

Australian/New Zealand Standard™

Glossary of paint and painting terms

AS/NZS 2310:2002

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION
OF
AS/NZS 2310:2002
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NOTES

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CH-003, Paints and Related Material, to supersede AS/NZS 2310:1995.

Definitions include terms dealing with paint types, paint materials, paint characteristics, paint defects, the application of paints and other relevant aspects of paint technology.

The objective of the Standard is to provide a better understanding of the terminology used in the paint industry, for the use of those involved in the manufacture, supply, purchase and use of paint, and those involved in the writing of Standards for paints and the framing of painting specifications.

During the preparation of this Standard, account was taken of definitions given in ISO 4618:1998, *Paints and varnishes—Terms and definitions for coating materials*, Part 1: *General terms*, Part 2: *Special terms relating to paint characteristics and properties*, Part 3: *Surface preparation and methods of application*, and Part 4: *Terms relating to raw materials*. Terms that are the same as ISO definitions are marked with (*). Terms marked with a dagger (†) indicate accepted Australian definitions, which have been adopted where the ISO definitions were considered inappropriate or less definitive. Terms that are preferred for general usage have been highlighted in bold print. Some alternative terms that are not preferred have also been listed, but are not highlighted in bold print.

It should be pointed out that this Standard does not include many commonly used terms that are not specific to the paint industry. For such words, reference should be made to *The Macquarie Dictionary*.

Appendix A includes a list of all referenced documents.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard

Glossary of paint and painting terms

Terms	Definitions
abrasive blast-cleaning*	The impingement of a high-kinetic-energy stream of a blast-cleaning abrasive on the surface to be prepared.
accelerated weathering	The process of evaluating products to obtain information on durability and performance more quickly than by in-service testing. NOTE: Examples of accelerated weathering include the use of inclined panels, Tator panels, and artificial weathering.
accelerator	See catalyst
acrylic paint	Paint manufactured with acrylic resins as the main binder, which may be of latex or solvent-borne type.
acrylic resin	Synthetic resin resulting from the polymerization or copolymerization of various acrylate or methacrylate monomers, with no more than minor quantities of other monomers.†
activator	See catalyst
additive*	Any substance, added in small quantities to a coating material, to improve or modify one or more properties.
adhesion/adhesive strength	The sum total of the forces of attachment between a dry film and its substrate.* NOTES: 1 The substrate may be bare or already painted. 2 Refer to the AS 1580 series of tests for assessment of adhesion.
aeration	Incorporation of bubbles of air in paint during stirring, shaking or application.
ageing*	The irreversible changes in the properties of a film, which occur with the passage of time.* NOTE: For liquid paints, <i>see also</i> shelf life.
air drying	The formation of a solid paint film from a liquid paint film under natural ambient conditions.
airless spraying	Application of paint by means of equipment consisting of fluid pump, hose and spray nozzle to produce atomization of the paint without the use of compressed air or other propellant (<i>see also</i> spraying). NOTE: Refer to AS 1580.205.4 for assessment of airless spraying properties.

Terms**Definitions****algal growth**

A deposit of highly diverse microorganisms that undergo photosynthesis to produce discolouration which may vary from green to brown.

NOTE: Refer to AS 1580.481.1.13 for assessment of algal growth

alkyd resin*

Polyester resin resulting from the polycondensation of polyacids and fatty acids (or oils) with polyhydric alcohols.

NOTE: For oil-free alkyds, *see* polyester.

alligatoring

See crocodiling

aluminium paint

A paint that includes particles or flakes of aluminium, which form a silvery metallic finish.

amino resin*

Synthetic resin resulting from the condensation of melamine or urea or the derivatives such as benzoguanamine with formaldehyde. These resins are often etherified with alcohols.

anodizing*

The treatment of aluminium or another suitable material by an electrolytic oxidation process to produce a coat of oxidized material.

anti-carbonation coating

Coatings applied to concrete and other cement-based substrates to retard their carbonation by atmospheric carbon dioxide.

anti-condensation paint

Paint that is formulated to minimize the effects of condensation of moisture under intermittent dry and humid conditions.

anti-corrosive paint*

A paint used to protect metal substrates against corrosion.

anti-foaming agent*

Additive, that prevents foaming, reduces the foaming tendency or destroys the foam occurring during manufacture and/or application of the coating material.

anti-fouling paint

A paint formulated to prevent the growth of barnacles and other water organisms on hulls of ships or other underwater surfaces.

anti-graffiti paint

A pigmented or clear paint finish applied to a surface either to inhibit its defacement by graffiti by virtue of its impervious or sacrificial nature, or enable the graffiti or the paint film to be readily removed.

anti-mould additive

An additive that inhibits mould growth.

anti-mould solution

A preparation consisting of mildewcides or fungicides, used singly or together in solution, applied to mould-affected surfaces prior to painting. Available as a pre-painting treatment to be washed off or a long-lasting treatment with residual effects that may be overcoated.

antique finish*

A paint system to simulate the appearance of old age.

anti-settling agent*

Additive that prevents or retards the settling of pigments and/or extenders and that maintains a uniform consistency during the storage of the coating material.

anti-skinning agent

An additive that is used to prevent the premature oxidation and formation of an insoluble surface layer when storing of paints containing drying oils before application as a thin film.

Terms**Definitions**

application rate*
(spreading rate)

The quantity of a coating material that is required to produce, under defined working conditions, a dry film of a given thickness on unit area (e.g., L/m² or kg/m²).

approximate colour match

When a test sample is separated from a reference sample by 20 mm and is viewed under specified conditions, a small colour difference can be seen. However, the colour difference is undetectable when the separation distance is increased to 100 mm. Metamerism may or may not be present.

NOTE: Refer to AS 1580.601.1 for assessment of colour matching.

artificial weathering

The testing of coatings in which ageing is induced by exposure to simulated conditions such as ultraviolet radiation or moisture (*see* ageing).

bagging

Application of a thin layer of cement-based coating by wiping with hessian or similar material, usually to brickwork or concrete to provide a characteristic uneven, textured finish.

baking*

See stoving

barrier coat

- 1 A type of sealer used to isolate a paint from the underlying surface to prevent chemical or physical interaction between them.
- 2 For industrial coatings, a coating designed to isolate the substrate from the environment.

Bénard cells

A surface phenomenon occurring during the drying of a paint film characterized by the formation of hexagon-shaped cells. The edges of the cells may show differential colour effects due to pigment flotation.

NOTE: The mechanism of cell formation has been attributed to vortex action in the film induced by rapid solvent evaporation.

binder*

The non-volatile part of the medium that forms the film.

biocide

Additive intended to prevent attack by any harmful organism in a coating material or the film thereof.

bituminous paint

A black or dark-coloured paint formulated with bitumen as the binder.

bitty film

A film containing bits of skin, gel, flocculated material or foreign particles, which project above the surface of the film.

black japan

A black bitumen-based coating used in earlier times for the decorative painting of timber coating and ironwork.

blast-cleaning abrasive*

A solid material intended to be used for abrasive blast-cleaning.

bleeding*

The process of diffusion of a coloured substance into and through a film from beneath, thus producing an undesirable staining or colour change.

blistering*

The convex deformation in the film, arising from local detachment of one or more of the constituent coats.

Terms**Definitions****blocking***

The unwanted adhesion between two painted surfaces, one of which at least has been coated, when the articles are left in contact under load after a given drying period.

blocking resistance

The ability of a coating to resist blocking.

blooming

The formation of a thin film on top of a paint film thereby reducing the lustre or veiling its depth of colour.†

blowing

See popping

blushing

The formation of milky opalescence in clear finishes caused by the deposition of moisture from the atmosphere or the precipitation of one or more of the solid constituents of the finish.†

body

See consistency

bodying

The increase of consistency of a paint.

boxing

Mixing paint by repeated pouring of the contents of two or more containers from one container to another.

breathing

The passage of vapour through a paint film without the paint film exhibiting blistering, cracking or peeling.

bridging

The separation of a paint film from the substrate at internal corners or other depressions due to shrinkage of the film or the formation of a paint film over a depression or crack.

brightness

The attribute of a visual sensation according to which an area appears to emit or reflect more or less light.

bronzing

The formation in a paint film of a characteristic red or yellow metallic lustre that is visible only at certain angles of illumination.†

brushability

The ease with which a paint can be uniformly applied with a paintbrush.

NOTE: Refer to AS 1580.205.1 for assessment of brushing properties.

brush blasting

See whip blasting

brush marks

Lines of unevenness, which remain in the dried paint film after brush application.

bubbling*

The formation of temporary or permanent bubbles in the applied film.

build

Thickness of dried paint film.

burning-off

The removal of a coating by a process in which the film is softened by heat and then scraped off while still soft.

burnishing

- 1 Shiny or lustrous spots on a paint surface caused by rubbing the painted surface.
- 2 The polished or glossy appearance of a metal surface produced by mechanical action, such as the use of a power wire brush.

caking

Hard settling (*see also* settling).

carbonation

The reaction of atmospheric CO₂ with alkaline materials such as cement, lime and plaster.

Terms**Definitions****catalyst**

A substance whose presence increases the rate of a chemical reaction. In some cases the catalyst functions by being consumed and regenerated; in other cases the catalyst seems not to enter the reaction and functions by surface characteristics of some kind. A negative catalyst (inhibitor) slows down a chemical reaction.

cement-based paint

A dry powder formulated with inorganic cement and other materials, mixed with water just before use.

chalking*

The appearance of a loosely adherent fine powder on the surface of a film arising from the degradation of one or more of its constituents.*

NOTE: Refer to AS 1580.481.1.11 for assessment of chalking.

checking

Breaks in the surface of a paint film, which do not render the underlying surface visible when the film is viewed at a magnification of $10 \times$ (*see also* crazing).

NOTE: Refer to AS 1580.481.1.7 for assessment of checking.

crows-foot type

Checking in which the breaks are in a series of three-pronged formations in which the prongs radiate from a point with an angle of approximately 120 degrees between prongs.

irregular pattern type

Checking in which the breaks are in no definite pattern.

line type

Checking in which the breaks are, in general, in parallel lines.

cheesy

The rather soft and mechanically weak condition of a dry-to-touch film but not a fully cured film.

chemical pre-treatment*

General term for any chemical process applied to a surface prior to the application of a coating material (*see also* chromating and phosphating).

chipping*

The removal, in flakes, of paint, or rust and mill scale, by use of hand or power tools.

chlorinated rubber*

Polymeric material resulting from the action of chlorine on natural or synthetic rubber.

chromating*

The chemical pre-treatment of the surface of certain metals using solutions usually consisting essentially of chromic acid and/or chromates.

chromaticity

The property of a colour stimulus (involving the attributes of hue and saturation but not lightness), which may be defined by coordinates on a plane diagram in the CIE trichromatic system.

cissing

A defect caused by the contraction of a wet paint film from a surface leaving small circular areas uncoated or of low film build† (*see also* crawling).

class of blast

Cleanliness of steel substrate series of Standards.

NOTE: Refer to AS 1627 series of Standards.

Terms	Definitions
coat	A continuous layer of a coating material resulting from a single application.
coating system*	The sum total of the coats of a coating materials that are to be applied in a pre-determined order or which have been applied to a substrate.
coal tar	The refined liquid or solid distillation product of coke oven operations; also known as coal tar pitch.
coalescing agent	Additive to a coating material based on a polymer dispersion to facilitate film formation by the temporary softening of the polymer particles.
cobwebbing	The formation of fine filaments of partly dried paint during the spray application of a fast drying paint.
cohesion	The forces that bind the constituents of a film into a whole. NOTE: Cohesion should not be confused with adhesion.
cold cracking*	The formation of cracks in the film resulting from exposure to low temperatures.
cold curing	Chemical hardening without the application of heat.
colour*	The sensation resulting from the visual perception of radiation of a given spectral compensation.
colorant	A pigment concentrate that can be added to paints to make a range of colours.
colour change	Any change in the colour of the film other than that due to chalking or dirt collection. NOTE: Refer to AS 1580.481.1.12 for assessment of colour change.
colour rendering	A general expression for the effect of a light source on the colour appearance of objects in comparison with their colour appearance under a reference light source.
colourfast	Resistant to changes in colour.
commercial match (<i>deprecated</i>)	See approximate colour match.
compatibility (of products)	The ability of a product to mix with another without causing undesirable effects such as precipitation, coagulation and thickening.*
compatibility* (of a paint with the substrate)	<i>Materials</i> The ability of two or more materials to be mixed together without causing undesirable effects. <i>Coating material with the substrate</i> The ability of a coating material to be applied to a substrate without causing undesirable effects.
component	The term used to describe two or more parts, which, when mixed together in the proportions recommended, form the paint.
consistency	The flow properties of a material measured in an empirical manner, typically by its resistance to a shear force. NOTE: Refer to the AS 1580.214 series for assessment of consistency.

Terms**Definitions****contrast ratio**

An instrumental measure of the ability of a coat of paint to hide contrasts in colour of the underlying surface.

NOTE: Refer to AS 1580.213.2 for assessment of contrast ratio.

conventional spraying

A method of spraying using compressed air to atomize the paint and to direct it on to the substrate to be coated.

NOTE: Refer to AS 1580.205.2 for assessment of conventional spraying properties.

corrosion (of substrate)

Degradation of a metallic surface under a paint system that is subjected to weathering or immersion. In some circumstances, the presence of corrosion may readily be detected by the appearance of blistering or visible corrosion products at the surface of the test film, otherwise the paint system will first need to be carefully removed. Types of corrosion are as follows:

(a) *Rusting (ferrous corrosion)* The formation of brown or black ferrous oxidation products on iron or steel substrates, which may be accompanied by brown or red discolouration of the paint film.

(b) *Filiform corrosion* A series of threadlike lines, typically 0.1 to 0.5 mm wide, that appear under paint films, which occur on a wide variety of metals, but only occur on steel in air of high relative humidity, e.g., 65–95 percent RH.

NOTE: Filiform corrosion is sometimes called underfilm corrosion. At 100% RH, the threads broaden to form blisters in the paint film. Causes of the corrosion are varied, with the most common being porosity, pinholing and localized damage of the paint film.

(c) *Non-ferrous corrosion* Degradation of non-ferrous metal substrates such as aluminium or zinc, which is evidenced by the presence of corrosion products or pitting of the metal substrate, and may be accompanied by blistering or flaking of the paint film due to the presence of a voluminous corrosion product.

NOTE: Refer to AS 1580.481.3 for assessment of substrate corrosion.

(d) *Pitting corrosion* Localized corrosion of the substrate which may lead to perforation in severe circumstances.

(e) *Undercut corrosion* Progression of corrosion under the paint film away from a scribed line or a sheared edge.

(f) *Uniform corrosion* Even degradation of the metal substrate over the whole surface of the test panel.

covering power

See opacity

coverage

See application rate

cracking

Formation of breaks in a paint film, which expose its substrate.

crow's-foot type

Cracking in which the breaks are in a series of three-pronged formations in which the prongs radiate from a point with an angle of approximately 120 degrees between prongs.

irregular pattern type

Cracking in which the breaks are in no definite pattern.