

Epoxy Application and Curing Notes

CURING

- The curing reaction of an epoxy coating begins immediately the two components are mixed together. Curing time and pot life are affected by temperature - an increase in temperature will accelerate the reaction, a reduction will slow it down. Relative humidity, air movement, film build, substrate and ambient temperatures, are also important factors to consider in both the application and curing of the coating.
- For most two component epoxy based products, full mechanical cure (and chemical resistance where appropriate) will not be achieved until after 7 days curing at a constant temperature of 23°C. All curing times indicated on individual Product Data Sheets are given for guidance and relate to application at the stated film thickness.
- Coatings should only be applied when favourable ambient conditions can be maintained throughout the critical application and curing process.

BLOOMING

- When many two component epoxy coatings are subjected to poor ventilation, high humidity, low temperature or condensation during the application and curing/drying period, a serious risk of amine/amide 'blooming' exists. This can occur either in-shop or outdoors if the steelwork has been exposed to the elements too soon.
- Blooming is characterised by a hazing/whitening of the surface which may have a greasy feel to the touch. There will be a visual loss of gloss or a dulled appearance and this may vary in severity across the affected area. This is purely an aesthetic effect and will not impair the durability of the coating.
- However, **the presence of this bloom may have serious effects on the adhesion of subsequently applied coatings**. It must, therefore, be completely removed before further coats of paint are applied. Removal can usually be achieved by swabbing the affected area with epoxy thinner or other suitable solvent using a plentiful supply of clean rags, changed frequently.
- It is therefore imperative that all Product Data Sheet conditions covering air movement, temperature, humidity and dew point are strictly adhered to during all phases of application and curing. The surface of an epoxy coating should be thoroughly inspected before overcoating to make sure that no amine/amide bloom is present.

CHALKING & COLOUR STABILITY

- Two component epoxy coatings, as a generic group, are prone to 'chalking' when exposed to ultra-violet light (sunlight). The term 'chalking' refers to the formation of a white, chalky powder on the surface of the paint film. This condition occurs to some degree with all paint types, but is far more prevalent with epoxy coatings.
 - The degree of chalking is dependent on the exposure conditions. General colour stability may be affected and there may be localised colour variation. However, this does not adversely affect the performance of the coating in the short term.
 - Epoxy primed steelwork destined for long term external exposure should be overcoated with a high performance decorative finish to prevent chalking and general deterioration. Please contact our Technical Help Desk for suitable recommendations.
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