



FIREPROTECT

# Data Sheet

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## Intumescent Tape

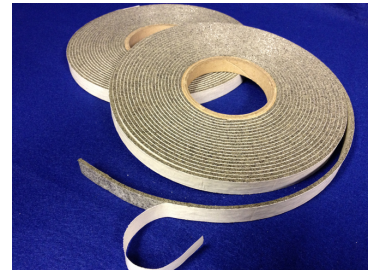
Manufacturers & Suppliers of Passive Fire Protection Products

### Tecnofire® Product Properties

Tecnofire® materials are classified as INTUMESCENTS, they expand as a result of heat exposure to provide passive fire protection. The material will expand uni-directionally in the z direction by up to 12 times its original thickness (depending on the grade) when it is exposed to fire or temperatures in excess of 190°C (374°F). The result of this expansion is a thick insulating char. This stabilised char significantly reduces the rate of degradation of underlying materials by insulating them from the heat energy.

Tecnofire® intumescent are available in a wide range of thicknesses and with various expansion volume and pressure characteristics. The Tecnofire® range includes both flexible and rigid products. Tecnofire® intumescent 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 or without self adhesive backing.



**Colour :-** Grey with black speckles.

Flexible Products	Tecnofire 60851	Tecnofire 60852	Tecnofire 60853
Thickness Available mm	1mm - 5mm	1mm - 5mm	1mm - 5mm
Mean Density (kg/m3)	290	320	325
Activation Temp (°C)	190	190	190
Expansion Ratio	8:1 @450°C	10:1 @450°C	12:1 @450°C

The name of the product changes from a **0** to a **2** when self-adhesive backing is applied.

ie 60851 becomes 62851 - 60852 becomes 62852 - 60853 becomes 62853

The Company reserve the right to update this data sheet should any additional information become available. As our products are being used for a variety of applications under different conditions, the Company will not be held responsible for the failure of any product. Whilst all information is provided in good faith, it is up to the customer to test and establish suitability of each product via their own test methods.

## 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.

## Fire Test Data

Tecnofire® has been tested in accordance with ASTM E84-11a. It recorded a Flame Spread Index (FSI) of 0 and a Smoke Development Index (SDI\* of 3, achieving a CLASS A rating. This qualifies for use in walls, ceilings and plenums. It also achieved Class 1 in BS476 Part 7, which measures the lateral spread of flame.

Data available on request.

## 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 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 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 should not significantly change over a period of many years. The required levels of performance are expected to remain valid

## **Tecnofire® Applications**

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

### **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
- Manufacture of linear gap seals

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.

### **Typical applications include:**

- 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.