



## HR-Prof

April 2008: HR Prof production certification ISO 9001 and ISO 9014 February 2008: Accelerated weathering of fire retardant treated wood for fire testing according to **NT Fire 053** Method B, seven products fulfilled the requirements in **NT Fire 054**. Tests, were carried out by **SP Technical Research Institute of Sweden**

HR Prof was specified for the stunning £200m flagship retail and leisure development St Stephen's in Hull, due for completion in 2007 (photograph below).



For use on cladding, log cabins, garages, summer houses, staircases, bathrooms, saunas, pool enclosures etc both **internally** and **externally**. Critical engineering properties i.e. strength, durability, hygroscopicity and corrosivity are not compromised.

### CLEAR FIRE PROTECTION FOR TIMBER

HR-Prof is a revolutionary fire proofing product for wood and other porous combustible building materials, now available for the first time in the UK, water based, non-hazardous, ready to use solution.

- Without colour or odour.
  - Non-toxic
  - Solvent Free
  - Not harmful to the environment
  - For internal and external use once applied cannot be washed out of the substrate.
- Tested to NT 053 - view pdf & NT 054 - view pdf  
(Accelerated weathering of wood for fire testing, 20 yr cycle).
- Once dry it is not broken down by water or humidity.
  - Does not leach.

HR-Prof fire performance properties will not compromise other critical engineering properties in the timber such as strength, durability, or hygroscopicity.

**HR-Prof Flame Retardant is not harmful to the environment** - Environmentally friendly materials are essential for a cleaner world, follow the link below to sustainable construction.

<http://www.greenspec.co.uk/html/product-pages/hrprof.php>

**HR-Prof** is simple to use and safe to apply. Possessing high diffusion properties it quickly penetrates the structure of the substrate. Unlike intumescent systems it does not require an additional protective finishing coat. However, if required **HR-Prof** can be over-coated with wood stains, varnishes and some paints (tests may be required before over-coating please contact us for further details). Left naturally, timber substrate may darken slightly.

**HR-Prof** has non-flammable properties, which become part of the substrate, restricting ignition and the spread of flame. It will not wash out from the surface of the substrate after drying, it is not converted into smoke when exposed to high temperatures, and carbon char is restricted to the immediate area. Materials treated with HR-Prof when exposed to temperatures of up to 1700 C are subject to charcoal forming, severely restricting the spread of flame.

**HR-Prof** for use in timber frame buildings, external wood cladding, on staircases, trusses, doors, joists, floors and walls, on stables, log cabins, boats, fencing and garages - inside and outside. Once dry it is not affected by moisture so can also be used in kitchens, bathrooms, saunas and swimming pool enclosures. Timber pre-treated with HR Prof once dry does not react with galvanised steel ( zinc), stainless steel, brass, gun nails or zinc coated screws, whether the application is internal or external

## Hygroscopic Test Results

**Product:** HR-Prof

**Application:** 3 coats = 300g m<sup>2</sup>

**Tests carried out by:** SP Technical Research Institute of Sweden: SP Träteknik 060926 LT

**Customer:** Nordic House Finland

**Tests to:** NT Build 504

Product	Moisture (%)		Comments
	23 °C, 50 % RH	27 °C, 90 % RH	
<b>Pine</b>	12,1	20,7	Surface of the sample unchanged
<b>Treated Pine</b>	14,0	26,6	Surface of the sample unchanged
<b>Kerto LVL</b>	9,6	17,4	Surface of the sample unchanged
<b>Treated Kerto LVL</b>	9,9	18,1	Surface of the sample unchanged



# TECHNICAL DATA SHEET

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## DESCRIPTION

- Water based fire retardant

## APPLICATION

Fire retardant system for timber substrates that require euroclass B and euroclass C spread of flame fire protection.

## FEATURES

- Without colour or odour.
- Fire retardant properties will remain active for the lifetime of the substrate.
- Ecologically friendly.
- Non-toxic.
- For internal and external use, cannot be washed out of the substrate once applied.
- Not broken down by water or humidity.
- Does not leach.
- Final finish can be left natural or over-coated with certain stains, varnish and paint. (Contact us for details of coatings that would be suitable)
- A triak coating is always recommend.

## TECHNICAL DATA

CAS-number or other code	Component name	Concentration	Caution marks, R-clauses and other component information
10045-86-0	Ferric(III)phosphate	30 %	Xi; R36/38
77-92-9	Citric acid	1 %	Xi, R36
9005-00-9	Polyoxyethylene(21) stearyl alcohol	0,5 %	Xi, R41
7732-18-5	Water	68,5 %	-

This product is classified Xi - Irritation:  
Irritates eyes and skin.

## DIRECTIONS FOR USE

- **Substrate:**
- The substrate must be clean, dry and free from contamination; existing coatings must be removed by stripping or sanding.
- Wood moisture content should be 20% or less.
- It is recommended that a sample of the substrate is coated to establish both absorption properties and possible colour change.
  
- **Application:** Approx 3 coats depending on applicator, coats should be applied at intervals of minimum 1 hour giving a total coverage of minimum 270 ml/m<sup>2</sup>. Do not mix with other solutions, stir well. Use brush, roller, spray (use appropriate mask when spraying), dip, or vacuum method.
- Minimum temperature for application 5 degrees C do not apply to frozen substrate.
- Coverage will depend on a number of factors, including timber species, surface condition, moisture content, method of application and climatic conditions during application.
  
- **Drying Times:** Drying time 24 hours at + 20C/65 relative humidity. Maximum fire retarding capabilities will be achieved after 7 days.
- *Note: Drying times are dependent upon absorption of substrate and drying conditions. At low temperatures and/or conditions of high relative humidity, drying times will be extended.*
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- **Storage and Transportation:**
- Supplied in sealed containers and should be stored at temperatures above zero. The warranty period of storage is 36 months.
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- **Protection Period:**
- Fire retardant properties tested to NT 053 & NT 054 on a 20 year accelerated Weathering Cycle.
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- **Disposal:**
- It can be safely disposed of as a household product.
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- **SPECIFICATION:**
- Hr-Prof is a patented product.
- Pack sizes: 1L, 5L, 20L and polymeric tanks of 200L and 1,000 litres.

Final finish: Natural or over-coated with certain varnishes, stains and paints  
(Contact us for details of suitable coatings)

- **CERTIFICATION:**
- **BS EN 13823 & BS EN 11925-2 Single Burning Item Euroclass B-s1-d0 (s1 Smoke Production – d0 Flaming Droplets) Equivalent to UK “Class O”**

### Building Regulations:

**Euroclass** certifications are formally incorporated into the UK Building regulations and regulators in the UK are legally bound to accept them in lieu of national test methods (which are also still permitted). You may be interested in Regulatory Impact Assessment - draft for consultation,

<http://www.communities.gov.uk/index.asp?id=1131716>

<http://www.planningportal.gov.uk/england/professionals/en/4000000000084.html>