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## Product type

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**NORFLAM® W314** is a water-based low-VOC transparent flame retardant stain for thermally modified wood.

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## Product description

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**NORFLAM® W314** is a flame retardant for thermally modified spruce and pine.

NORFLAM® W314 provides a transparent / semi-transparent matt smooth finish.

NORFLAM® W314 suits perfectly also for EXT applications.

NORFLAM® W314 is a fresh made product and every product batch is made per order.

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## Field of application

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**NORFLAM® W314** is meant for thermally modified spruce and pine cladding and panelling.

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## Technical information

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### Attributes

**NORFLAM® W314** enables the Euroclass B-s1, d0.

**Theoretical net wet spread amount of NORFLAM® W314 to reach the required EuroClass is  $\geq 350$  g/m<sup>2</sup> on front and sides of the cladding or panelling and 200 g/m<sup>2</sup> on the back side.**

*Net coverage with 1 liter is 3,45 m<sup>2</sup> (front and sides / 350 g/m<sup>2</sup>) and net amount of application in liters is 0,29 l/m<sup>2</sup>.*

### Technical data

Density: 1,21 +/-1 g/cm<sup>3</sup>

Solid content: 31 +/-1 w-%

Volatile organic compound (VOC): Low VOC

Colors: Clear and a limited selection of colors

Drying times: A.) *Industrial treatment*

8 to 12 min (+55°C/max 60% RH) between the layers and after the last layer 20 to 25 min (+55°C/max 60% RH).

B.) *Air drying / On-Site / Off-Site treatment*

20 to 30 mins (+20-30°C/max 60% RH) between the layers. Obs! A blower function heater needs to be used!

Fire performance class: **B-s1, d0**, when used with the application rate of 350 g/m<sup>2</sup> to front and sides and 200 g/m<sup>2</sup> to the back side.

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## Instructions of use

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### Application methods

#### A.) *Industrial treatment*

NORFLAM® W314 is suitable for industrial treatment with brush-machine, vacuum-spray, flow-coater, high-pressure spraying, low-pressure spraying and both air-mix and airless spray.

#### B.) *On-Site / Off-Site treatment*

NORFLAM® W314 is suited for spraying with high-pressure sprayers, as well as treatment with a paint brush, air drying method possible (with a movable blower function heater).

### General conditions of use

Wood material's surface must be clean. Fine sawn / rough surface can be treated without preliminary actions, but planed surface must be roughened / brushed / sanded before treatment.

**Mix the product extremely well before use as well as during the use.** Do not dilute, the product is ready for use. Once opened, ensure that the containers are re-closed firmly.

Informed drying times are guidelines only, actual drying time depends on the treated material surface, layer thickness, ventilation etc.

NORFLAM® W314 is a transparent / semi-transparent wood stain product and it is advised to test the treatment effect before application on large quantities of wood material.

Ensure the following recommended conditions during the application and drying:

Product temperature	+20.....+35°
Air temperature	+18.....+35° C
Drying in the oven	max 58° C
Relative humidity of the air	max 60 %
Humidity of the wood to be treated	8%.....18%

Always familiarize Yourself with the latest version of the treatment instructions manual for NORFLAM® W314 application.

## Application

### *A.) Industrial treatment*

The surface must be covered from front and sides with a total wet spread amount of 350 g/m<sup>2</sup> and from back side with the wet spread amount of 200 g/m<sup>2</sup> with intervals as follows:

<b>NORFLAM® W314 layers</b>	<b>Temperature</b>	<b>Time</b>	<b>Max. temp</b>	<b>RH</b>
NORFLAM® W314, between the layers	+55 °C	8 to 12 min	+58 °C	60 %
NORFLAM® W314, after final layer	+55 °C	20 to 25 min	+58 °C	60 %
1.) Drying and cooling off period with the final oven cycle of 20 to 25 mins	+20 °C	Min. 24 hours	-	60 %
2.) Drying and cooling off period without the...	+20 °C	Min, 48 hrs	-	60%

...last oven cycle (only 8 to 12 mins)				
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NORFLAM® W314 needs frequent mixing due to low viscosity in order to avoid pigments precipitating to the bottom of the container and to ensure even end result on the surface.

Obs! Especially with vacuum-spray / vacumat, it is wise to be prepared for the possible foaming of the product with NT Foamex.

#### *B.) Air drying / On-Site / Off-Site treatment*

The surface must be covered from front and sides with a total wet spread amount of 350 g/m<sup>2</sup> and from back side with the wet spread amount of 200 g/m<sup>2</sup>. Excessive (approx. 8 hours) drying between coats might result in poor impregnation of the adjacent coats.

After all the treatments with NORFLAM® W314 are done, the surface is left to dry and settle for at least 48 hours, 96 hours is recommended (+20°C/max 60% RH).

### **Cleaning of equipment**

Use warm water to clean the equipment. Mild pH-neutral soap can be used with warm water for more effective cleaning.

To wash the nozzles and related parts of the equipment, spray thinner might be needed, as dried binder does not dissolve in the water anymore.

### **Storage**

Store at temperatures from +5 to +30 °C and out of direct sunlight.

*Max storage time for is 3 months for tinted NORFLAM® W314 and 6 months for untinted / clear NORFLAM® W314 from the date of manufacture on the packaging label.*

### **Waste management and environment**

Do not discharge NORFLAM® W314 to the sewer or ground. Collect all product waste and deliver to applicable hazardous waste management. Product waste always needs to be disposed of based on local authorities' approval. Empty, dry product containers can be placed in mixed waste.

NORFLAM® W314 treated wood products can be discarded as normal wood waste.

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## Durability, RtF, installation, maintenance and safety

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### Durability and reaction to fire of the treated surface

Drying and settling of the surface will take 1 to 2 weeks.

The final surface will reach scratch resistance in a minimum of 2 months and full fire protection properties in 2 months after curing of the flame retardant has been completed.

### Installation of NORFLAM® W314 treated materials

If industrially treated wood products are modified at the building site, the cut / sawn surfaces must be treated with NORFLAM® W314. **Use only stainless steel fixings.**

Wood surfaces treated with NORFLAM® W314 *should be cleaned during the final clean-up at the latest to remove any worksite dirt and excess flame-retardant residues.* NORFLAM® W314 surface has to be totally dry at this point. Cleaning must be done gently with extreme care and according to the latest NORFLAM® W314 maintenance instruction document.

### Maintenance

If the surface is mechanically damaged and the damage is deeper than 3 mm, the damaged area must be repaired as soon as possible with a treatment combination used originally.

Do not treat the wood surfaces with any other coating or primer products, as such treatments might compromise the reaction to fire performance properties and cancel the compliance of the required fire class.

Please, refer to the latest NORFLAM® W314 maintenance guide for more information about the installation, final clean-up and maintenance altogether.

### Safety

Observe the NORFLAM® W314 Safety Data Sheet requirements.

The latest version of the Technical Data Sheet and Safety Data Sheet can be found on Nordtreat's website: [www.nordtreat.com](http://www.nordtreat.com).

Technical support is available at [support@nordtreat.com](mailto:support@nordtreat.com).

The suitability of the treatable material shall be inspected by the manufacturer with respect to his/her requirements regarding quality, color, and the like, e.g. by a sample staining and/or sample varnishing.

The instructions and values in this technical data sheet are based on information obtained from laboratory tests and trials, as well as information obtained from actual applications. Nordtreat is responsible for ensuring that the quality of the product complies with Nordtreat's quality system. Furthermore, the information given does not represent any warranty of any characteristics and thus does not represent a contractual obligation regarding the product. Additionally, the information does not claim any completeness and it is given without any warranties.

Nordtreat is not liable for damages resulting from incorrect or improper use of the fire protection product. Nordtreat is also not responsible for fire protection treatment, as the conditions and methods of fire protection treatment vary. The prevailing conditions and methods related to fire protection must always be documented in accordance with the instructions of Nordtreat and the authorities.

NORFLAM® W314 is for industrial and professional use only. Nordtreat requires that the actual specialist using the fire protection product has received training for fire protection treatment from Nordtreat and that he is familiar with the documentation of the fire protection product: the treatment instructions, the technical data sheet and the safety data sheet.