

# Fire Protection for Timber Cladding - **Specifiers Beware!**

Timber protection specialists Arch explain the 'what and why' for fire retardant treatments for timber claddings used in construction.



If you are involved in the specification of building materials and you have chosen timber cladding as part of the overall project - congratulations! Timber is an admirable choice as our most versatile, aesthetically pleasing and sustainable construction product.

However, in common with the Building Regulatory Authorities and insurance company loss adjusters, as a specifier you may have a concern about its behaviour in a fire.

## Proven protection

Don't worry! Correct design specification and the correct use of modern fire retardant impregnation treatments can help to ensure that wood and timber cladding is a long lasting and safe choice of material.

The pressure treatment of timber with industrially applied fire retardant formulations can reduce fire growth rate, the spread of flame and the rate of heat release. These factors help maintain the integrity of structures, enabling both compliance to Building Regulations in terms of escape and safety of life and restricting damage to the building fabric itself, to avoid huge insurance losses. A prime example was the project undertaken by Scarborough Borough Council - see panel opposite.

## Treatment considerations

In specifying the correct industrial fire retardant treatment for your interior or exterior timber cladding there are 3 key factors for consideration.

### 1. Check the fire certification credentials

Exova Warringtonfire Research encourages both specifiers and Building Control professionals to request a species specific Euroclass Classification Fire Test Report as evidence of full compliance by the fire retardant treatment company in terms of risk management and liability.

Arch Timber Protection has invested in a wide range of independent Classification Reports to cover each and every timber species treated and includes a minimum timber thickness.

### 2. Look for independent 3rd party product accreditations for fire retardant treatments

NON-COM Exterior fire retardant treatment is the only National House Building Council (NHBC) accepted treatment for exterior cladding timbers due to its proven long term maintenance free fire performance durability in excess of 30 years.

The UK Wood Protection Association (WPA) recommends only high pressure impregnation treatments for external timbers and NON-COM Exterior is the only WPA Approved leach resistant type fire treatment available in the UK.

DRICON treatment for interior and weather protected exterior claddings is the only British Board of Agrément (BBA) certified

In 2006 Scarborough Council had reconstructed the iconic and historic pagoda in the town's Peasholm Park after it had been burned down by vandals some years earlier. In the reconstruction DRICON pressure pre-treated fire retardant timber had been specified for much of the new structure and this proved to have a real justification when, once again, vandals tried to destroy the new building shortly before its re-opening.

On arrival at the site, contractors to Scarborough Borough Council found evidence to indicate that a bonfire was started deliberately on the lower deck of the pagoda using a mixture of non fire retardant treated timbers from the site, petrol from the concrete mixer and 16 ornate decorative timber brackets.

The spread of the fire was limited to just 25% of the lower deck flooring and supporting joists as a result of the DRICON fire retardant protection used.



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At the time Graham Price, the Council's Head of Property Services said: "The main part of the structure was still intact, mainly because of the DRICON fire retardant treated timber used in its construction. If this material had not been used, the entire pagoda, with construction costs of over £250,000, would have been destroyed. Thankfully, just the lower deck floor section needed to be replaced."

The replacement of the burnt timber and smoke damage was less than 1% of the original construction costs, which further reinforces the value of using a proven fire retardant treatment.

fire retardant treatment.

Also, just like NON-COM Exterior, DRICON humidity resistant fire retardant treatment is an Approved treatment through the WPA.

### 3. Be sure of a high quality treatment application

A fire treatment applied after the manufacture of a timber commodity aims to upgrade its fire performance to either



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Arch's fire retardant treatment centre - the only one of its type in the UK, operating with ISO 9001 and ISO 14001 accreditations. Treatments involve high pressure impregnation followed by kiln drying/heat curing.

Euroclass B or Euroclass C of BS EN 13501 to provide compliance with UK Building Regulations and to help ensure proper risk management in terms of liability for all involved within the supply chain.

Production of a Euroclass Classification Report only evidences that **Initial Type** testing has been carried out in terms of meeting the requirements of **Attestation of Conformity (AOC) Level 1**, which applies to fire retardant treated timber cladding.

The Construction Products Regulation 2013 dictates the criteria required within Attestation of Conformity (AOC) Level 1, as set out in the Harmonised Product Standard for timber cladding BS EN14915, provides a verification of constancy of performance.

The stringent measures outlined in the both Standard include rigorous factory production control by the treatment company and on-going 3rd party auditing of the treater in particular.

Arch Timber Protection has very rigorous quality assurance within its dedicated fire retardant treatment facility to ensure a consistent delivery of compliant fire treated material, day in day out. This level of traceability is key to giving its customers and the 3rd party organisations who regularly audit the treatment operation (BSI, WPA, Exova Warringtonfire and the BBA) full assurance regarding the treatment processes.

### Impregnation treatments v coating products

If fire retardant treatments are required to new cladding timbers going into a building then by far the most effective are pressure impregnation treatments. Whilst some flame retardant coatings can be effective, their application and their maintenance can be open to variation – and that is the last thing to give you peace of mind. Generally, coating products should be used only to upgrade timbers that are already in situ within a building - in refurbishment, repair, maintenance and improvement projects. With pressure impregnation treatments cladding timbers are given a highly effective and long term 'all round' protection that will require no maintenance.

Does this mean therefore, that some fire retardant treatments can degrade in service, lose their performance rating and give rise to integrity problems? In a word, **YES!**

However, results of an independent 21 year exposure study with DRICON and NON-COM Exterior fire retardant treated timbers confirmed that the initial fire performance characteristics were maintained over the 21 year period.

**Fire Retardant Impregnation Treatments**

- Permanent protection - no maintenance required.
- Controlled treatment process - consistent and assured results.
- Deep penetration of treatment on all faces - front, back and edges.
- Leaves natural finish to the timber.

**Fire Retardant Coating Protection**

- Coating will need future maintenance to keep fire protection.
- Brush/spray applications - inconsistent results.
- Reverse of boards may be uncoated and unprotected. If coated, maintenance is impossible.
- Coatings cover the natural beauty of the timber.

Further details on both DRICON and NON-COM Exterior fire retardant treatments for timber cladding are available by visit the dedicated web site - [www.archfiretreatments.co.uk](http://www.archfiretreatments.co.uk)

The web site includes many examples of DRICON and NON-COM Exterior fire retardant treated cladding projects.



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