

Meyer Timber

Firesure Premium & Firesure Classic fire retardant treatments for plywood

FAQ's

What is the difference between Firesure Premium and Firesure Classic fire retardant treatments?



Firesure Premium is a water-based, type HR (Humidity Resistant) fire retardant impregnation treatment.

Firesure Premium treatment has the ability to remain very stable in the treated plywood even at high humidity levels.

It is suitable for all interior applications including areas of high humidity e.g wall & ceiling linings both decorative & non-decorative, flooring, in a roof & in stairwells.

Firesure Premium is the only fire treatment in the UK to hold BBA Agreement certification. It is fully approved for use in London Underground & in the rail industry due to its low smoke properties - – see Meyer Timber guidance doc for further information.



Firesure Classic is a water-based, type DI (Dry Interior) fire retardant impregnation treatment. It is suitable for dry interior use & temporary works e.g. general construction

works, temporary flooring, temporary hoarding, exhibition work & shop fitting – see Meyer Timber guidance doc for further information.

Both **Firesure Classic** & **Firesure Premium** fire treatments are applied by Arch Timber Protection at Arch's own treatment facility at Castleford under controlled conditions in a high pressure impregnation plant, commonly followed by kiln drying to return the plywood to an acceptable or specified moisture content.

What are Euroclasses and why are they replacing the old Class 1 / Class 0 standards?

In line with the Construction Products Regulation, introduced in July 2013, plywood used in permanent construction is now treated to either Euroclass B or Euroclass C. Class 1 & Class 0 are now obsolete.

Euroclass B has replaced Class 0 and Euroclass C has replaced Class 1.

A Euroclass test measures flame spread, heat release, fire growth rate & smoke emission.

A Euroclass Classification for any given plywood species is awarded in accordance with the requirements of EN 13501-1 (Fire Classification of Construction Products and Building Elements)

Are these new Euroclasses as good as the old Class 1 / Class 0?

The simple answer is that the new Euroclasses are underpinned by more up-to-date fire test methods compared to the old British Standards of Class 1 & Class 0 and trying to compare old and new is the wrong approach.

Class 1 involved a measure of the Surface Spread of Flame (SSF).

Class 0 included a measure of SSF and heat release.

The Euroclass SBI (Single Burning Item) test measures a wider scope of fire critical factors than the old Class 1 /0 tests, namely spread of flame, heat release, fire growth rate & smoke levels. **EUROCLASSES ARE MORE ROBUST**

How many new Euroclass Classifications are there for fire performance and which are relevant to plywood?

The Euroclass system applies to other materials not just plywood.

Typical products	Euroclass	Euroclass test requirements
Totally inorganic products made from stone, concrete, bricks, ceramics, glass, or steel.	A1	EN ISO 1182 EN ISO 1716
Products as Euroclass A1 but containing not more than 1% by weight or volume (whichever is the lower) of homogeneously distributed organic material. Gypsum boards, mineral wool	A2	EN 13823 EN ISO 1182 EN ISO 1716.
Gypsum boards with thin surface linings. Highest possible level for fire retarded wood products. Cement-bonded particleboard ≥ 10 mm thick	B	EN 13832 (SBI) EN ISO 11925-2 (SFI)
Gypsum boards with thick surface linings. Fire retarded wood products	C	EN 13832 (SBI) EN ISO 11925-2 (SFI)
Untreated wood products with a thickness ≥ 5 mm and density of ≥ 400 kg/m³. Plywood & OSB ≥ 9 mm thick.	D	EN 13832 (SBI) EN ISO 11925-2 (SFI)
Untreated wood products with a density of < 400 kg/m³. Low density fibreboard. Plastic-based insulation	E	EN ISO 11925-2 (SFI)
Untested products	F	No requirements

Untreated plywood would achieve a Euroclass D when tested. Arch fire treatments can upgrade to either Euroclass B or Euroclass C to meet Building Regulation requirements.

Can I achieve 30 or 60 minute fire resistance with Firesure Premium or Firesure Classic fire retardant treatments?

In short - NO

Fire resistance is a time related concept (30 or 60 mins) & commonly refers to the ability of a material or item to resist the passage of fire e.g. a 30 minute fire door will resist burn through for a minimum period of 30 mins.

Both **Firesure Premium** and **Firesure Classic** are fire retardant treatments that target the initial stages of a developing fire.

They retard the growth/propagation of the fire by limiting the amount of heat generated, retarding the flame spread, the overall fire growth rate and limiting smoke production in line with Building Regulation requirements.

A EUROCLASS FIRE RETARDANT TREATMENT DOES NOT PROVIDE A TIME RELATED FIRE PERFORMANCE

Building Control want evidence that the fire treated plywood I am supplying will be Euroclass B / Euroclass C compliant. What documentation do I need?

Arch Timber Protection issues a Fire Treatment Certificate upon despatch of every order which itemises customer name and order details. Generally this is what is presented to Building Control.

Pls also request a species/thickness specific Euroclass Classification Report from Arch Timber protection for the plywood in question if needed to support an enquiry.

All Arch's fire testing is done by Exova Warrington Fire.

FULL EVIDENCE OF COMPLIANCE = TREATMENT CERTIFICATE + CLASSIFICATION REPORT

Is CE Marking of fire retardant treated plywood required?



The Construction Products Regulation, which came into effect July 2013, dictates that all FR plywood sold from stock by any merchant & made available the open market to be used in permanent construction MUST be CE marked.

All Meyer Timber's Firesure Premium & Firesure Classic stock is fully compliant & CE marked. The relevant Declarations of Performance are available on the Meyer Timber website.

Can T & G plywood be fire treated?

Arch can fire treat ply with T & G's already machined, either on 2 sides or all 4 sides. The ply must be kiln dried after treatment to ensure the T & G will fit together. Alternatively, full sheets can be processed that can be machined after.

My customer has a specification that asks for a FR3 fire retardant treatment. What does this mean?

The UK Wood Protection Association (WPA) has a number of commodity specifications relating to fire retardant treatment. Each of these commodity specifications **ONLY** classifies the end use which is then used as a guide to select the appropriate fire retardant treatment.

THEY DO NOT IDENTIFY WHAT FIRE PERFORMANCE IS REQUIRED OR WHAT FIRE TREATMENT IS NEEDED FOR THE PROJECT IN QUESTION.

The list of commodity specifications is as follows:

FR1 - Non load bearing dry interior use

FR2 - Load bearing dry interior use

FR3 - Interior use with a Relative Humidity >75%

FR4 - Weather protected exterior use

FR5 - Weather exposed situation

Plywood specifications would generally involve either one of: FR1, FR2 or FR3

Does Firesure Premium & Firesure Classic treatment alter the appearance of fire treated plywood?

As a general rule:

Both Firesure Premium & Firesure Classic treated plywood looks *slightly lighter* than un-treated plywood



A few residual salts may be seen on the treated faces & edges of the plywood. Generally these can be removed by a light sand / wipe over.



wipe

A few residual crystals may be visible on the faces & edges of the treated plywood. Generally these can be removed with a light sand / wipe over.

What are the benefits of factory controlled impregnation treatments over brush/spray surface applied FR coatings?

Arch Timber Protection Factory Controlled Impregnation Treatments:

- Are applied within stringent controlled factory conditions.
- Have full traceability of the treatment process.
- Give deep impregnation to all faces
- The treatment cycle used is specific to the type of plywood being treated



If fire treated plywood is cut on-site does it need any extra protection?

No additional treatment is required to the cross cut ends of fire treated plywood after cross cutting

Can you fire treat veneered plywood?

We do not recommend fire retardant impregnation treatment of pre-veneered plywood. The veneers are prone to blistering / delamination at the point of treatment.

Do I need to increase my material wastage allowance to take into account changes in plywood properties after FR treatment?

For the majority of species, customers should supply a minimum 5% extra material with each order to allow for kiln degrade, kiln samples and moisture content samples.

Will Firesure Premium & Firesure Classic ply have stick marks on the main face?

Yes - Firesure Premium & Firesure Classic hardwood ply held in stock will have stick marks on the main face. Arch will fire treat orders such that the ply will have a clean stick mark free (SMF) face on request when the ply is to be used decoratively as is often the case with birch ply. A purchase order to Arch needs to clearly state that a decorative 'SMF' finish is required.

Which ply face would be treated stick mark free?

Where there is a preferred face to a board e.g. S/BB birch ply then Arch Timber assumes that the best faces presents upwards in the pack & these are the face that will receive the stick mark free finish.

Can you recommend a decorative coating for use with Firesure Premium & Firesure Classic fire retardant treated plywood?

Arch now has an Approved water based coating for internal plywood called Drywood Firestain. It is fully tested to demonstrate it maintains the fire performance achieved by either Firesure Premium or Firesure Classic. Please call Jacqui Hughes Tel: 01977 714118 for further information.

Any coating applied to fire treated ply needs to demonstrate good adhesion & that the coating does not downgrade the Building Regulation Euroclass fire performance achieved.

Modern school building projects use plywood extensively. Are Arch fire retardant treatments suitable for these types of projects?

Firesure Premium has been widely used to protect interior plywood used in a number of school building projects to provide a tried, tested and trusted long term fire protection.

The leaflet shown is available to download from Arch's new UK FR specific website:

www.archfiretreatments.co.uk



Can Arch's fire retardant treatments be applied to plywood for use on Rolling stock and London Underground projects?



Yes, **Firesure Premium** is fully approved for use in London Underground - meeting the requirements of London Underground Standard 1-085 'Fire Safety performance of Materials'. Treatment is to Euroclass B in accordance with EN 13501-1.

Birch plywood for floors in rolling stock can be treated with **Firesure Premium** to either EN 45545-2 or to Class 1 BS476-7.

www.archfiretreatments.co.uk