

DECORATIVE COATINGS

GENERAL TECHNICAL DATA SHEET

TECHNICAL TERMS

In order to comprehend fully the technical data sheets and the various types of paints and painting methods, it is imperative for the reader to have a fair knowledge of the terms used.

MICRON (μ) : Metric unit used to designate film thickness.

1 micron = 1 mm / 1000 (One thousandth mm) = 0.000001m (One millionth m). Also written as μm or um.

MIL: American unit used to designate film thickness. Also called “thou”.

1 mil = 25 microns (25.4 is the actual value, but rounded in this manual).

VOLUME SOLIDS : Volume Solids of a paint is the ratio of the nonvolatile components present in it to the total volume. Also termed Solid Volume Ratio (SVR) or SV%. This is the most important factor which determines the coverage of a paint.

It is calculated by the following equation :

$$SV\% = \frac{\text{Dry film thickness} \times 100}{\text{Wet film thickness}}$$

DRY FILM THICKNESS (D.F.T) : The thickness that the application of a paint film gives rise to when it is dry. Measured in microns. An adequate film thickness is mandatory for the success of any coating system. Under application will result in premature failure of the paint system. Exceeding the specified film thickness can be equally dangerous. The D.F.T. recommended will depend on the type of paint system and nature of surface.

WET FILM THICKNESS (W.F.T) : The thickness in microns, the wet film possess immediately after application. Measurement of W.F.T. is useful in enabling to keep the D.F.T. at the desired level, by applying the paint at a pre-judged W.F.T., calculated by the following equation:-

$$WFT = \frac{DFT \times 100}{SVR}$$

THEORETICAL SPREADING RATE (T.S.R.) : The area covered by unit amount of paint when applied is referred to as Theoretical Spreading Rate or simply Spreading Rate at that particular D.F.T. Since T.S.R. is a function of DFT, it should be clearly specified while stating T.S.R.

It is calculated by the equation :-

$$T.S.R. (M^2/litre) = \frac{SVR \times 10}{DFT \text{ (microns)}}$$

THEORETICAL PAINT CONSUMPTION: Theoretical Paint Consumption (litres) = $\frac{AREA (M^2)}{TSR}$

PRACTICAL SPREADING RATE (P.S.R.) : Practical Spreading Rate is calculated from T.S.R. by providing the appropriate loss factor.



TECHNICAL TERMS

FLASH POINT : The lowest temperature, at which the solvent in the paint gives off sufficient vapour to form ignitable mixture with the air above its surface.

TOUCH DRY : When a very light pressure with the finger does not leave a mark on the surface.

DRY TO HANDLE : When the paint surface is sufficiently hardened to be freely handled without damage.

HARD DRY : When the drying has reached such a stage that if desired, a further coat can be satisfactorily applied, if necessary.

SPECIFIC GRAVITY : Weight in kg per litre of a paint.

CURING AGENT : In two-component materials the component which produces the chemical reaction linking the molecular chains of the binder together in a rigid structure.

CURING : Hardening of the liquid paint by heat or by chemical reaction.

POT LIFE : The chemical reaction sets in immediately after the component of a two-component paint is mixed, which starts thickening / gelling. The period after mixing the components during which the paint remains usable is called pot-life. Pot-life depends on the temperature.

SHELF-LIFE : The time that a paint will remain in good, usable condition when stored in the original sealed container under proper storage conditions.

SHOPPRIMER : A shopprimer is used to protect derusted “steel” against corrosion during the storage and erection period until the ultimate protective paint system can be applied.

HIGH BUILD PAINT : A paint which can produce thick dry films per coat.