



SAFFIL SF BULK FIBRE PRODUCT DATA SHEET



Introduction

SAFFIL Alumina Fibres are high purity polycrystalline fibres designed for use in applications up to 1600°C. Since their development in the early 1970's SAFFIL Fibres have been used successfully to overcome problems in demanding high temperature insulation and many other speciality applications.

Properties

SF Grade Fibres are produced by a unique solution extrusion process which ensures the highest levels of chemical purity.

SF Grade Fibres are produced to offer a wide range of fibre diameters between 2 to 6 microns. This fibre spread is achieved whilst ensuring that the number of fibres below 1 micron is kept to a very low level.

Typical Applications

Component in module, board and paper manufacture.

Expansion gap filling.

Vacuum formed shape production.

Furnace repairs

Benefits

Refractoriness

Low shrinkage at high temperature (1600°C) ensures long life in the most demanding applications.

Thermal Conductivity

Very low shot levels translate into low thermal conductivity, offering savings on fuel and rapid payback on investment.

Resistance to Chemical Attack

The high levels of Alumina, low Silica and trace element levels ensure chemical stability in the majority of industrial process conditions.

Resilience

Unique method of manufacture and high classification temperature result in a fibre with exceptional resilience at high temperature.

Vacuum Forming

The ability of SAFFIL Fibre to provide an alumina matrix allows lower additions of SAFFIL material into alumino silicate mixes when compared with competitive products.

Health and Safety

SAFFIL Fibres were designed with the expert advice of toxicologists to minimise the potential for biological activity.

The fibres are produced in a novel spinning process from a viscous aqueous solution to give a narrow diameter distribution. They are all then subjected to a controlled heat treatment to develop a polycrystalline microstructure.

An extensive series of toxicological tests were carried out on the fibre, involving inhalation, injection and feeding studies. All results were negative, with no fibrogenic, carcinogenic or other toxic effects found. Low Silica levels ensure that there is no possibility of Cristobalite formation after exposure to high temperature.

SAFFIL Fibres are not subject to European regulatory constraints and do not require a hazard warning label or special handling procedures for installation or disposal after use.



SF Grade Bulk - Technical Data

Classification Temperature	°C	1600
Colour		White
Solubility in water		Insoluble
Odour		Odourless
Fibre diameter (median)	Micron	3.0 - 6.0
Density	g/cm ³	3 - 3.5
Shot content (Non fibrous material)		negligible
Properties when exposed to high temperature		>2000
Melting Point	°C	<6
Shrinkage (6 hours at 1500°C)	%	0
Loss on ignition (2 hours at 800°C)	%	
Chemical Composition		95 - 97
Aluminium Oxide	%	3 - 5
Silica	%	<0.5
Trace elements	%	

Availability and Packaging

5Kg Bale - Packed in plastic bags.

Additional Information

- Chemical Safety Data Sheet.
- Technical Service Department

The values given herein are typical average values obtained in accordance with accepted testing methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.

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