SAFFIL 1600 BULK FIBRES

LEADER IN HIGH TEMPERATURE SOLUTIONS

TECHNICAL DATASHEET

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

Properties

RF Grade Fibres are produced by a unique solution extrusion process which ensures the highest levels of chemical purity and lowest possible levels of shot content (non-fibrous particles). The unique method of manufacture allows the fibre diameter to be strictly controlled with a median of around 3 microns with very low levels of fibre less than 1 micron in diameter. The fibre is processed to ensure that a high level of Alumina is converted into the extremely thermally stable alpha Alumina phase. This process gives the finished product exceptional resistance to shrinkage and chemical attack at high temperature, whilst maintaining excellent flexibility and resilience characteristics.

Typical Applications

Widely used to increase the maximum use temperature in module, board, vacuum formed shape and paper manufacture. The fibre can be further treated by milling for more specialist applications.

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

Blended products manufactured using SAFFIL RF grade bulk fibre and proprietary binder systems give exceptional, cost-effective performance.

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.

Insulcon B.V.- The Netherlands - Tel: +31 (0) 167 565750
Insulcon GmbH - Germany - Tel: +49 (0) 2131 408548-0
Insulcon N.V. - Belgium - Tel: +32 (0) 3 711 02 78
Insulcon Projects S.A. - Switzerland - Tel: +41 (0) 91911739-0

INSULCON
LEADER IN HIGH TEMPERATURE SOLUTIONS
www.insulcon.com

Form: A1-106
Effective: 03012022/ES
Supersedes: 29012016/ES/ka

LD: u02/19

SAFFIL 1600 BULK FIBRES

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.

Classification Temperature °C	: 1600
Properties measured at ambient (23°C / 50% RH)	
Colour	: White
Solubility in water	: Insoluble
Odour	: Odourless
Fibre diameter (median)	: Micron 3.0 - 3.5
Density g/cm3	: 3.3 - 3.5
Shot content (Non fibrous material)	: negligible
Properties when exposed to high temperature	
Melting Point °C	: >2000
Shrinkage (6 hours at 1500°C) %	: < 4
Loss on ignition (2 hours at 800°C) %	: 0

Chemical Composition

Aluminium Oxide %	95 - 97
Silica %	3 - 5
Trace elements %	<0.5

LEADER IN HIGH TEMPERATURE SOLUTIONS

TECHNICAL DATASHEET

Insulcon B.V.- The Netherlands - Tel: +31 (0) 167 565750
Insulcon GmbH - Germany - Tel: +49 (0) 2131 408548-0
Insulcon N.V. - Belgium - Tel: +32 (0) 3 711 02 78
Insulcon Projects S.A. - Switzerland - Tel: +41 (0) 91911739-0

INSULCON
LEADER IN HIGH TEMPERATURE SOLUTIONS
www.insulcon.com

Form: A1-106
Effective: 03012022/ES
Supersedes: 29012016/ES/ka

LD: u02/19