Active protection against property fires through the application of flame retardant paints and coatings.

**DM875**

**BASE COAT PRIMER FOR FLAMMABLE SUBSTRATES**

(INDUSTRIAL/COMMERCIAL)

- New build and refurbishments
- Upgrade undercoat paint for solvent and water based solutions
- Suitable for interior wall and ceiling applications
- Very low VOC content, compared to traditional FR additives

**COVERAGE:**

**2 COAT SYSTEM**

**5M² PER LITRE PER COAT**

**UPGRADE**

DM875 is a passive fire retardant coating designed to achieve EN13501-1 on a Flammable Substrate such as Plaster Board previously coated with multiple coats of Solvent based paint. The most common practice is to use an intumescent base coat beneath an FR Decorative Paint. Intumescent paints pose several problems in that they are a heavy coating thickness of typically 2.5m²/litre and difficult to apply evenly. Intumescent coatings also contain substances that are not environmentally friendly and as a result can be expensive, particularly considering the low coverage rates.

**NEW BUILD**

DM875 provides for an inert, environmentally friendly, fire retardant water based coating, with low VOC’s. It can be applied as an easy to use two coat system at a rate of 5m² per litre per coat to enable a dry film thickness of 100µm. It enables a paint producer to work towards achieving EN13501-1 B-S1,d0 as part of a paint system by using DM875 as a base coat underneath a branded water or solvent based paint.

DM875 can be specified for new build and refurbishments and as an upgrade undercoat for flammable substrates. It is recommended that DM875 be tested on specific substrates in accordance with EN13501-01 and in conjunction with your paint system.

EN13501 is the classification of reaction to fire performance derived from the results of 2 tests. The single flame source test, BS EN ISO 11925-2:2010 is not usually performed as part of an indicative test. The second test, BS EN 13823:2010 probes the reaction to fire of building products exposed to thermal attack by a single burning item (SBI).

The substrate on to which DM875 was applied consisted of 12.5 mm thick soundbloc plasterboard painted with 10 alternating coats of white and pigmented solvent-based gloss at 14 m²/per ltr. Multiple coats of DM875 were then applied to achieve a dry film thickness of ~100 µm, equivalent to 2 coats at ~220 mm wet film thickness or ~5 m²/per ltr per coat.

The EN13823 SBI test consists of applying a 30 kW gas flame to the corner of two boards placed at right angles to each other. The total heat released is recorded along with the smoke produced and several other physical observations.

The EN13823 criteria, other than heat produced are smoke and flaming droplets. In order to achieve the highest s1 classification for smoke then the smoke growth rate, SMOGRA, must be ≤30 m²/s-2 and the total smoke produced, TSP₆₀₀s, must be ≤50 m². The top rating, d0, for flaming droplets/particles requires that none are observed during the test. The contribution of the test piece to the heat produced consists of the total amount of heat produced, THR / MJ, and the rate at which it is released, HRR / kW; the fire growth rate, FIGRA, is calculated for specific points of total heat contribution by the specimen. The highest A ratings are for non-combustible products, i.e. they are not possible to obtain for this type of substrate. The highest rating for this substrate is B which requires that the FIGRA at the point at which the test piece has contributed 0.2 MJ to the total heat, FIGRA₀.₂MJ ≤120 W s⁻¹ and that the total heat produced in 10 minutes, THR₆₀₀s ≤7.5 MJ; in addition, no lateral flame spread, LFS, to the edge of the specimen is allowed.

The results for the DM875 coated specimen described above were: FIGRA₀.₂MJ = 27 W s⁻¹, THR₆₀₀s = 1.7 MJ, SMOGRA = 0 m² s⁻², TSP₆₀₀s = 12.5 m², no LFS and no flaming droplets.

For additional information, advice or technical information please call Dupré on 01782 383000 or visit www.micashield.com

Dupré Minerals Limited, Spencroft Road, Newcastle-under-Lyme, Staffordshire, ST5 9JE
Telephone +44 1782 383000 Fax +44 1782 383101 Email info@dupreminerals.com