



# DM875 FR UPGRADE BASE COAT PAINT FOR TIMBER

# FIRE RETARDANT UPGRADES

## FOR TIMBER PAINT SYSTEMS

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

EN 13501-1  
CERTIFICATION,  
CLASSIFICATION  
B-s1-d0

## 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 trim and external decorative applications
- Very low VOC content, compared to traditional FR additives

### COVERAGE:

**2 COAT SYSTEM**

**5M<sup>2</sup> PER LITRE PER COAT**

## NEW BUILD

DM875 is a passive fire retardant coating designed to achieve EN13501-1 on wooden substrates such as Pine, MDF Chipboard and Plyboard (excluding OSB). 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 2.5m<sup>2</sup>/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.

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 5m<sup>2</sup> 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 beneath 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.

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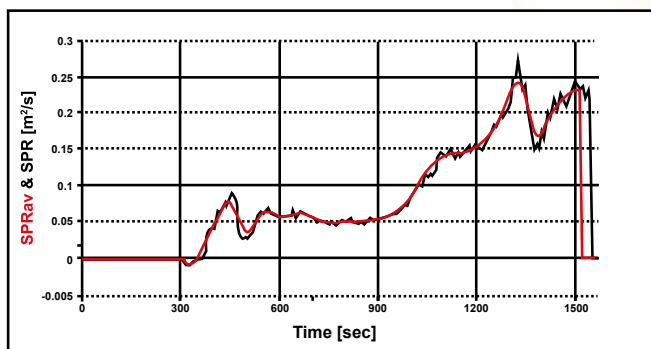
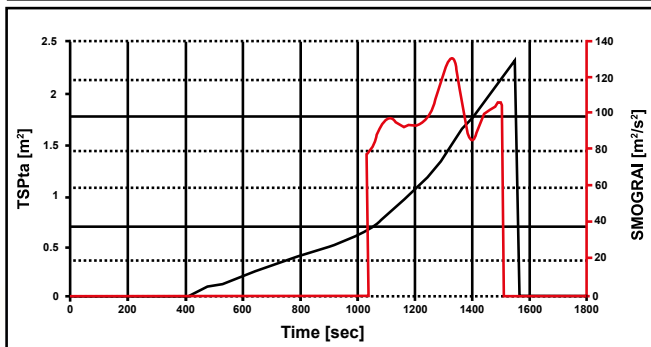
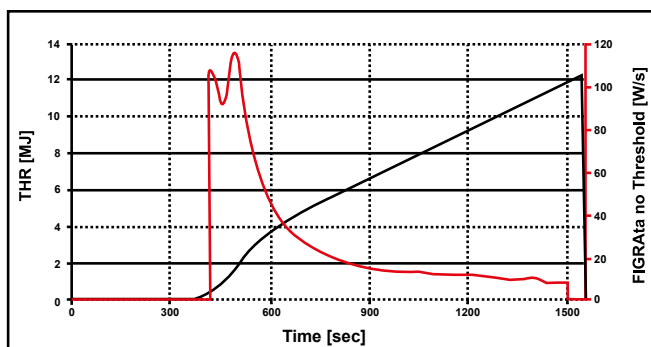
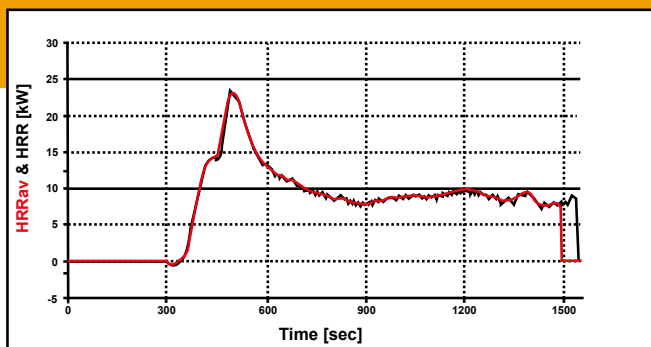
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### Heat Release

FIGRA_0.2 [W/s]	114.10		
FIGRA_0.4 [W/s]	114.10		
FIGRA [W/s]	114.10	B	B
THR600s [MJ]	6.49	B	

### Smoke Production

SMOGRA [m²/s²]	2.32	S1	S1
TSP600s [m²]	28.02	S1	

**2 COAT SYSTEM**  
**5M<sup>2</sup> PER LITRE**  
**PER COAT**



### Standard Used:

EN 13823:2010+A1:2014 EN13501-1

Indicative testing of DM875 FR basecoat to EN 13501-1:2007+A1:2009.

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 chipboard. 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 m<sup>2</sup> /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 m<sup>2</sup> s<sup>-2</sup> and the total smoke produced, TSP<sub>600s</sub>, must be ≤50 m<sup>2</sup>. 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, FIGRA<sub>0.2 MJ</sub> ≤120 W s<sup>-1</sup> and that the total heat produced in 10 minutes, THR<sub>600s</sub> ≤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:

FIGRA<sub>0.2 MJ</sub> = 114 W s<sup>-1</sup>, THR<sub>600s</sub> = 6.5 MJ, SMOGRA = 2.3 m<sup>2</sup> s<sup>-2</sup>, TSP<sub>600s</sub> = 28 m<sup>2</sup>, no LFS and no flaming droplets.

### Recorded Events

Surface Flash	No	
Falling of Specimen Parts	No	
Droplets <10s	No	d0
Droplets >10s	No	
Smoke Not Entering Hood	No	
Mutual Fixing of Backing Board Fails	No	
Conditions Justify Early Stop of Test	No	
Tendency Distortion / Collapse	No	
Excessive RHR	No	
Excessive Temperature	No	

**Estimated Class: B-S1,d0**

For additional information, advice or technical information please call Dupré on 01782 383000 or visit [www.micashield.com](http://www.micashield.com)



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