solid, dry residue, dry matter, solid matter, stoving residue are used commonly with the respective abbreviations. The term “non-volatile matter” which is also applied in ISO 3251, should be used together with the abbreviated term “NV” instead of these terms.

3.176**non-volatile matter by volume****NV_v**

percentage residue by volume obtained by evaporation of the volatile matter under specified conditions

3.177**oil absorption value**

quantity of refined linseed oil that is absorbed under defined conditions by a sample of *pigment* (3.193) or *extender* (3.104)

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

3.178**orange peel**

appearance (3.19) of a *film* (3.111) or *coat* (3.45), resembling the *texture* (3.254) of the surface of an orange

3.179**organosol**

dispersion (3.83) of a thermoplastic polymer and, if required, *plasticizer* (3.197), usually containing *pigments* (3.193), in a volatile organic liquid

Note 1 to entry: On heating after application, an organosol forms a coherent *film* (3.111) by the loss of volatile organic liquid.

3.180**overcoatability**

ability of a *film* (3.111) of a *coating material* (3.48) to accept a *coat* (3.45) of a different coating material

3.181**overlap**

application of a *coat* (3.45) of a *coating material* (3.48) over and beyond a previously applied coat

3.182**overspray**

unintended application of *coating material* (3.48) on surfaces that should not be coated, either in droplets or continuous *film* (3.111)

Note 1 to entry: The coated area is not necessarily a complete surface area.

3.183**paint**

pigmented *coating material* (3.48) which, when applied to a *substrate* (3.245), forms an opaque dried *film* (3.111) having protective, decorative or specific technical properties

3.184**paint remover**

material that, when applied to a coated *substrate* (3.245), softens the *coating* (3.46) so that it can be removed easily

3.185**particle**

distinguishable *pigment* (3.193) or *extender* (3.104) unit, which can have any structure

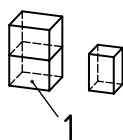
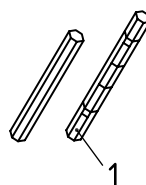
Note 1 to entry: Differentiations between the terms specified in 3.185.1 to 3.185.3 cannot always be formulated with a desired clarity in practice; often there are no clear distinctions. In Figures 9 to 11, the terms specified under 3.185.1 to 3.185.3 are defined with the example of rectangular, spherical, rod-shaped, and irregularly shaped particles in a highly schematized way.

[SOURCE: ISO 18451-1:2019, 3.94]

3.185.1**primary particle**
single particle

means of appropriate physical procedures (e.g. by means of light microscope, electron microscope) recognizably as individual detectable *particle* (3.185)

Note 1 to entry: See [Figure 9](#).

**a) Rectangular****b) Spherical****c) Rodshaped****d) Irregularly shaped****Key**

1 coherently scattered grid areas (crystallites)

Figure 9 — Primary particles

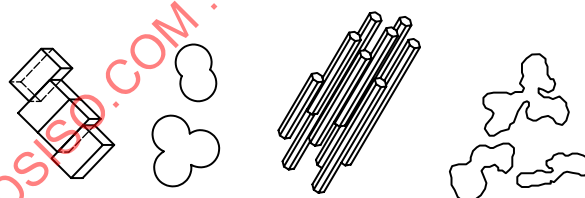
Note 2 to entry: In special cases, a crystalline primary particle can be a single crystal or consist of several, with appropriate radiation (e.g. X-ray) definable, coherently scattered grid areas (crystallites).

[SOURCE: ISO 18451-1:2019, 3.94.1]

3.185.2**aggregate**

unit grown together of facially contiguous *primary particles* (3.185.1), whose surface is smaller than the sum of surfaces of the primary particles

Note 1 to entry: See [Figure 10](#).

**Figure 10 — Aggregates**

[SOURCE: ISO 18451-1:2019, 3.94.2, modified — "which" has been changed to "whose".]

3.185.3**agglomerate**

unit not grown together of *primary particles* (3.185.1) and/or *aggregates* (3.185.2) contiguous, e.g. on corners and edges, whose total surface does not basically deviate from the sum of the single surfaces

Note 1 to entry: See [Figure 11](#).

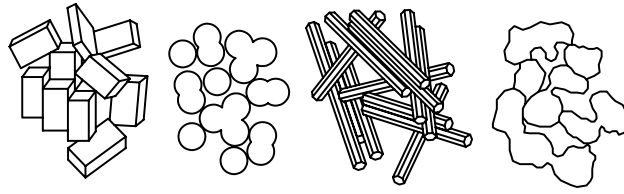


Figure 11 — Agglomerates

[SOURCE: ISO 18451-1:2019, 3.94.3, modified — "which" has been changed to "whose".]

3.185.4

flocculate

in *suspensions* (3.247) [e.g. in *pigment* (3.193) *binder* (3.22) systems] appearing *agglomerate* (3.185.3), which can be divided by means of low shear forces

[SOURCE: ISO 18451-1:2019, 3.94.4]

3.186

particle size

geometrically measured value for the identification of spatial expansion of a *particle* (3.185)

[SOURCE: ISO 18451-1:2019, 3.95]

3.187

peeling

detachment of large areas of the *coating* (3.46) due to loss of *adhesion* (3.7)

3.188

performance

characteristics defining the product behaviour

Note 1 to entry: For designation of a product the special characteristics should be stated.

Note 2 to entry: The word performance has no special paint related meaning but is included here for clarification for non-English speakers.

3.189

permeability

property of a *coat* (3.45) or *coating* (3.46) that allows a liquid or a gas to diffuse through it

3.190

phenolic resin

synthetic resin (3.249) resulting from the polycondensation of phenol, its homologues and/or derivatives with aldehydes, in particular formaldehyde

3.191

phosphating

chemical pretreatment (3.40) of the surface of certain metals using solutions essentially consisting of phosphoric acid and/or phosphates

3.192

pickling

removal of rust and *mill scale* (3.156) from ferrous *substrates* (3.245) by electrochemical procedures or by means of an acidic solution usually containing an inhibitor

Note 1 to entry: In German, the term "Beizen" refers also to:

- a) a process in which a metal surface is treated with a chemical agent prior to painting in order to improve *adhesion* (3.7);

b) a specific treatment for the colouring of wood as in the English term “staining”.

3.193

pigment

colourant consisting of *particles* (3.185), insoluble in the application medium [e.g. *coating material* (3.48) or plastic]

[SOURCE: ISO 18451-1:2019, 3.96, modified — Notes 1 to 3 to entry have been deleted.]

3.194

pigment binder ratio

ratio, expressed as percentage by mass of the *pigment* (3.193) and *extender* (3.104) to the percentage by mass of the *binder* (3.22) in a *coating material* (3.48)

3.195

pigment volume concentration

PVC

ratio, expressed as a percentage, of the total volume of the *pigments* (3.193) and/or *extenders* (3.104) and/or other non-film-forming solid particles in a product to the total volume of the *non-volatile matter* (3.175)

3.196

pinholing

presence of small holes in the *film* (3.111) or *coat* (3.45) resembling those made by a pin

3.197

plasticizer

substance added to a *coating material* (3.48) to make the dry *coating* (3.46) more flexible

3.198

plastisol

stabilized *dispersion* (3.83) of a thermoplastic polymer in an organic liquid of which a substantial portion is a non-volatile *plasticizer* (3.197) miscible with the polymer, usually containing *pigments* (3.193)

Note 1 to entry: On heating after application, the polymer and plasticizer fuse to form a coherent *film* (3.111).

3.199

polyester resin

synthetic resin (3.249) resulting from the polycondensation of polyacids and polyols

Note 1 to entry: Depending on their chemical structure, a distinction is drawn between saturated and *unsaturated polyester resins* (3.263).

3.200

polymer dispersion

liquid or semi-liquid material, usually milky white in *appearance* (3.19), containing the polymeric material in a stable condition, finely dispersed in a continuous liquid phase, normally water [aqueous *dispersion* (3.83)] or an organic liquid [non-aqueous *dispersion* (3.83) (NAD)]

3.201

polyurethane resin

synthetic resin (3.249) resulting from the reaction of polyfunctional isocyanates with compounds containing reactive hydroxyl groups

3.202**pot life**

maximum time during which a *coating material* (3.48) supplied as separate components should be used after the components have been mixed together

Note 1 to entry: The term pot life can relate to the maximum time after mixing that the applied coating material retains good dry *film* (3.111) properties and/or the maximum time after mixing that a liquid coating material retains good application properties.

3.203**pourability**

ability of a dry powder to flow or to be poured

3.204**practical spreading rate**

spreading rate (3.239) which is obtained in practice on the particular *substrate* (3.245) being coated

3.205**pre-fabrication primer**

fast-drying *primer* (3.207) that is applied to blast-cleaned steel to protect it during fabrication of a structure while still allowing the steel to be cut and welded

3.206**preparation grade**

degree of visual cleanliness of a steel surface after *corrosion* (3.62) products and/or contaminants have been removed by a preparation method

3.207**primer**

paint (3.183) that has been formulated for use as a *priming coat* (3.208) on prepared surfaces

3.208**priming coat**

first *coat* (3.45) of a *coating system* (3.51)

3.209**recoatability**

ability of a *coating* (3.46) to accept a further *coat* (3.45) of the same *coating material* (3.48)

3.210**reflow effect**

ability of the *coating* (3.46) surface to revert to its original *appearance* (3.19) after damage such as scratching

3.211**resin**

predominantly amorphous macro-molecular material that ranges from the solid to the liquid state

3.212**retarder**

additive (3.6) used to slow down a chemical reaction or a change in physical state

3.213**rheological modifier**

additive (3.6) used to adjust the flow (3.125) properties of a *coating material* (3.48)

Note 1 to entry: Examples of rheological modifiers are *flow agents* (3.126), *thickening agents* (3.258) and *thixotropic agents* (3.260).

3.214**roller application**

coating process (3.50) whereby the coating material is applied by means of a hand-held roller

3.215

roller coating

coating process (3.50) whereby sheets or flat articles are passed between two or more horizontally mounted rigid rollers from which a *coating material* (3.48) is transferred to one or both faces of the sheet or article

Note 1 to entry: The process can be used for the application of a coating material both to individual items (e.g. panels, flush doors) and to strip materials.

3.216

ropiness

effect characterized by pronounced *brush marks* (3.33) that have not flowed out because of the poor *levelling* (3.148) properties of the *coating material* (3.48)

3.217

run

small *sag* (3.220)

3.218

rust bloom

discoloration indicating the beginning of rusting

3.219

rust grade

classification of degree of *mill scale* (3.156) and/or rust on a steel surface prior to cleaning

3.220

sag

local irregularity in the *film* (3.111) or *coat* (3.45) thickness caused by the downward movement of a *coating material* (3.48) during application and/or *drying* (3.88) in a vertical or an inclined position

Note 1 to entry: Small sags may be called *runs* (3.217), *tears* (3.253) or droplets; large sags may be called curtains.

3.221

sagging

downward movement of a *coating material* (3.48) during application and/or *drying* (3.88) in a vertical or an inclined position that results in irregularities in the dry coat

Note 1 to entry: Unwanted accumulation at the edge of a surface is called a fat edge.

3.222

sanding

abrasive process used to level and/or roughen a *substrate* (3.245)

3.223

scratch

cut or gouge through the surface of the *coating* (3.46) resulting from contact with a sharp object

3.224

scribe

linear *holiday* (3.138) through a *coating* (3.46), deliberately introduced in order to expose the underlying metal *substrate* (3.245) prior to exposure in a corrosive environment

3.225

sealant

organic material that provides a flexible, impermeable continuous barrier between two adjacent surfaces

3.226

sealer

coating material (3.48) applied to absorbent *substrates* (3.245) prior to painting to reduce the absorptivity and/or to consolidate the substrate

3.227**semi-volatile organic compound
SVOC**

organic liquid and/or solid that evaporates spontaneously but slower in comparison to VOC at the prevailing temperature and pressure of the atmosphere with which it is in contact

Note 1 to entry: Regarding current usage of the term SVOC in the field of *coating materials* (3.48), see *semi-volatile organic compounds content* (3.228).

3.228**semi-volatile organic compounds content
SVOC content
SVOC**

mass of the *semi-volatile organic compounds* (3.226) present in a *coating material* (3.48), as determined under specified conditions

Note 1 to entry: The properties and the amounts of the compounds to be taken into account depend on the field of application of the coating material. For each field of application, the limiting values and the methods of determination or calculation are stipulated by regulations or by agreement.

Note 2 to entry: If the term SVOC refers to compounds with a defined maximum boiling point and minimum boiling point, the compounds considered to be part of the SVOC content are those with boiling points below and including the upper and above the lower limit, and compounds with higher boiling points are considered to be non-volatile organic compounds.

3.229**settling**

deposition of a sediment on the bottom of a can of a *coating material* (3.48)

Note 1 to entry: A compact sediment cannot be redispersed by simple stirring.

3.230**shelf life**

time during which a *coating material* (3.48) remains in good condition when stored in its original sealed container under specified storage conditions

3.231**shop primer**

<general> protective *coating material* (3.48) for application in the workshop to a component that is subsequently to be finished on site

Note 1 to entry: See also *pre-fabrication primer* (3.205).

3.232**shop primer**

<surface preparation> *coating material* (3.48) that is applied to a steel *substrate* (3.245) directly after abrasive *blast-cleaning* (3.24)

3.233**shot blasting**

blast-cleaning (3.24) using small metal spheres

Note 1 to entry: For a fuller description of the term “shot”, see ISO 11124-1 or ISO 11126-1.

3.234**silicone resin**

synthetic resin (3.249) in which the basic structure consists of siloxane (silicon-oxygen-silicon linkages)

3.235**sinkage**

partial absorption of a *film* (3.111) of a *coating material* (3.48) by the *substrate* (3.245), mainly perceptible as local differences in *gloss* (3.132) and/or *texture* (3.254)

3.236

skinning

formation of a skin on the surface of a *coating material* (3.48) in the can during storage

3.237

solvent

single liquid or blend of liquids, volatile under specified *drying* (3.88) conditions and in which the *binder* (3.22) is soluble

Note 1 to entry: See *thinner* (3.259) and *diluent* (3.78).

3.238

spraying

application of a coating material on a substrate using spray systems

3.238.1

conventional spraying

air atomized spraying

spraying using compressed air to atomize the *coating material* (3.48) and to direct it on to the *substrate* (3.245) to be coated

3.238.2

airless spraying

application of *coating material* (3.48) by forcing it through an opening at high pressure without air supply

3.238.3

electrostatic spraying

application by which an electrostatic potential difference is applied between the article to be coated and the atomized *coating material* (3.48) particles (3.185)

3.238.4

hot spraying

spraying of a *coating material* (3.48) that has been reduced in viscosity by heating

3.239

spreading rate

surface area that can be covered by a given quantity of *coating material* (3.48) to give a dried *film* (3.111) of requisite thickness

3.240

steam cleaning

removal of surface contaminants by the action of steam jets

3.241

stopper

special type of *filler* (3.109) used for specific purposes such as filling holes and cracks

3.242

storage stability

time during which a *coating material* (3.48), stored under the conditions indicated by the supplier, remains stable

3.243

stoving

baking

hardening process by which the crosslinking (increase in molecular size) of a *binder* (3.22) results from the application of heat at a minimum temperature and for a minimum time specific to the material

Note 1 to entry: Baking is the term used in US English.

3.244**strippable coating**

coating material (3.48) removable by simple detachment from a *substrate* (3.245) to which it is intended to provide temporary protection

3.245**substrate**

surface to which a *coating material* (3.48) is applied or will be applied

3.246**surface structure****surface profile**

shape or form of the surface

Note 1 to entry: The surface structure depends on the topography of the *coating* (3.46), the viewing distance and the focus of the image of the surface. The surface structure is influenced by elements such as the *levelling* (3.148) of the liquid *coating material* (3.48) as well as the *substrate* (3.245).

3.247**suspension**

heterogeneous mixture of materials comprising a liquid and a finely dispersed solid material

3.248**swelling**

increase in the volume of a *coating* (3.46) as a result of the absorption of liquid or vapour

3.249**synthetic resin**

resin (3.211) manufactured by chemical reactions such as polyaddition, polycondensation or polymerization

3.250**tack-free**

state of a *coating* (3.46) when a finger touching the surface no longer leaves a pronounced mark

3.251**tamped density**

ratio of the mass to the volume of a powder after compaction under specified conditions

Note 1 to entry: Compaction can be by tamping or vibrating.

Note 2 to entry: See *bulk density* (3.35).

3.252**tamped volume**

ratio of the volume to the mass of a powder after compaction under specified conditions

Note 1 to entry: Compaction can be by tamping or vibrating.

3.253**tear**

small *run* (3.217) on a vertical or inclined surface having the *appearance* (3.19) of a teardrop

Note 1 to entry: In the English language, the term “tear” is also used to describe a large crack in a dry *film* (3.111).

3.254**texture**

regular *surface structure* (3.246) pattern

3.255**textured coating**

coating (3.46) which, after *drying* (3.88), is characterized by a regular structured surface