



Fontefire WF

Fire retardant coating

Tikkurila Oyj, Finland



We offer a new water-borne intumescent coating for wood fire protection

A close-up photograph of a wood surface. A central rectangular area is covered with a dark, heavily textured, and charred material, which is the intumescent coating after being exposed to fire. The surrounding wood is lighter and shows some minor charring. The text "Fontefire WF" is overlaid in white on the charred area.

Fontefire WF



Intumescent coating

- One of the fireproofing methods
- The paint, which expands by heat
- There are components, which start to foam under the influence of high temperatures.





Fire protection objects

Public premises, wall and roof structures

Functional principles

Comparison test

We burned two identical panels

- One treated with ordinary acrylate paint
- Another treated with Fontefire WF and then painted with the same acrylate paint

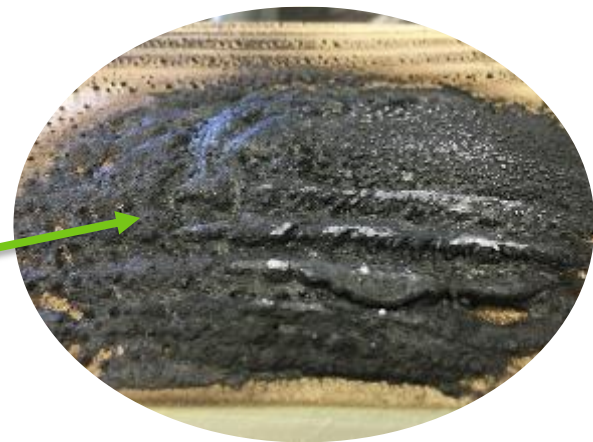
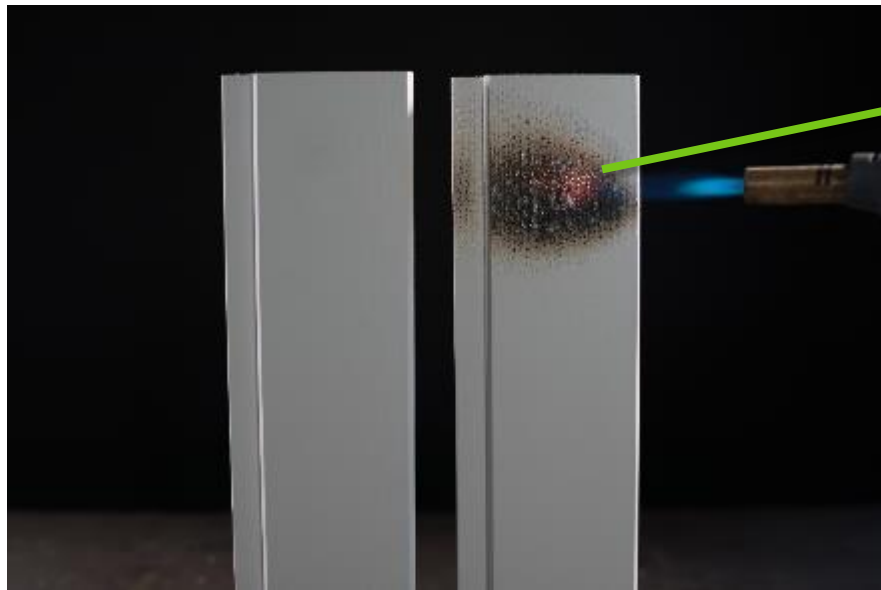


Comparison test

After a while the panel treated with the acrylate paint commit to flames, but panel treated with Fontefire WF forms a thermal barrier, supressing the fire.



Functional principle



Intumescent coating creates a spongy, porous layer. This layer has very good heat insulation properties.


Click the picture and watch a short video

- The heating of the substrate slows down



Benefits

Benefits for people

- 
- The background of the slide is a photograph of modern, multi-story apartment buildings. The buildings have a mix of light-colored (white or cream) and dark-colored (brown or black) facades. They feature large windows and balconies. The sky is a clear, bright blue.
- To prevent or slow the emergence and spread of fire
 - Allows more response time for firefighters to arrive on the scene
 - Gives more time to people to evacuate premises
 - Protects against fire and reduces losses.

Benefits for contractors

- Official test results in accordance with EN 13823:2010+Ai:2014 and EN ISO 11925-2:2010
- Reaction to fire classification: B-s1, d0, EN 13501-1:2007+A1:2009
- Enables use of wood in objects regulated by fire protection legislation.

Main properties



Fontefire WF

- Water-borne paint
- Fast-drying coating
- For spray and vacuum application production lines
- VOC 19 g/l
- Can be also applied by brush or roller
- Volume solids 46%
- Weight solids 54%





Fontefire WF

- Suitable for different types of wood
- The color of the paint is light grey that significantly increases hiding power on the bare wood.



Drying time

Touch dry/23°C 2h

Recoatable 12h

Touch dry/50°C 10 min

Recoatable/50°C 1h



Tests results

Standards

EN 13501-1+A1:2009: Fire classification of construction products and building elements

Part 1: Classification using data from reaction to fire

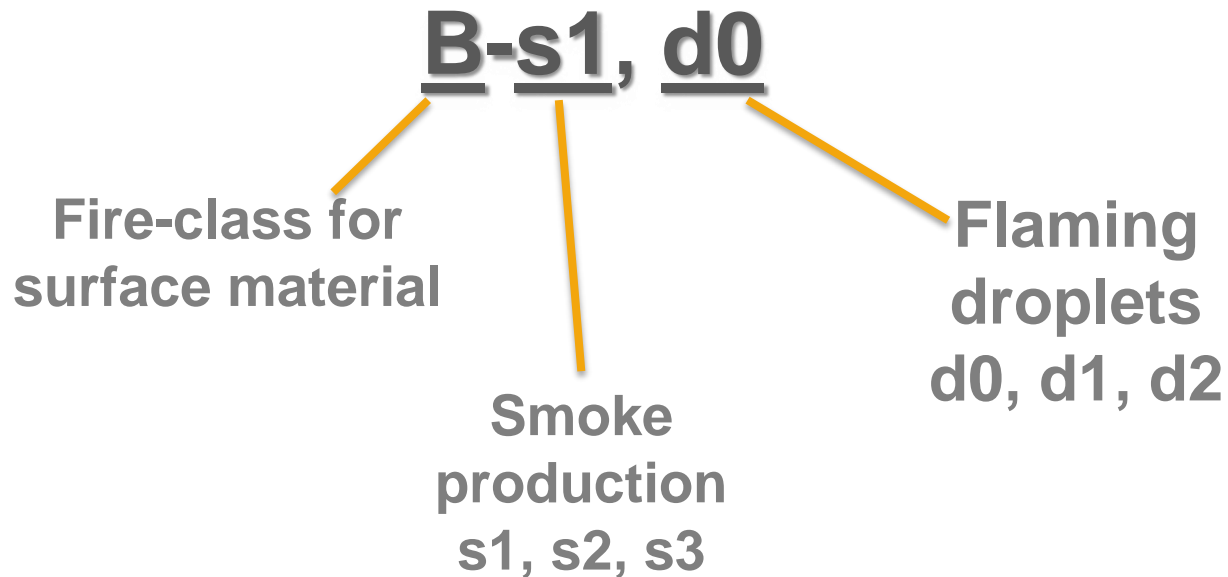
Test standards for wood surfaces

- EN 13823:2010 SBI-test (single burning unit), main test
- EN ISO 11925-2 (small flake)

Fire-classes for surface materials in Europe

A1	A2	B	C	D	E	F
Concrete		wood with fire- retardant treat- ment	Hard wood	Wood	Porous wood sheets	No classification
Glass						
Steel						
Tile						

Fire-class for surface materials



Fontefire WF, tested interior systems

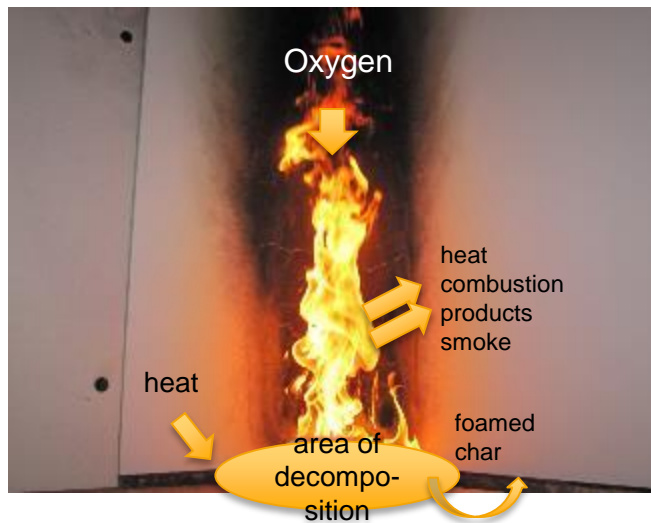
1. Fontefire WF 380 g/m²*
2. Fontefire WF 380 g/m²*+Akvi Top FD 30 100 g/m²



Classification B-s1,d0

*- For wood based substrates, where the density is min. 525 kg/m³ and thickness min. 12 mm

Behaviour of intumescent product during fire



Formation of insulating protective layer by char formation and simultaneous foaming.

Composition of an intumescent flame retardant system

- 1) "char" donor
- 2) acid donor
- 3) foaming agent



SBI test, EN 13823



http://intra.tpc.com/SiteDirectory/tla_tc/bsd/Shared%20Documents/Industrial%20Wood%20Growth%20Support%20Days%202016/MVI_6050.mov

Approved paint systems

For interior surfaces

Wood surfaces	Fontefire WF	2 layers x 190-195 g/m2	Akvi Top FD 30	95-100 g/m2	K09/2016	EN13823:2010+A1:2014 EN ISO 11925-2:2010
Fontefire WF						
Wood surfaces	Fontefire WF	2 layers x 190-195 g/m2	-	-	K08/2016	EN13823:2010+A1:2014 EN ISO 11925-2:2010

The moisture of the wood surfaces should be not more than 20%.

Regulations

Demands for the fire classification of wood surfaces in public buildings in Finland

Interior surfaces:

B-s1, d0

The hardest classification for class B

Systems for interior use

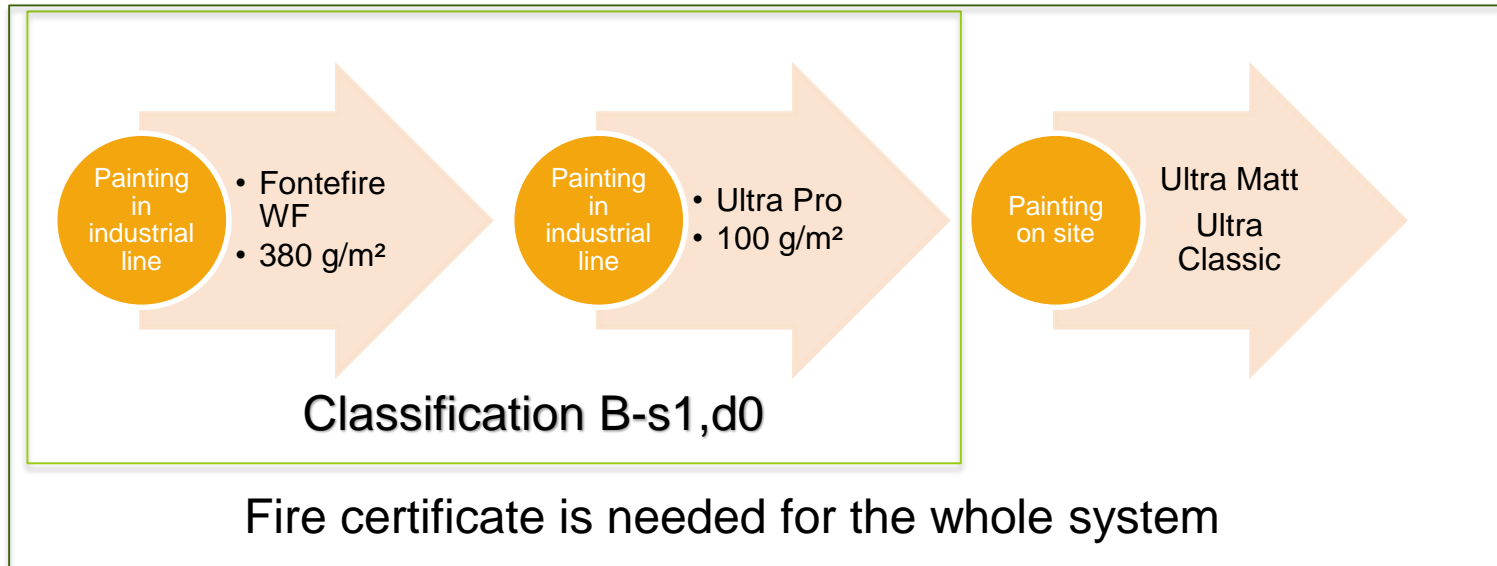
For industrial
customers who
make/sell FR panels

- Fontefire WF+Akvi Top FD 30

For
industrial/professional
customers who paint
on-site

- Fontefire WF + suitable
water-borne topcoat, e.g.
Helmi, Luja.

Estimated system for exterior use



We are looking for exterior cladding objects for testing.
Please contact Tikkurila technical staff, if you are interested.

Fire protection demands depending on the countries

Please check legislation in your own country





Fontefire WF

Because we care about your safety