TECHNICAL DATA SHEET (TDS)

FRED® - CLASS A2-S1, D0 | FLAME RETARDANT PAINT | 2024/25

1. Product

1.1. Product Description

FRED is a waterborne class A2-S1,D0 intumescent coating which once dried will stop or strongly retard the passage of fire through the substrate it is applied on. FRED inhibits the formation of toxic fumes generated by fires of insulation, plastics, etc.

Applied on concrete substrates, it reduces spalling and loss of structural integrity.

FRED is applied with either an airless spray machine or a roller.

*Low to zero ignitability

*Low heat release

*High fire barrier capacities due to formation of raised charring and hence volume increase by 1000% when exposed to fire

*Can be used on most construction materials such as concrete, steel and polyurethane foam

*No primer needed on most surfaces

*VOC/solvent free

1.2. Product Adhesion

FRED can be adhere to the following substrates:

1.2.1. *Steel

1.2.2. *Insulation substrates

1.2.3. *Concrete

1.2.4. *Brickwork

1.2.5. *Timber

1.3. Product Limitations

FRED has the following limitations:

1.3.1. *Local building regulations need to be followed which is not the responsibility of Intelligent Membranes

1.3.2. *Always consult the SDS (Safety Data Sheet) prior to using FRED

1.4. Product Characteristics

1.4.1.	* Form: Orange liquid
1.4.2.	* Consumption: 0.6-2kg/m2
1.4.3.	* Density: 1.35 kg/litre (+/-0.1)
1.4.4.	* pH: 9.0
1.4.5.	* Solids (%): 70% (+/-2)
1.4.6.	* Adhesion: >0,5 N/mm2
1.4.7.	* Fire Class (EN 1365-1) : A2, s1, d0

1.5. Product Packaging

1.5.1.	*Tubs 10kg
1.5.2.	*Pallets 44 tubs of 10kg- Total 44kg

1.6 Product Storage Fred should be stored in the dry, out of direct sunlight, between 5-20 degree Celsius. Storage for 24 months of manufacture date in original unopened packaging

2. Application

2.1. Preparation

2.1.1.	*Remove any dust, loose parts and surface pollutants
2.1.2.	*Apply on closed surface, fill holes and joints with fast setting cement based product
2.1.3.	*Dry substrates may need a primer
2.1.4.	*Concrete, most types of bricks, spray foam insulation, steel, most types of wood do not need a primer
2.1.5.	*Porous or old substrates shall be moistened prior to application

2.2 Application

2.2.1.	*Mix the product well before use. Use a drill mounted paddle
2.2.2.	*Do not add water or solvents
2.2.3.	*Surface and environment temperatures during application and drying between 5-30 degrees Celsius
2.2.4.	*Apply FRED with an airless spray machine or roller. In 1 or 2 layers at the consumption of 0.6 to 2 kg/m2
2.2.5.	*Advised spray tips 531 or 421

2.2.5. *The drying time of FRED varies between 4-24 hours depending on conditions

2.3 Product Cleaning

2.3.1. *FRED can be easily cleaned using water

2.3.2. *FRED can be recycled once any FRED product has been removed from the tubs and lids. This can be peeled off when dry or cleaned out with water

3.0. Test report's

TEST METHOD	PARAMETER	NO.TEST	RESULTS
EN ISO 1716	PCS1) (MJ/kg)	3	

TEST METHOD	PARAMETER	NO.TEST	CONTINUOUS PARAMETER-MEAN	COMPLIANCE WITH PARAMETERS
EN ISO 1716 FRED – external nonsubstantial component	PCS (MJ/m2)	3	3.9	≤ 4 (A2)
EN ISO 1716 substrate – substantial component	PCS (MJ/kg)	-	≤	≤ 3 (A2)
EN ISO 1716 product as whole	PCS (MJ/kg)	-	≤	≤ 3 (A2)

TEST METHOD	PARAMETER	NO.TEST	CONTINUOUS PARAMETER-MEAN	COMPLIANCE WITH PARAMETERS
EN 13823+A1	FIGRA0.2MJ (W/s) THR 600S (MJ) LFS < edge of specimen SMOGRA1) m2/s2) TSP600s 1)(m2) No flaming droplets/ particles	3	0.0 0.5 - 0.0 37.1 -	120 (A2) 7.5 (A2) yes (A2) 30 (s1) 50 (s1) yes (d0)

The value of the gross heat of combustion in MJ/m2 is determined through basis weight of the dry coating. The required reaction to fire class A2 is satisfies with basis weight of the dry coating ≤ 0.4 kg/m2.

Fred has a 25 minute Warrington fire test rating – Testing was completed on a load bearing timber frame wall with a load of 8kN per l/m – Tested to standard BS EN 1365-1 :2012 + corr 2013.

4.0. Do's and don'ts

DO'S

4.1. Do remove dust, loose parts and surface pollutants

4.2. Do mix before use with a drill mounted paddle mixer

4.3. Do REMOVE FILTERS from airless spray machine before use with Surface Pro

4.4. Do use appropriate PPE according to the nature of the work

4.5. Before using a new/different product completely drain or bleed and flush lines or equipment from previous products

4.6. Clean up any spills in the area immediately to avoid slippery surface

4.7. Use the drip tray when possible

4.8. Do use the correct tip size and pressure suited to the person spraying the product and the product itself

4.9. Do store in a safe place away from freezing temperatures/extreme heats

4.10. Do recycle or clean and re-use empty tubs

4.11. Do use a wet film gauge to measure the thickness of the product

4.12. Do mask any surface areas you do not want to get hit from potential overspray

4.13. Do always follow H&S guidelines

4.14. Do always know where on side accident kit is kept in case of emergency

4.15. Do always read the product sheet for further instructions and guidance before application

4.16. Do seal tub back up after use

4.17. Do use a wet film gauge to verify applied thickness of at least 0.5kg/m2 see product sheet for further details

DON'TS

4.18. Do not use under 5 degrees temperature expecting to drop below 5 degrees or freezing point within the next 24-48 hours

4.19. Do not mix/dilute with water or solvents

Do not use filters in airless spray device (latex can congeal)

4.20. Do not consume

4.21. Do not use for anything else other than its intended purpose

4.22. Do not mix with any other products

4.23. Do not spray LESS than the guided amount of at least 0.6-2 kg/m2 or ~600 micron verify with wet film gauge

4.24. Do not keep outside in cold temperature/always store in a safe place

4.25. Do not fade out/overspray, always have a solid edge

4.26. Do not differ from given product sheets and data

5.0 FRED GALLERY

5.1. Testing on spray foam insulation

5.2. Application on a load bearing timber frame panel

5.3. Testing on a load bearing panel

5.0. DATE OF THIS EDITION: 12/02/2025/26

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