TEKNOS

FIRE TEST CLASSIFICATION REPORT
EN13501-1 EXPLAINED

ABOUT THIS GUIDE

To ensure wood products coated in fire retardants (FR) meet stringent safety requirements, they are tested by government approved assessors, called 'Notified Bodies'.

The standard to which the products are assessed is set out in **EN13501-1** and the results of each test are published in a fire classification report.

This Teknos guide explains the information contained in these reports and helps you understand the results.
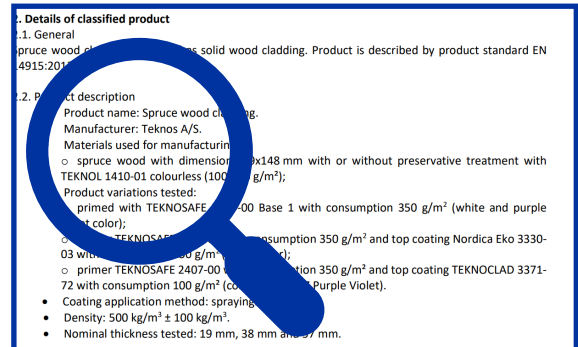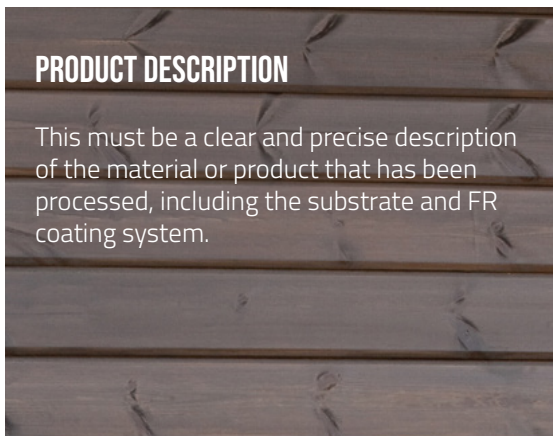
FR CLASSIFICATION REPORTS

After undergoing a series of tests, the classification report is produced which includes 3 main sections
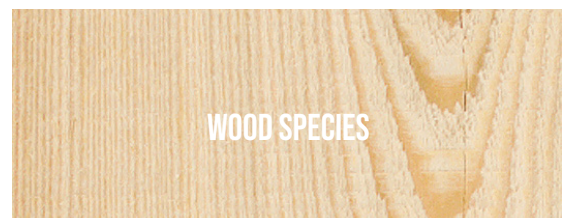
Section 1

PRODUCT DESCRIPTION

This must be a clear and precise description of the material or product that has been processed, including the substrate and FR coating system.

. Details of classified product
.1. General
spruce wood ... solid wood cladding. Product is described by product standard EN 4915:20...

.2. P...ct description
Product name: Spruce wood cl...ng.
Manufacturer: Teknos A/S.
Materials used for manufacturin...
o spruce wood with dimension...x148 mm with or without preservative treatment with TEKNOL 1410-01 colourless (100... g/m²);
Product variations tested:
primed with TEKNOSAFE...00 Base 1 with consumption 350 g/m² (white and purple ...t color);
o ... TEKNOSA... ...0 g/m ...nsumption 350 g/m² and top coating Nordica Eko 3330-03 wit... ...0 g/m...);
o primer TEKNOSAFE 2407-00 ...tion 350 g/m² and top coating TEKNOCLAD 3371-72 with consumption 100 g/m² (co... ...Purple Violet).
• Coating application method: spraying...
• Density: 500 kg/m³ ± 100 kg/m³.
• Nominal thickness tested: 19 mm, 38 mm an...7 mm.

As well as the overall description, look for other conditions detailed in this section that affect the fire performance, such as **wood species, thickness, density**.


WOOD SPECIES

THICKNESS

DENSITY

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Section 2

THE TESTS AND RESULTING CLASSIFICATION

This report section summarizes how the FR treated product performs in a fire and details the results of each test required under that classification.

For the EN13501-1 classification, the performance is assessed under 3 different properties which give the final classification e.g. **B – s1, d0**.
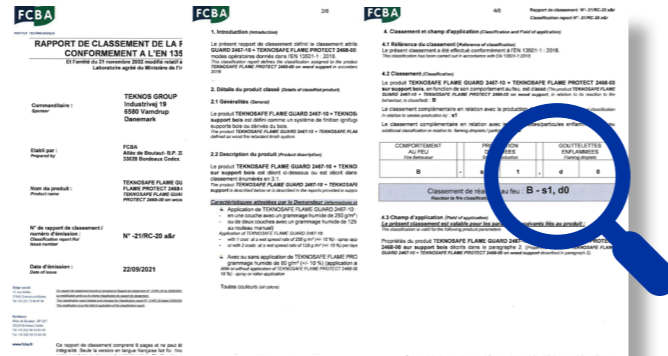
PROPERTIES OF EN13501-1 CLASSIFICATION

B / C / D

REACTION TO FIRE

Ignitability
How readily it catches fire

Spread of flame
How quickly flames spread across the material

Heat release
How much heat energy is generated, which will contribute to the spread of fire

Wood products can achieve class B or C (B is better than C) and most wood products can achieve D with no FR enhancement. Class A cannot be achieved with wood.

Example

B - s1, d0

s 1 / 2 / 3

SMOKE

The amount of smoke produced by the burning material

s1 indicates very little smoke is generated, with the scale of assessment going up to s3 where there is a more significant amount of smoke generated.

Example

B - **s1** d0

d0 / 1 / 2

FLAMING DROPLETS

Flaming particles can fall away from the surface of a burning material, spreading the fire further

d0 indicates that the material produces no flaming droplets, d2 indicates more significant amount of flaming droplets. Wood substrates are always expected to achieve d0.

Example

B - s1 **d0**

Section 3

FIELD OF APPLICATION

This section defines the how the FR treated product can be used and includes any restrictions that will affect the classification's validity if they are not adhered to.
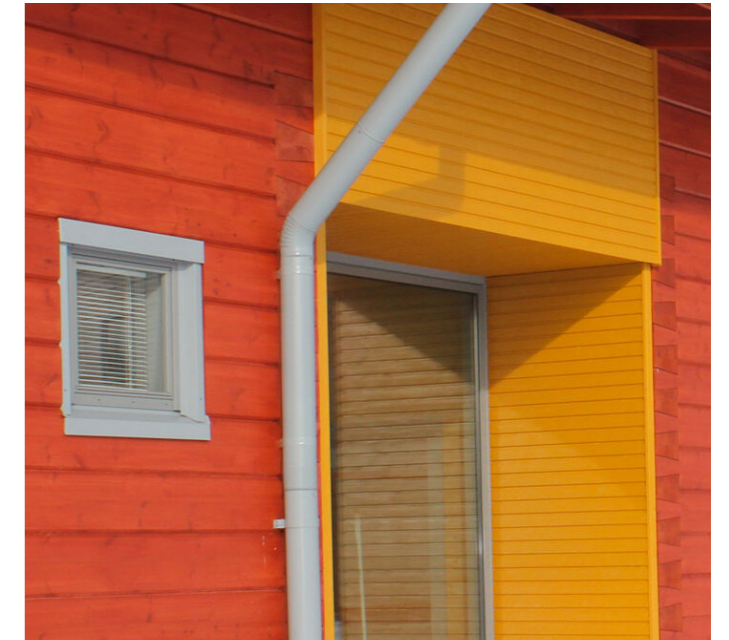
Here is an example of a Field of Application for TEKNOSAFE treated products

The classification report states:

"*This classification is valid for the following product end use applications:*

Product primary is intended to use as solid wood cladding."

It will then define the restrictions that affect the classification's validity, such as the ones in the table below.

RESTRICTION	EXAMPLE
Thickness	"valid for thickness range from 19 mm to 57 mm"
Wood species	"valid only for spruce wood with or without preservative treatment with TEKNOL 1410-01"
Density	"valid for deviations of density within natural limits of spruce wood"
Coating application	"valid with coating systems as tested applied by spraying, brushing or roller only"
Air gap when mounted	"valid for product mounting with air gap between product and substrate. Valid also for product mounting on substrates without air gap "
Vertical / Horizontal	"valid for vertical and horizontal arrangements"
Colour	"valid for all colour tones for system primer TEKNOSAFE 2407-00 and top coating TEKNOCLAD 3370/3371"

For further support, contact your local Teknos fire retardant expert or visit **teknos.com**

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