GLOSSARY OF PAINT TERMS I-22

PURPOSE

This section provides a glossary of commonly used paint terms.

GLOSSARY

Alkyd
Alkyd is a common paint binder resin system commonly referred to as oil based enamel. Alkyds are produced by reacting a synthetic oil derived from soya bean or linseed oil (plant based oils) with a polyester.
Alkyds cure via oxidation from the air creating a hard wearing durable coating. It is for this reason that alkyds have been used for many years in both the industrial and domestic paint markets.

Cathodic protection
The potential for a metal to corrode when in contact with a dissimilar metal. For example, zinc when in contact with steel will corrode preferentially and therefore offer corrosion protection to the steel surface.
This method may be employed through various ways such as zinc rich paint coatings, hot dip galvanising, electroplating or through the use of zinc anodes attached to the steel substrate.

Corrosion
Corrosion is usually referred to as the degradation of a metal by chemical reaction with its environment.
Iron will only corrode in the presence of both water and oxygen. Worldwide 1 tonne of steel turns to rust every 90 seconds. Protective paint coatings prevent corrosion by creating a physical barrier between steel substrate and the water and oxygen contained in the atmosphere.

Dry film thickness (dft)
The thickness of a paint film measured when dry. Dry film thickness may be measured by various methods depending upon the surface type.

Epoxy
Epoxy is a resin type used in paint coatings.

Epoxy resin is normally reacted with hardeners or curing agents, the chemical reaction creates a tightly bound cross-linked film.
In general, epoxy coatings have excellent adhesion and corrosion resistance, good hardness and wear resistance and can be overcoated with most coatings.

Please note, when epoxies are exposed to UV light the top few microns will chalk and yellow. This change does not impact on the performance properties but rather only impacts on the coating's appearance. Hence where exterior aesthetics are important a UV durable topcoat such as a exterior durable polyurethane is recommended.

Ferrous Metal
A metal or alloy containing iron. Examples include steel, cast iron, and stainless steel. Ferrous metals such as steel are commonly used in the building and construction industry due to their abundance, relatively low cost, high tensile strength and ability to be fabricated.

Induction time
Induction time is the dwell time between when the Part A and B components of a two pack product are mixed and when they may by applied to the surface.
The induction time allows the chemical reaction to commence in the mixed paint in the can prior to application.
Induction time is normally only 10-15 minutes depending upon the product and paint temperature.
Most two pack products today do not have an induction time.

Micaceous Iron Oxide
Micaceous Iron Oxide(MIO) is a pigment used in paint coatings. The MIO pigment is used for is excellent barrier properties and for decorative effect.

Micron
Unit of measure, one thousandth of a millimetre. The typical unit of measure used to express the film build of paint coatings.
E.g. a sheet of office paper is approximately 100 microns thick. In comparison, high performance protective coating system may be 250 microns thick and will provide service life of up to 25 years.

Note: For protective coatings, application of the correct film build is critical to provide corrosion protection. Without the correct film build an appropriate barrier is not created to prevent moisture attacking the underlying metal surface.

Mixing Ratio
Mixing ratio is the ratio in which two-pack coatings are to be mixed. For example 4A:1B by volume means 4 Litres of Part A mixed with 1 Litre of Part B (ie 5 litres of paint). The volume mixed may be scaled back as required as long as the ratio is consistent for example if only one litre is required at 4A:1B you would mix 800mL Part A with 200mL Part B.

Non- Ferrous Metal
Any metal, including alloys (metal mixtures), that does not contain iron in appreciable amounts.
Examples include aluminium, bronze, copper, zinc, tin.

Overcoating Interval
The time window in which a paint coating may be over coated.
Overcoating intervals vary depending on the type of coating, the topcoat to be applied, the surface temperature along with other factors.

Typically a minimum and maximum overcoating interval are specified. If the maximum overcoating interval is exceeded, the surface may required to be roughened prior to application of subsequent coatings.

Polyurethane
Polyurethane is a type of resin systems used in paint coatings.

Polyurethanes in general have excellent resistance to UV light giving them excellent colour and gloss retention . This makes them an excellent choice as a protective coating topcoat for exterior exposure. They are also abrasion and chemical resistant and have very good temperature resistance. Poly U400 and Colourthane are examples of exterior durable two-pack polyurethanes.

Polyurethane paint coatings contain a very small portion of free-isocyanate which may cause sensitisation on exposure. Therefore, as with all protective coatings, the appropriate precautions must be used to prevent exposure.

Potlife
Potlife is the working time of a two-pack product starting from once the Part A and B have been mixed together.
When the components are mixed the chemical curing process has commenced. Once the potlife time has past the coating should no longer be applied even if the paint is still liquid.

Saponification
Saponification is a process that produces soap. So what does this have to do with paints?

If an oil based enamel (alkyd) is applied to a zinc coating (either galvanising or a zinc rich primer) the coating will initially adhere but over a short period of time the coating will react with the zinc to form a layer of soap at the interface. This will then interfere with the coating adhesion and the coating will peel away from the zinc layer resulting in premature coating failure.

Thinner
A thinner is a solvent or blend of solvents primarily used to reduce the viscosity of a paint allowing effective application properties.

The correct thinner must be chosen to effectively reduce the viscosity of a coating, refer to the product label or technical data sheet to determine the correct thinner.

For solvent based coatings, the thinner is also used to clean up application equipment.

Two-pack
Two pack coatings consist of Part A and Part B components that must me mixed together before application.
When mixed, the components undergo a chemical reaction creating a tightly bound, cross-linked coating.

Volume solids
The portion of paint, expressed as a percentage that remains once the coatings solvent has evaporated during the paint curing process.

Wet film thickness (wft)
The thickness of a paint film measured when wet. Wet film thickness is normally measured using a comb gauge.

Viscosity
Viscosity is used to describe how a coating flows when mixed or poured, sometimes referred to as the “thickness” of a coating. For example, cream has a higher viscosity compared to milk.

Zinc
Zinc is a metallic pigment used in zinc rich coatings such as Killrust Cold Galvit and Galvit EP100.

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