



# Internal timber Fire Retardant

Timber preservation & fire retardant treatments



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## Treated Timber Specification

Sentrin FRI fire retardant treated timber has been pressure impregnated with a humidity resistant, high temperature fire retardant formulation. It has been processed under ISO9001 controlled factory conditions to provide confidence in performance and long lasting protection without further maintenance. 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 FRI treated wood products have been tested to BS EN 13501-1; 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 (must be weather protected).

[Contact us](#) for assistance with detailed specification writing.

Sentrin FRI treated wood products meet the requirements of HR (humidity resistant) and DI (dry internal) specifications.

### Typical applications

For use in above ground interior applications where the relative humidity does not exceed 85%. Sentrin FRI treated wood products can also be used externally when effectively protected from direct rainfall and weathering. Please contact us regarding suitable external coatings which must be correctly maintained through the life of the building. OSB, MDF or other panel products produced from wood fibres or flakes are not suitable for pressure impregnation treatment.

## Flammability Classifications

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

### What is the Service Life of the treated wood?

Sentrin FRI treated wood products are designed to perform for the life of the building or structure and require no maintenance.

### 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. Any deposits can be removed with a damp cloth or fine grade sandpaper.

The treatment process involves pressure impregnation with a warm liquid 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.

# User Guide



## Storage of treated timber

Following treatment kiln drying will reduce the moisture content to a level specified by the user and this should be as close to the in service condition as possible. Treated timber is usually wrapped following drying to prevent weathering and re-wetting. Timber should be protected from direct rain until installed. Extended outdoor exposure will downgrade the fire retardant properties.

## 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, thickening 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. There are no limitations on the cutting of plywood. Refer to health & safety guidance if any re-working is to be carried out.

## Handling

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

## Fixtures, fittings and gluing

Sentrin FRI treated wood is non-corrosive to metal fixtures and fittings. Where components are assembled and glued before treatment, a suitable waterproof adhesive should be used.

## Painting and staining

Sentrin FRI treated wood can be painted using most standard coating systems. The user must satisfy themselves that the fire performance of a coating system does not compromise the required fire performance of the timber. Advice should be sought from the coatings manufacturer. Samples should always be tested to ensure that the coating provides the intended result. Please contact us for further details.



## Treatment Process

Treatment is carried out in high pressure autoclaves to penetrate fire retardant into the timber to achieve 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 to its desired moisture content. Process times vary with the treatment specification but are typically between 90 and 240 minutes.



## 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 production centres hold Factory Production Control (FPC) certification. A computer controlled treatment process ensures the correct retention of fire retardant to achieve the required classification. Sentrin FRI 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. PTG Treatments can 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 FRI fire retardant treated timber has been pressure treated with a waterbased humidity resistant (Type HR) 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 FRI 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 PTG treatment centres comply with the requirements of the IED.

### Further information

For further information on any aspect of timber protection, contact PTG Treatments. Our literature is constantly updated to reflect regulatory changes. This document is uncontrolled so please make sure you have the latest version which can be downloaded from [www.ptgtreatments.co.uk](http://www.ptgtreatments.co.uk).