Hawthorn Timber

PART OF THE SUMMIT TIMBER GROUP

External timber Fire Retardant

Timber preservation & fire retardant treatments

Sentrin FRX

Treated Timber Specification

Sentrin FRX fire retardant treated timber has been pressure impregnated with Exterior Fire-X, a leach resistant (Type LR), exterior grade fire retardant formulation (https://www.frtw.com) . It has been processed under ISO9001 controlled factory conditions to provide confidence in performance and long lasting protection without further maintenance, even in fully weather exposed situations. Treated timber can meet the requirements of national Building Regulations where Euroclass B or C are required and will significantly reduce the spread of fire, heat generation and smoke generation. These fire performance properties do not compromise critical engineering properties such as strength, durability, corrosivity and hygroscopicity.

How do I specify the correct treatment?

Sentrin FRX treated wood products have been tested to BS EN 13501; Fire classification of construction products and building elements. These 'reaction to fire tests' are used to generate classifications of flammability which are commonly specified in building regulations. To specify the correct level of protection the following information is required:

1. Timber species or plywood type and dimensions.
2. Euroclass required (C or B).
3. End use application.

Contact us for assistance with detailed specification writing.

Sentrin FRX treated wood products meet the requirements of LR (leach resistant), HR (humidity resistant) and DI (dry internal) specifications.

What is the appearance of the treated timber?

Treatment with fire retardant in general, does not alter the appearance of the timber or wood based panel. Some slight darkening may occur which will be dependent on the timber species and the kiln drying process following treatment. There may also be some surface deposits which will not affect the fire performance.

The treatment process involves pressure impregnation with a liquid polymeric resin followed by at least 72 hours in a high temperature kiln. Consideration should be given as to whether the material to be treated can withstand this process and we can provide advice.

It is always recommended that representative samples are processed prior to full scale treatment, especially if a coating is to be subsequently applied.

Flammability Classifications

Euroclass	Transposition to BS476
A1	Non-Combusible
A2	Very limited combustibility
B	Class O
C	Class 1
D	Class 3

What is the Service Life of the treated wood?

Sentrin FRX treated timber has maintained its fire performance in the BS EN 16755:2017(*Durability of reaction to fire performance*).

Evidence from testing and long term market experience, indicates that Sentrin FRX will continue to protect wood against the risk of fire, without maintenance, for the normal expected service life of timber cladding, ie in excess of 20 years.

Typical applications

For use in above ground and exterior applications such as cladding, decking, exposed structural timber and playground equipment.

Timber can be exposed to weathering without compromising the fire performance, without a protective coating. If a coating, (paint/stain), is to be used, the advice of the company supplying the coating product must be sought. Some coating systems are not suitable and must be tested for their adhesion properties and fire performance, prior to application.

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Storage of treated timber

Following treatment, kiln drying and high temperature curing will reduce the moisture content to below 28%. Treated timber is usually wrapped following drying to protect from weathering and dirt. If extended storage is required before installation, the wrapping should be removed to promote airflow through the timber.

Re-working of treated timber

Where possible, treated wood should not be cut or otherwise reworked as this will expose untreated wood, reducing the effectiveness of the flame retardant treatment. Rip-sawing, thicknessing and planing are not permitted. Light sanding with a fine grade sandpaper is acceptable and will not affect the fire retardant properties. Timber may be cross cut without the need for re-treatment. Refer to health & safety guidance if any re-working is to be carried out.

Handling

Treated and dried wood poses similar hazards as untreated wood. Engineering controls and protective equipment should be used to minimise airborne wood dust.

Metal fixtures, fastenings, stone and concrete

Sentrin FRX is a leach resistant treatment. Newly installed treated timber may release corrosive compounds when in contact with hat are adjacent , in contact or below the treated wood. Please contact us for further advice and information. Stainless steel or hot dipped galvanised metal fittings are recommended.

Painting and staining

Sentrin FRX treated wood contains polymeric resins which are used to improve leach resistance during weathering. Many paint systems are incompatible with the treated wood and poor adhesion may occur. Some coatings may also impact on the fire performance of the finished product. Always consult with your coatings supplier for advice on suitable coating systems.

Treatment Process

Treatment is carried out in high pressure autoclaves to penetrate fire retardant into the timber to achive the required classification. Timber is loaded into the treatment vessel and the door sealed. A vacuum is then created inside the to remove air from the timber. The vessel is flooded with fire retardant solution and high pressure applied to penetrate into the timber. After the solution is removed a final vacuum is created to remove excess liquid. The liquid is returned to storage and there is no waste generated from the process. The freshly treated timber is then held undercover until it is drip dry before being kiln dried and then heat cured..

Process times vary with the treatment specification but are typically between 90 and 240 minutes. Drying and curing can take up to 2 weeks.

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Confirmation of treatment

Every consignment of treated timber is issued with a treatment certificate which confirms the fire retardant classification. This is an important document and may be required by a building regulator. Classification reports are available to be used in conjunction with the treatment certificate. If required, individual items can be stamped with the fire classification to aid identification.

Quality Assurance

Treatment is carried out under controlled factory conditions. The process is ISO 9001 accredited and our productions centres hold Factory Production Control (FPC) certification and are WPA Benchmark FR approved. A computer controlled treatment process ensures the correct treatment parameters are met to achieve the required classification. Sentrin FRX is an impregnated fire retardant and cannot be applied by hand, brush or spray. It provides a level of confidence in performance that may not be available with treatments applied on site or in uncontrolled conditions.

How it works

When subjected to a fire, the protection technology reacts with the combustible gases and tars normally generated by untreated wood, converting them to carbon dioxide and water. The layer of char formed on the surface insulates and retards the process of combustion reducing ignition, the rate of spread of flame, smoke propagation and the amount of heat released. This should provide increased time for escaping from a building or structure.

Construction Products Regulations and CE marking

Under the EU Construction Products Regulation (CPR), from 1 July 2013 a construction product will need to be CE marked and accompanied by a declaration of performance if it is to be placed on the market in the European Economic Area and it is covered by either a harmonised European Product Standard or a European Technical Assessment. It is the responsibility of the company or person placing the product on the market for the first time to ensure the CE mark is correct and accurate. We are able to supply the information required to complete a Declaration of Performance (DOP).

UK Building Regulations

The fire performance for all material that are to be used in buildings, including wood and wood based panels are stated in Document B of the UK Building Regulations:

Wall and ceiling linings are Class 1 Surface Spread of Flame in accordance with BS476:Part 7 or Euroclass C in accordance with BS EN13501.

Higher risk areas, such as escape routes and staircases, and external cladding are Class 0 (BS476:Parts 6&7) or Euroclass B (BS EN13501).

These standards relate to ‘reaction to fire’ of a material and not ‘fire resistance’ as in 30 or 60 minute specifications.

Health Safety and Environmental

Sentrin FRX fire retardant treated timber has been pressure treated with a waterbased leach resistant (Type LR) fire retardant. Many of the health & safety recommendations are the same as those for working with untreated wood.

Health & Safety

- Wear a dust mask, eye protection and gloves when working with wood.
- Treated wood should not be used where it may come into direct or indirect contact with drinking water.
- Do not use treated wood where the preservative may become a component of food, animal feed or beehives.
- Do not use treated wood for mulch.
- Wash exposed areas of skin following handling or working with treated timber.
- Launder heavily soiled clothes separately after working with treated timber.

Waste Disposal

Sentrin FRX treated timber is not considered as hazardous waste. Dispose of treated wood and waste according to local authority regulation. Treated wood will not readily burn but can be disposed of in commercial incinerators or landfill to local regulations.

Industrial Emissions Directive

Wood treatment facilities are covered by EU Industrial Emissions Directive (IED) which promotes best environmental techniques to reduce and control the impact of industrial emissions. All used treatment centres comply with the requirements of the IED.

Further information

Our literature is constantly updated to reflect regulatory or technical changes. This document is uncontrolled, so please make sure you have the latest version.

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