# AMOTHERM® WOOD WSB

## Fire protection system for wood

*Rev. November 2022*

## Transparent painting cycle consisting of an intumescent primer and protective finish

**Features:** painting cycle consisting of a base formulated with special resins in aqueous dispersion and specific reactive substances capable of generating a foam with thermal insulating properties, when subjected to the action of flame or the heat of a fire.
The protective finish, based on acrylic resins in solvent solution, is available in different degrees of gloss and must be applied to ensure the integrity of the underlying layer.
**Fields of use:** specific protective system for the fire protection of wooden structures and to reduce the reaction to fire of wooden products or derivatives placed inside.
Not suitable for the treatment of wood subject to wear such as furniture, doors, floors or other parts subject to abrasion and foot traffic. The system is NOT suitable for outdoor exposure or in humid environments.
**Technical performance:** the paint coating is classified:

- ***REACTION TO FIRE:***
  - EUROCLASSE B-s1,d0 according to EN 13501- parte 1. The classification is valid for the protection of wood, placed on walls or ceilings, as required by the technical criteria indicated in the standards EN 13823 reaction to fire tests for building products exposed to the thermal attack by a single burning item and EN ISO 11925 reaction to fire tests for building products - part 2: Ignitability of products subjected to direct impingement of flame.
  - *CLASS 1* in accordance with UNI 9796/90 pursuant to Italian Ministerial Decree 6/3/92 approved with no. BL876PVI100001. The classification is valid for the protection of all wood-based materials for all uses, the only restrictions being those indicated in UNI 9796 and referring to materials with air cavities or assembled with thermoplastic adhesives.
- **FIRE RESISTANCE:**
  classified according to EN 13381-7 for the purposes of mechanical resistance R for structural elements in wood, solid and glulam.

## Technical data

| Characteristics | PRIMER | TOPCOAT |
|---|---|---|
| Protective system | AMOTHERM WOOD WSB | AMOTHERM WOOD WSB TOP |
| Components: | water-based single-component | solvent-based single-component |
| Colour: | transparent, colourless | transparent, colourless |
| Gloss: | --- | matte (7 - 10 GLOSS)<br>satin (57 - 63 GLOSS) |
| Mass by volume: | 1.35 +/- 0.05 g/cm$^3$ | 0.93 +/- 0.02 g/cm$^3$ |
| Test viscosity: | Thixotropic | 600 - 1000 mPas (BROOKFIELD) |
| Dry residue in weight: | 64 – 66% | 43 – 45% |
| Drying time: | ▪ touch dry 4 - 6 hours<br>▪ through-dry 24 – 48 hours | ▪ touch dry 10 - 12 hours<br>▪ through-dry 24 – 36 hours<br>▪ treated items not stackable |
| Recoatable: | after 6-12 hours with same product | --- |
| Topcoat: | --- | 24 hours after the last coat |
| Storage: | at least 1 year in the original and well-sealed packaging at temperatures between 5°C and 35°C. KEEP AWAY FROM FROST. | |
| Packaging: | as per price list | |


**Sede legale e amministrativa | Verwaltungssitz | Legal & admin.head office:**
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*The technical data given above refer to the results obtained for the transparent formula in the deep opaque version. The product application details were obtained in normal environmental conditions (temperature 20 °C and relative humidity 60%) and refer to the application of a wet film of thickness 150 micron. Application of different thicknesses and/or in different environmental conditions may lead to considerable variations in the technical features given above.*

## How to apply

Detailed information about the use of AMOTHERM WOOD WSB at all operative stages in the life cycle of the product, can be found on the Safety Data Sheet (SDS). Further information and instructions for applying the protective system can be found in the USER MANUAL. The technical product documentation is available on the company website and can be downloaded at www.amonncolor.com.

A summary of the standard operating conditions for the correct application of this intumescent coating is given below.

**Surface preparation**: the intumescent primer must be applied directly to raw wood or wood treated with a non-film-forming primer but not with wax or water-repellent products.

The surfaces to be treated must be clean and dry; we recommend carefully removing dust and any traces of oil and grease.

Any layers of old paint must be removed by sandblasting, planing or deep sanding.

If unknown impregnating treatments have been used and/or the treated wood is exotic or unusual, we recommend carrying out a compatibility test on the surface.

As the fire protection system is a film-forming treatment (closed pore), it is important to check that the moisture content of the surface does not exceed 13% before it is applied.

**Application quantity**: the amount of product to be applied is determined by the reaction or resistance to fire requirements.

- **REACTION TO FIRE:**
  - *EUROCLASS B-s1,d0*: 360 g/m$^2$ of AMOTHERM WOOD WSB intumescent primer + 100 g/m$^2$ of AMOTHERM WOOD WSB TOP protective topcoat.
  - *CLASS 1*: 400 g/m$^2$ of AMOTHERM WOOD WSB intumescent primer + 120 g/m$^2$ of AMOTHERM WOOD WSB TOP protective topcoat.
- **FIRE RESISTANCE:**
  - apply from 360 to 670 g/m$^2$ of AMOTHERM WOOD WSB intumescent primer followed by 100 g/m$^2$ of AMOTHERM WOOD WSB TOP protective topcoat.

**Product preparation:** mix the products well before use.

**Dilution:** the products are ready to use. If dilution is necessary, follow the instructions in the table below; if necessary, raise the temperature of the primer by warming it in bain-marie.

**Application:** by conventional or airless spray, roller or brush. When applying the AMOTHERM WOOD WSB intumescent primer, normal consumption is approx. 180 - 200 g/m$^2$ of product per coat. Always leave at least 6 hours between coats. We recommend working in an ambient and product temperature of at least 15°C with relative humidity below 60%.

These conditions must be maintained for the duration of the treatment and until the paint is completely dry. Do not apply if it is raining or if there is mist or high humidity. If environmental conditions are unfavourable, the paint dries very slowly, and the surface may end up with a rubbery feel and a milky appearance.

After at least 24 hours from the last coat and when the paint is completely dry (SHORE A 50), apply 100 - 120 g/m$^2$ of AMOTHERM WOOD WSB TOP protective topcoat in one or two coats using a brush/roller or spray.

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| METHOD | % dilution | pressure | nozzle |
|---|---|---|---|
| *Brush/roller* | --- | --- | --- |
| *Air spray (cup spray gun)* | *0 - 10% (Water**)* | *2.0 – 3.0 bar* | *2.0 – 3.0 mm* |
| *Airless spray** | --- | *120 – 180 bar* | *0.011 - 0.015 inch* |

AMOTHERM WOOD WSB TOP

| METHOD | % dilution | pressure | nozzle |
|---|---|---|---|
| *Brush/roller* | --- | --- | --- |
| *Air spray (cup spray gun)* | *5 - 15%*** (Paint thinner o PU)* | *2,5 – 3.5bar* | *1.5 – 2.0 mm* |
| *Airless spray** | --- | *120 – 180 bar* | *0.011 - 0.015 inch* |

* Use an airless pump for spray application:
  - Pneumatic pump with a compression ratio of 30:1
  - Electric pump with motor power of at least 1.9 KW

** always add the water very slowly, checking that the temperature of the product and the water is not below 15 °C.

*** for applications not subject to directive CE / 2004/42

**Tool cleaning:** use water immediately after use for the intumescent primer; use STUFEX 003 thinner (or nitro thinner) for the protective topcoat.

**Warnings:**

- Always mix the product thoroughly with a paddle mixer or stainless-steel rod before using it.
- Applying more product per coat than indicated in this data sheet can cause problems, such as the varnish becoming cloudy or turning white, dripping, etc…
- If the treated item is exposed to temperatures above 40 °C or direct sunlight, we do not recommend using water-based impregnating treatments.
- This treatment is intended for indoor use but may also be applied to outdoor wooden structures only if they are protected from the elements (roof canopies). Long-lasting results are guaranteed if the following precautions are taken:

  1. More exposed outdoor structures, normally eave beams or columns, must be protected from the elements. Contact with rainwater is acceptable only if occasional and accompanied by strong wind. The product must therefore not be applied to wooden structures that are flush with the roof.

  2. Wooden structures which are protected but are south and south-west facing must be colourless or painted in light colours. Elements in dark wood, such as walnut or mahogany, cannot be treated.

3. The structures must be protected with two coats of the solvent-based AMOTHERM WOOD WSB TOP topcoat for a total consumption of approx. 200 g/m² (100 g/m²x2) and must be properly maintained in order to promptly repair any damage to the paint film.

- Items protected with this treatment cannot be stacked as they are subject to blocking.
- If stored at a higher temperature than the stated limits, the finish product may develop a thixotropic "false body" and appear thickened. After reconditioning with a mechanical stirrer for at least 5 minutes, the product resumes its normal appearance and its characteristics are not affected.

**The instructions provided in this document represent the most recent state of the information, development and use of product. The application of the materials is out of our control and, therefore, we can only answer for the constant quality of the product supplied.**