



## TECHNICAL DATA SHEET

### 4 Properties in 1 Paint

1. **Fire Resistant** protecting your homes, schools, hospitals etc.
2. **Non Toxic & Emission Free** not harmful to you.
3. **Durable** robust and designed to last.
4. **Excellent Coverage** saving time and money.

### General Product Description

Protecta® Interior Paint FR-1 is a **decorative paint** with special properties to protect against spread of fire and protect people's health against harmful chemicals. It is a hard-wearing interior acrylic paint, formulated to the highest specification and offering unsurpassed intensity of colour.

All colours are water-based and provide a smooth, rich and non-reflective finish. It is perfect for a contemporary look and to hide surface imperfections. Protecta® Interior Paint FR-1 is a one-layer system that normally requires no primer, no top coat, is easy to use and very easy to clean up.

### Properties & Precautions

- Best possible reaction to fire resistance classification turning combustible surfaces fireproof in both walls and ceilings, perfect for protecting wood.
- Painting wooden particle walls transforms them from a combustible non-fire rated wall to a fire-classified wall that can be used as part of a fire compartment system.
- Painting on top of existing paints, both water and solvent based will protect the old surfaces against fire making FR-1 ideal to upgrade fire safety in existing buildings without having to tear down and rebuild construction elements. Perfect for upgrading architectural protected buildings where walls, ceilings, doors, covings etc. are required to be kept in their original form and material.
- Non-toxic and emission free with near zero VOC and best possible emission classifications makes the paint perfect for anyone not wanting to breathe the toxic chemicals and especially people suffering from asthma, allergies or any other breathing related diseases.
- Durable, robust and designed to last, can be cleaned with a damp cloth without the risk of washing off the paint. Durability is especially important on surfaces where abrasion occurs, for instance walls in hallways and staircases. The paint is not designed for use on floor surfaces.
- Excellent coverage with a spray applied one-coat system which is cost effective saving paint and especially application time. Brush and roller applications can also be performed, often in only two coats. No topcoat needed.
- Suitable for most surfaces, including concrete, bricks, masonry, primed steel, wood, gypsum, plastics and most non-porous surfaces, in most cases without a primer.
- Halogen free with added preservatives that resist bacteria and fungal growth providing extra protection to health in addition to the non-harmful emissions, and it also protects the underlying substrates.
- The paint is not intended for application on bituminous substrates or substrates that can exude certain oils and plasticizers or solvents, and is not recommended for use in constant humid areas.
- The paint's durability is expected to be at least 12 years making it a cost effective option when compared with normal paints with limited durability.
- Do not apply in very damp or humid conditions or extremes of temperature.



### Application

#### PREPARE

Before painting ensure the surface to be painted is clean, dry and free from grease, dirt, dust, and other contaminants. Remove any old or flaking paint until you have a sound surface; if in doubt remove all existing coatings. Please see the primer chapter on page 2.

#### ROLLER/BRUSH

For roller and brush application, dilute the paint with water. The paint can be diluted up to 20% (by volume), but 5% is the preferred amount. Add the water into the paint while stirring thoroughly to ensure complete mixing. Use a medium pile roller and apply no more than 150µ in one coat to get the best results. Increase the WFT loading required for the fire protection by the amount the paint was diluted, for example, if the fire protection loading was 370µ and the paint was diluted by 5% the loading that now needs to be applied is ~390µ WFT. Alternatively to ensure the correct loading has been applied simply apply all of the FR-1 paint specified to coat a given area regardless of how much it was diluted. Remove excess paint from the brush or roller on the rim of the paint pot and then wash brush/roller with water.

#### SPRAY

The paint can be applied in one coat using spray equipment, for example, the Graco X-Force Spray Gun with a tip size 17-21thou. The paint can also be diluted for spraying but the fire protection loading would need to be adjusted as described above.

#### FILM THICKNESS TABLE (FOR FIRE RESISTANCE)

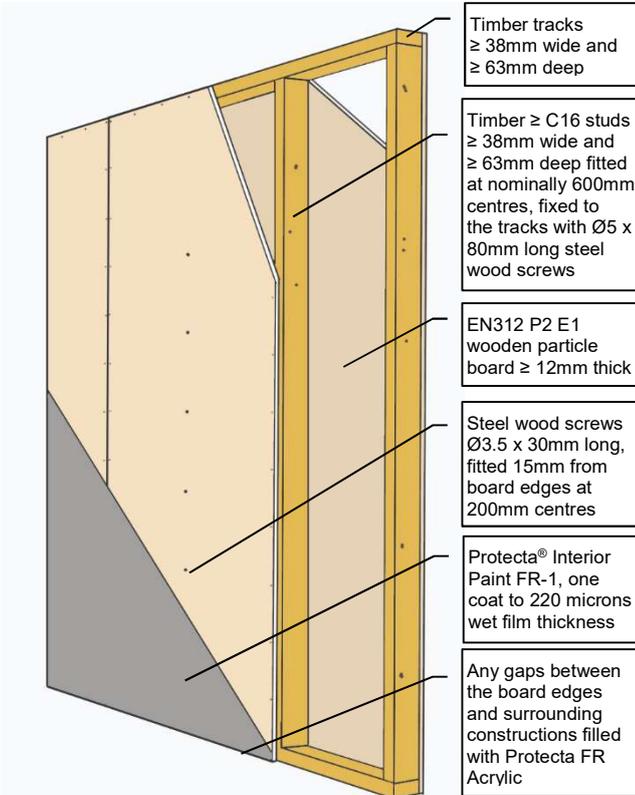
Description	m <sup>2</sup> per litre paint	Fire classification
Between 220µ and 370µ WFT on any wood based substrate with a thickness of at least 10mm and a density greater than 510kg/m <sup>3</sup>	2.7 - 4.5	B-s1,d0
280µ WFT as topcoat on existing water based paint on any wood based substrate with a thickness of at least 10mm and a density greater than 510kg/m <sup>3</sup>	3.5	
280µ WFT as topcoat on existing solvent based paint on any wood based substrate with a thickness of at least 10mm and a density greater than 510kg/m <sup>3</sup>	3.5	B-s2,d0
220µ WFT on wooden particle board classified according to EN 312 P2 E1 in one layer with a thickness of at least 12mm	4.5	K <sub>1</sub> K <sub>2</sub> 10 B-s1,d0
See details on page 2	4.5	EI 30

The wood based substrate can be installed with a ventilated or a non-ventilated air gap behind, as well as without air gap. 1000µ = 1.0mm, WFT = Wet Film.



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### Detail Drawing for EI 30 Classification



### Emission Data (indoor air quality)

Compound	Emission rate after 3 days	Emission rate after 4 weeks
TVOC	0.22 mg/m <sup>3</sup>	< 0.005 mg/m <sup>3</sup>
TSVOC	< 0.005 mg/m <sup>3</sup>	< 0.005 mg/m <sup>3</sup>
R-value (dimensionless)	0.38	0
Sum w/o NIK	< 0.005 mg/m <sup>3</sup>	< 0.005 mg/m <sup>3</sup>
Formaldehyde	< 0.003 mg/m <sup>3</sup>	< 0.003 mg/m <sup>3</sup>
Total carcinogens	< 0.001 mg/m <sup>3</sup>	< 0.001 mg/m <sup>3</sup>
Acetaldehyde	0.003 mg/m <sup>3</sup>	< 0.003 mg/m <sup>3</sup>
Propionaldehyde	< 0.003 mg/m <sup>3</sup>	< 0.003 mg/m <sup>3</sup>
Butyraldehyde	< 0.003 mg/m <sup>3</sup>	< 0.003 mg/m <sup>3</sup>

Regulation or Protocol	Conclusion
French VOC Regulation	A+
French CMR components	Pass
AgBB	Pass
Belgian Regulation	Pass
Indoor Air Comfort®	Pass
Indoor Air Comfort GOLD®	Pass
EN 717-1§	E1
BREEAM International	Compliant
BREEAM-NOR	Pass
LEED v4 (outside U.S.)	Compliant

Tested by Eurofins Product Testing; reports available upon request.

### Primers

Protecta® Interior Paint FR-1 can normally be applied without a primer, but there are a few exceptions.

Interior Paint FR-1 should not be applied directly onto gloss paints. Zinsser Bulls Eye 123 primer can be used as a tie coat to give Interior Paint FR-1 good adhesion to previously painted surfaces including gloss surfaces (P360/039).

Knots and stains should be sealed before applying Interior Paint FR-1. Here is a list of primers that can be used to seal knots and stop staining in order of effectiveness of the stain blocker:

1. Zinsser BIN
2. Ronseal Knotblock
3. Zinsser Bulls Eye 123
4. Colron Knotting Solution

### Colours

Protecta® Interior Paint FR-1 can be supplied either in a white base or in a colour of your choice mixed in our in-house colour tinting machine. White base can be used as white or as base in many colour tinting machines, including but not limited to Colour Genie.

For available in-house colours please refer to our Colour Chart.

### Technical Data

Type	Acrylic based intumescent paint
Cure system	Water loss
Health and safety	Non-hazardous
Tests standards	EN 13823 and EN ISO 11925
Classification standards	EN 13501-1 and Regulation (EU) 2016/364
Colour	White base, matt
Specific gravity	1.40g/cm <sup>3</sup>
Solids (theoretical)	70%
VOC	0.0001 g/L
Touch dry	1 hour at $\sim 22^\circ\text{C}$ & 50% RH *
Hard dry	1.5 hour at $\sim 22^\circ\text{C}$ & 50% RH *
Application conditions	Minimum $+10^\circ\text{C}$ and humidity lower than 80%
Temperature range	$-30^\circ\text{C}$ to $+80^\circ\text{C}$ (when hardened)
Durability	Type Z <sub>2</sub> internal conditions with humidity lower than 85% R.H, excluding temperatures below $0^\circ\text{C}$
Shelf life	Up to 6 months when stored in cool dry well ventilated areas between $+20$ and $+25^\circ\text{C}$
Work life	12 years
Packaging	10 litre pails, 200 litre drums, 1000 litre IBCs

\* Drying times are dependent on temperature, RH & film thickness.

### Health and Safety

Keep container tightly closed when not in use. Avoid contact with eyes and skin. Eyes and skin should be rinsed immediately with cold water. Dispose of contents and container in accordance with local, regional, national or international regulations. Contains 1,2-Benzisothiazolin-3-one. May produce an allergic reaction. Keep out of reach of children. More detailed information can be found in the relevant Protecta® Safety Data Sheet.