



# PYROPLAST® WOOD T SYSTEM

## WATER-BASED FIRE PROTECTION COATING SYSTEM FOR WOOD

Revised 07/2023 Issue 1

### PRODUCT DESCRIPTION

A 1-pack, ecological and efficient water based, transparent fire protection coating which forms a carbon char under the effect of heat. It is thoroughly tested to provide spread-of-flame protection and delays the inflammation of interior natural wood and wood derivatives.

- Free of aromatic solvents

### RECOMMENDED USE

Used as reduction of ignitability of soft- and hardwood  $\geq 10$  mm thickness and other timber derivatives, e.g. plywood, chipboard, fibre insulation board, hardboard and also on veneering  $\geq 13$  mm thickness.

Insulates against heat, checks fire, prevents propagation of fire and spread of flame and diminishes fluegas temperatures.

It should not be used in areas of high humidity, heat sources or on surfaces where significant physical impact is likely such as floors, stairs, etc.

### PRODUCT TECHNICAL DATA

<b>Weight Solids:</b>	Pyroplast® Wood T Primer: $65 \pm 2$ % Pyroplast® Wood T: $63 \pm 2$ % Pyroplast® Wood Top T: $44 \pm 2$ %	<b>Density:</b>	Pyroplast® Wood T Primer: 1.0 kg/l Pyroplast® Wood T: 1.3 kg/l Pyroplast® Wood Top T: 0.95 kg/l (may vary with colours)
<b>VOC:</b>	40 g/l determined practically in accordance with Protective Coatings Directive of German Paint Industry Association (VdL-RL 04). 41 g/l calculated from formulation to satisfy EC Solvent Emissions Directive. 31 g/kg calculated from formulation to satisfy EC Solvent Emissions Directive (UK).	<b>Shelf Life:</b>	18 months from date of manufacture, stored in originally sealed containers in a cool and dry environment. Protect against frost.
<b>Colours:</b>	Transparent	<b>Recommended Application Methods:</b>	Airless Spray, Brush and Roller
<b>Flash Point:</b>	Pyroplast® Wood T Primer: $> 101^\circ\text{C}$ Pyroplast® Wood T: $> 101^\circ\text{C}$ Pyroplast® Wood Top T: $\sim 30^\circ\text{C}$	<b>Typical Thickness</b>	
<b>Cleaner/Thinner:</b>	Pyroplast® Wood T Primer and Pyroplast® Wood T: Water (for cleaning) Thoroughly clean tools and equipment immediately after use. Do not thin Pyroplast® Wood T Primer and Pyroplast® Wood T.  Pyroplast® Wood Top T: Unitherm® Thinner (for cleaning) Thoroughly clean tools and equipment immediately after use. Do not thin Pyroplast® Wood Top T.	<b>Recommended Spreading Rate Per Coat:</b>	1 x 60 g/m <sup>2</sup> Pyroplast® Wood T Primer (depending on wood surface) 1 x 300 g/m <sup>2</sup> Pyroplast® Wood T (Wood class D $> 13$ mm) or 1 x 350 g/m <sup>2</sup> Pyroplast® Wood T (Wood class D $> 10 - 12$ mm) plus 1 x 50-60 g/m <sup>2</sup> Pyroplast® Wood Top T (mandatory)
<b>Pack Size:</b>	Single component material: Pyroplast® Wood T Primer: 5 kg (5.0 litre) Pyroplast® Wood T: 25 kg (19.2 litre) and 5 kg (3.85 litre) Pyroplast® Wood Top T : 10 kg (10.5 litre) and 2.5 kg (2.6 litre) Volume will vary with colours and density.	<b>Consumption rates are based on fire performance according EN 13501-1</b>	B EN 13823 FIGRA $\leq 120$ W/s and LFS $<$ edge of specimen and THR600s $\leq 7,5$ MJ and EN ISO 11925-2 Exposure = 30 s Fs $< 150$ mm within 60 s s1 SMOGRA $\leq 30$ m <sup>2</sup> / s <sup>2</sup> and TSP600s $\leq 50$ m <sup>2</sup> d0 No flaming droplets/particles in EN 13823 within 600 s

If consumption rates for alternative standards are requested, please consult the Technical Department of Sherwin-Williams.



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### AVERAGE DRYING TIMES

#### Pyroplast® Wood T Primer

	+ 20°C and 60% RH
Dry to touch	0.5 hours
Dry to handle	2 hours

#### Pyroplast® Wood T + Pyroplast® Wood Top T

	+ 20°C and 60% RH
Dry to touch	2 hours
Dry to handle	24 hours
To Recoat	48 hours with topcoat

A complete drying of the fire protection coating prior topcoat application is highly recommended.

Through-drying of the used Pyroplast® Wood T can be checked by 'finger-nail-test'.

Final cure: Approx. 48 hours after application at + 20°C object temperature and 60% relative humidity.

These figures are given as a guide only. Factors such as air movement, film thickness and humidity must also be considered.

### APPROVALS & ENDORSEMENTS

Independently fire tested and approved to major European and national standards including:

- EN 13501-1 (ref: K-3067/776/14-1)
- BS 476- 6 (ref: 264398), part 7 (ref: 264397)
- DIN 4102-1 (ref: Z-56.313-91)
- ASTM E84-08a (ref: 01.15209.01.077b)

### SURFACE PREPARATION

Substrate must be dry, free from dust, oil, wax, grease, dirt, resin, etc. Existing coatings with poor adhesion have to be completely removed, e.g. with solvent based paint stripper or to be sand down. Surfaces that have been treated with non-acid resistant coatings or release agents such as emulsion paints containing lime, chalk or lithopone should be sand down completely. Timber substrates with wetting difficulties should be roughened thoroughly with abrasive paper.

The moisture content of the timber should be below 15%.

Pre-treatment with wood preservatives:

If resistance to wet rot, fungi or insect attack is requested, we recommend using commercial preservative agents based on oil-alkyd resins provided they are compatible with the Pyroplast® fire protection system.

Apply Pyroplast® fire protection coating system only after the preservative treatment is completely dry. The moisture content of the timber should be below 15%. Pyroplast® Wood T Primer may be used to allow sufficient adhesion or avoid diffusion of wood ingredients on resinous wood.

### MIXING

The material is supplied ready for use; stir thoroughly with a mechanical paint mixer prior to application.

During mixing and handling of the materials always wear protective goggles, suitable gloves and other protective clothing.

### APPLICATION CONDITIONS

Substrate temperature shall be between + 10°C and + 40°C\* and at least 3°C above the dew point.

Material temperature shall be above + 15°C.

Relative air humidity shall be below 80%.

During application and drying of total Pyroplast® intumescent coating system including Pyroplast® Top T as well as transportation special protection measures must be taken against weathering.

\* If higher temperatures occur, please consult Sherwin-Williams for further assistance.



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### APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for satisfactory application characteristics. Always purge spray equipment before use with listed cleaner (water).

#### Airless Spray

Unit: Efficient airless equipment (pressure ratio > 30: 1)

Tip Size: 0.28 – 0.43 mm (0.011 – 0.017 inch)

Fan Angle: 40° - 80°

Operating Pressure: min. 180 bar (2600 psi)

Spray hoses: Ø 3/8 inch (10 mm), max. 20 m + 2 m  
with reduced Ø of 1/4 inch (6 mm)

Hoses must be used for water-based products only.

Temperature of material and equipment at least + 20°C. Remove sieves.

Pump directly (without connected suction hose). Material shall be applied undiluted.

The airless spray details given above are intended as a guide only.

Details such as fluid hose length and diameter, paint temperature and job shape and size all have an effect on the spray tip and operating pressure chosen. However, the operating pressure should be the lowest possible consistent satisfactory atomisation.

As conditions will vary from job to job, it is the applicators responsibility to ensure that the equipment in use has been set up to give the best results.

If in doubt consult Sherwin-Williams customer service.

#### Brush and Roller

- Material shall be applied in supply viscosity
- Load natural fine bristle brushes or short pile lambswool rollers are recommended
- Application of two coats of Pyroplast® Wood T to a load of 175 g/m<sup>2</sup> each coat is recommended

### RECOMMENDED SYSTEMS

#### Wood

Tie coat (depending on wood surface):

Pyroplast® Wood T Primer

Intumescent coating:

Pyroplast® Wood T

Topcoat (mandatory):

Pyroplast® Wood Top T

Apply two coats of Pyroplast® Wood T to a load of 175 g/m<sup>2</sup> each coat, in order to obtain a very smooth finish by cutting down wooden fibres, light sanding after the first coat may be recommend (e.g. with 150 grade paper).

### HEALTH & SAFETY

Consult Product Health and Safety Data Sheet for information on safe storage, handling and application of this product.

### WARRANTY

Whilst all statements made about our products (whether in this data sheet or otherwise) are correct and accurate to the best of our knowledge, we have no control over the quality or the condition of the substrate, the application conditions or the many other factors affecting your use and application of our product.

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