Product Information Sheet

Saffil 3D+® Blanket

Description

Saffil 3D+ Blanket is a high temperature, lightweight, needled blanket manufactured from high purity polycrystalline wool with a polypropylene carrier to optimise handling strength and flexibility. The blanket retains its flexibility and thermal properties in many working environments, up to 1600 °C.

Saffil 3D+ fibre was created in response to customer demand for polycrystalline wool (PCW) with an exceptionally low content of respirable fibres. It is manufactured by a unique spinning process to tightly control the diameter distribution and minimise the levels of non-fibrous particles (i.e. “shot”).

The polycrystalline wool has a high alumina chemistry and is especially suited to environments where the presence of non-fibrous particles (i.e. “shot”) is undesirable or where resistance to corrosive agents is essential. This high alumina product provides excellent resistance to reduction at high temperatures.

General Characteristics

Saffil 3D+ Blanket products have the following outstanding characteristics:

- High temperature stability (up to 1600°C)
- Low thermal conductivity
- Ultra-low content of respirable fibres
- Low shot
- Resistance to thermal shock & chemical attack
- High tensile strength & resiliency
- Insoluble in water

Typical Applications

Saffil 3D+ Blankets are the product of choice for a wide range of applications in a number of industries.

- High temperature furnace, boiler and kiln linings
  - Blast, forging, reheat and heat treatment.
  - Continuous hot dip galvanizing lines
  - Ethylene, catalyst & sulphur heaters and reformers
  - Porcelain, refractory, laboratory & dental kilns

- Speciality applications
  - Acoustic insulation
  - Semiconductor & fuel cell components

Availability

Thickness (mm)	Roll Width (mm)	Roll Length (m)
25	610	7.2

All product dimensions provided are nominal.
Standard roll width is 610mm. Other thicknesses/sizes may be available on request subject to minimum order requirements.

Handling Information

A Safety Data Sheet (SDS) has been issued describing the health, safety, and environmental properties of this product, identifying the potential hazards and giving advice on handling precautions and emergency procedures. This must be consulted and fully understood before handling, storage, or use.

Saffil products are not classified as hazardous under Regulation (EC) No. 1272/2008 and self-classification guidelines included in the REACH and CLP Regulations. This means there are no special labelling, handling or disposal requirements. The application of appropriate industrial hygiene standards will help to minimise the release of fibrous dust at the workplace.

Information on other applications available upon request. Any new and/or special use of these products, whether or not in an application listed in our literature, is advised to be submitted to our technical department for their prior written approval.

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Typical Product Parameters

Saffil 3D+ Blanket	
Typical Chemical Analysis (fibre wt. %)	
Al_2O_3	94-97
SiO_2	3-6
Others	Trace
Physical Properties	
Colour	White
Classification Temperature (°C)*	1600
Loss on Ignition (wt. %)	
from Fibre	0
from Blanket‡	< 5
Median Fibre Diameter (microns)	5-7
Product Density (kg/m³)	96
Specific Heat at 1000°C (J/kgK)	1000
Shot Content (% >75µm)	< 0.1
Thermal Conductivity (W/mK)	
Mean Temp.	
800°C	0.20
1000°C	0.29
1200°C	0.40
Permanent Linear Shrinkage (%) 6-hour soak	
1500°C	< 4

* Classification Temperature is not a definition of the operational limit of these products especially when long term physical or dimensional stability is a factor. The classification temperature is the temperature at which irreversible linear shrinkage does not exceed a given value after a 24-hour heat soak test. For applications where long-term stability is not a requirement, products may be successfully used at temperatures well in excess of their Classification Temperature. For continuous use applications requiring long-term stability, routine practice is to utilize materials in respect to their continuous use temperature. Data are average results of tests conducted under standard procedures and are subject to variation. Results should not be used for specification purposes. For assistance or further clarification, please contact your nearest Alkegen Application Engineering office.
‡ Upon initial firing of the blanket a small amount of organic burnout will occur due to the polypropylene carrier.

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