



FIREPROTECT

Data Sheet

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Tecnofire Intumescent Paper

Manufacturers & Suppliers of Passive Fire Protection Products

Tecnofire® Product Properties

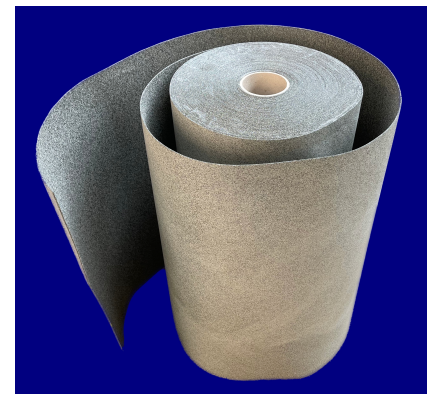
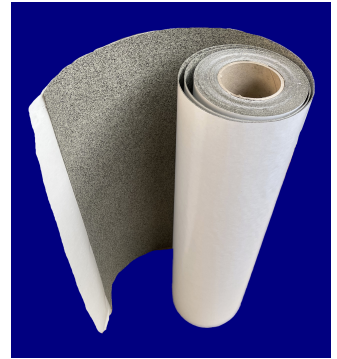
Tecnofire® intumescent papers are available in a wide range of thicknesses and with various expansion volume and pressure characteristics.

Tecnofire® intumescent papers can be supplied in sheets to customers required dimensions, in large rolls, in narrow coils slit to required width or die cut to any required shape.

All grades of Tecnofire® can be supplied with self adhesive backing.

The surface of flexible grades of Tecnofire® can be coated to improve abrasion resistance and appearance.

The standard coating used is black but other colours are possible.



Flexible Products	Tecnofire 60852	Tecnofire 60853
Thickness Available mm	1mm - 5mm	1mm - 5mm
Mean Density (kg/m ³)	320	325
Activation Temp (°C)	190	190
Expansion Ratio	10:1 @450°C	12:1 @450°C

Applications in which Tecnofire® intumescent have been used successfully include:

manufacture of door edge seals
manufacture of pipe wraps and collars
glazing seals
manufacture of door and ventilation grilles
joint seals for building panel systems
ironmongery protection, such as locks, latches and door closing devices
manufacture of linear gap seals

surface protection of historic doors
increasing fire resistance of ceilings in historic buildings
manufacture of specialist fire doors
manufacture of fire resistant fibre reinforced plastic products
manufacture of light weight fire resistant panels for offshore and marine applications.

The Tecnofire® range has extended the potential use of intumescent well beyond traditional gap filling applications. Because of the inherent stability and insulating properties of the char produced, Tecnofire® intumescent have proved exceptionally effective in a range of surface protection applications.

Smoke Emission

Products have been tested to BS6853: 1987 Appendix B. Clause B5.1 - Fire Precautions in the Design and Construction of Railway Passenger Rolling Stock, Three Metre Cube Smoke Emission Test. The recommended compliance criterion for Category 1 material (described as 'Rubber/Plastics: solid, or flexible cellular') is an Ao value of less than 0.02. The products tested meet this criterion.

Smoke Toxicity

Tecnofire® intumescent are formulated to minimise the generation of toxic fumes under fire conditions. Various grades have been tested to recognised standards and reports are available. Test results include:

DIN 53436. Analysis of gases resulting from combustion at 6000C. The total yield of carbon monoxide produced by the products tested was in the range 19.09mg/g to 20.19mg/g. Cyanide, nitrate, sulphate, fluoride, chloride and bromide ions were all below detectable limits.

Naval Engineering Standard 713: Issue 3 - Determination of the Toxicity Index of the Products of Combustion from Small Specimens of Materials. Typical toxicity index 1.21.

London Underground Ltd Engineering standard E1042: A2: March 1998. Quantitative analysis results for carbon, aluminium, silicon, sulphur, calcium, titanium, iron and chromium are available.

Surface Spread of Flame and Fire Propagation

Test results to BS476 Part 6 and Part 7 are available for certain Tecnofire® products on request.

Product Stability

With the exception of Tecnofire® 2000, Tecnofire® intumescent products have not been designed for full external exposure conditions and cannot be guaranteed for use in such situations. However, all Tecnofire® intumescent products have considerable tolerance to damp conditions and occasional water immersion such as might occur from condensation, leaking pipes, floods or similar events in a building. Tests have shown that, after water immersion, Tecnofire® intumescent products will dry out and give the same level of performance as the original sample. Further details of resistance to water and chemicals for various Tecnofire products are available on request.

Tecnofire® 2000 is impregnated with a thermoset epoxide resin which results in a hard, durable and vandal resistant surface. The product has a high degree of water and chemical resistance.

Ageing Stability

All evidence obtained to date, both on the characteristics of the raw materials used in Tecnofire® and in finished Tecnofire® products, indicates that the expansion and fire resistance properties of Tecnofire® intumescent products should not significantly change over a period of many years. The required levels of performance are expected to remain valid in line with the life of the associated building components and constructions.

Tecnofire® Applications

Most commercially available intumescent products were developed specifically for gap filling applications. Because of their unidirectional expansion characteristics, Tecnofire®

intumescent products perform particularly well in these applications.