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NORFLAM[®] W311

Technical Data Sheet

Date 14.3.2024 | Version 1.1
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Product type

NORFLAM[®] W311 is a water-based low-VOC semi-transparent flame retardant wood stain for spruce, pine and thermo spruce.

Product description

NORFLAM[®] W311 is a flame retardant for spruce, pine and thermo spruce application.

NORFLAM[®] W311 provides a semi-transparent matt smooth satin finish.

NORFLAM[®] W311 suits perfectly for EXT applications

Field of application

NORFLAM[®] W311 is meant for spruce, pine and thermo spruce cladding and panelling.

Technical information

Attributes

NORFLAM[®] W311 enables the Euroclass C-s1, d0 when used on spruce and thermo spruce and C-s2, d0 when used on pine.

Theoretical net wet spread amount of NORFLAM[®] W311 to reach the required EuroClass is ≥ 300 g/m² on three sides (front and sides) and 150 g/m² on back side of the treated cladding and panelling.

Net coverage with 1 liter is m² and net amount of application in liters is 0,268 l/m².

Technical data

Density: 1,12 g/cm³

Colors: Limited range of semi-transparent colors

Drying times:	<i>A.) Industrial treatment</i> 8 to 12 min (+55°C/60% RH) between the layers and after the last layer 20 to 25 min (+55°C/60% RH). <i>B.) Air drying / On-Site / Off-Site treatment</i> 45 to 90 min (+18°C/50% RH) between the layers.
Fire performance class:	C-s1/s2, d0, when used with the application rate of 300 g/m ² to 3 sides and 150 g/m ² to back side of the treated wood.

Instructions of use

Application methods

A.) Industrial treatment

NORFLAM® W311 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® W311 is suited for spraying with high-pressure sprayers, as well as treatment with a paint brush, air drying method possible.

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 / sanded before treatment.

Mix the product 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® W311 is a 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® W311 application.

Application

A.) Industrial treatment

The surface must be covered from three (3) sides with a total wet spread amount of 300 g/m² and from back side with a total wet spread amount of 150 g/m² , with intervals as follows:

NORFLAM® W311 layers	Temperature	Time	Max. temp	RH
NORFLAM® W311, between the layers	+55 °C	8 to 12 min	+58 °C	60 %
NORFLAM® W311, after final layer	+55 °C	20 to 25 min	+58 °C	60 %
Drying and cooling off period	+20 °C	Min. 24 hours	-	60 %

NORFLAM® W311 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.

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

The surface must be covered from three (3) sides (front + sides) with a total wet spread amount of 300 g/m² and from back side with a total wet spread amount of 150 g/m².

Excessive (approx. 8 hours) drying between coats might result in poor impregnation of the adjacent coats.

After all the treatments with NORFLAM® W311 are done, the surface is left to dry and settle for at least 48 hours (+20°C/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 NORFLAM® W311 is 3 months from the date of manufacture on the packaging label.

Waste handling and environment

Do not discharge NORFLAM® W311 to the sewer or ground. Collect all product waste and deliver to applicable hazardous waste handling. Product waste always needs to be disposed of based on local authorities' approval. Empty, dry product containers can be placed in mixed waste.

NORFLAM® W311 treated wood products can be discarded as normal wood waste.

Durability, RtF, installation, maintenance and safety

Durability and reaction to fire of the treated surface

Final surface will reach full exterior durability and fire protection properties in 1 to 2 months as the drying, settling and curing has been completed.

Installation of NORFLAM® W311 treated materials

If industrially treated wood products are modified at the building site, the cut / sawn surfaces must be treated with NORFLAM® W311. Use only stainless steel fixings.

Wood surfaces treated with NORFLAM® W311 should be cleaned during the final clean-up at the latest to remove any worksite dirt and excess flame-retardant residues.

In some situations and conditions, excess particles of the flame retardant may migrate to the surface of the flame retardant treated wood structure during curing and settling.

The result can be particles accumulating on the NORFLAM® W311 surface and might be clearly visible either as spots, stains and / or as particle deposits. Excess residue can be removed with rinsing / flushing the surface with (preferably warm) water *or* with a soft damp microfiber cloth by lightly wiping, not rubbing. It is advisable to soak the microfiber cloth in warm water and squeeze / twist it as dry as possible. The microfiber cloth should be moist, not wet.

On the surface, the residue can absorb moisture from the air when the temperature and air humidity are appropriately related. This can manifest itself as dripping or runoffs on the surface. The surface can be cleaned by the same method as flame retardant residue stains.

These possible excess residues on the surface are not harmful or toxic.

After the final clean-up, the surface should be allowed to dry in peace.

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® W311 maintenance guide for more information about the installation, final clean-up and maintenance altogether.

Safety

Observe the NORFLAM® W311 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.

Technical support is available at 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® W311 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.