# Product Information Sheet

# Saffil® 72HD Blanket

## DESCRIPTION

Saffil® 72HD Blanket is a high temperature, lightweight, thermally efficient blanket manufactured from Saffil polycrystalline wool fibers that are designed for continuous use temperatures up to 1600°C (2912°F). Saffil fibers exhibit the highest degree of dimensional stability and chemical resistance out of Alkegen's high temperature insulating wool blanket portfolio, and they are particularly suited for the most extreme heat processing applications and thermal management challenges.

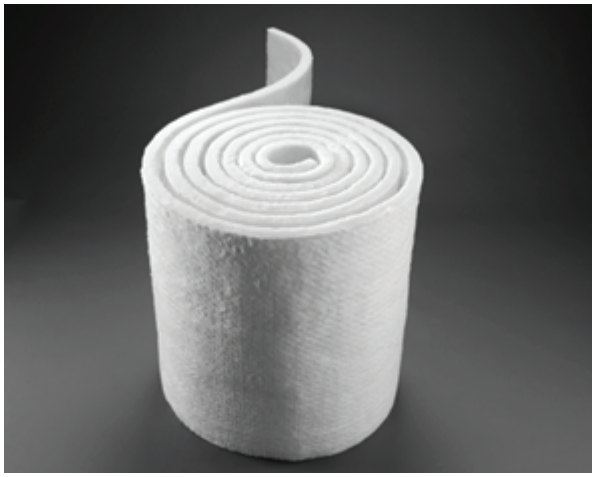
Saffil Blankets are virtually "shot" (unfiberized particles) free, making them an ideal candidate for applications where the presence of shot is undesirable. The low shot content (high fiber index) yields a blanket with extremely low thermal conductivity, outstanding consistency, and resiliency at elevated temperatures.

The high purity, "mullite" chemical compositions of Saffil 72HD Blanket provides excellent chemical stability, as they are more resistant to fluxing by acids, concentrated alkalis, and general chemical attack than refractory ceramic fibers. If blankets become wet by water or steam, the thermal and physical properties remain unaffected after drying. Saffil 72HD blanket can contain a small amount of surface organics (green colorant) which will burn out upon initial firing without any loss of tensile strength or fiber resiliency.

## GENERAL CHARACTERISTICS

**Saffil® 72HD Blanket products have the following outstanding characteristics:**

- High temperature stability (up to 1600°C (2912°F))
- Resistance to chemical attack
- Exceptional insulating properties (Low Thermal Conductivity & Low Heat Storage)
- Virtually "shot" free
- Resistance to thermal shock
- Superior resiliency
- Good handling strength
- Excellent flexibility
- Light weight
- High vibration resistance



## TYPICAL APPLICATIONS

- **Ferrous (Iron & Steel)**
  Continuous Annealing & Galvanizing Lines, Reheat Furnaces, Electric Arc Furnaces, Blast Furnaces, Forge Furnaces, Coke Ovens, Molten Metal Transfer Ladles & Preheat Stands
- **Ceramic & Glass**
  Porcelain Kilns, Technical Substrate Kilns, Refractory Production Kilns, Intermittent Kilns, Tunnel Kilns, Kiln Cars
- **Hydrocarbon Processing (Petrochemical & Refinery)**
  Cracking/Pyrolysis Furnaces, Fired Heaters, Reactor Vessels, Reformers
- **Aerospace**
  Heat Shields, High Temperature Seals, Ablative Shields
- **Pollution Control**
  Regenerative Thermal Oxidizers, Flares, Incinerators
- **General Use & Other Industries**
  Hydrogen & Reducing Atmosphere Furnaces, Semiconductor & Fuel-cells, Aluminum Furnaces, Burner Block Wraps, Expansion Joints

Information on other applications is available upon request. Any new and/or special use of these products, whether in an application listed in our literature, is advised to be submitted to our Alkegen Application Engineering department for review and guidance on material selection.

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## TYPICAL PRODUCT PARAMETERS

| | Saffil 72HD Blanket | |
|---|---|---|
| **Physical Properties** | | |
| Color | White | |
| Classification Temperature* | 1600°C (2912°F) | |
| Melting Point | > 1870°C (3400°F) | |
| Mean Fiber Diameter | 4 - 6 Microns | |
| Typical Fiber Index** (wt. %) | > 97% | |
| **Chemical Properties** | | |
| **Typical Chemical Analysis (wt. %)** | | |
| $Al_2O_3$ | 72 | |
| $SiO_2$ | 28 | |
| Trace Elements | < 0.5 | |
| **Thermal Properties** | | |
| **Thermal Conductivity (ASTM C201)** | | |
| Density, kg/m³ (lb/ft³) | 145 (9.0) | 170 (10.6) |
| Mean Temperature | Thermal Conductivity, W/m-K (Btu in/hr ft² °F) | |
| 600°C (1112°F) | 0.11 (0.8) | 0.10 (0.7) |
| 800°C (1472°F) | 0.16 (1.1) | 0.15 (1.0) |
| 1000°C (1832°F) | 0.22 (1.5) | 0.20 (1.4) |
| 1200°C (2192°F) | 0.30 (2.1) | 0.28 (1.9) |
| **Permanent Linear Shrinkage (EN 1094-1)** | | |
| After 24 Hour Soak @ 1600°C (2912°F) | < 2.0% | |

## SIZE & AVAILABILITY

Saffil Blankets are produced and distributed worldwide. To obtain information on specific roll size and packaging options, please reach out to your nearest Alkegen representative.

### Saffil 72HD Blanket, 145 kg/m³ (9 lb/ft³)

| Thickness, mm (in) | Width, mm (in) | Length, mm (ft) |
|---|---|---|
| 9 (0.35) | 1200 (47.25) | 7200 (23.62) |

### Saffil 72HD Blanket, 170 kg/m³ (10.6 lb/ft³)

| Thickness, mm (in) | Width, mm (in) | Length, mm (ft) |
|---|---|---|
| 13 (0.5) | 1200 (47.25) | 7200 (23.62) |

## HEALTH AND SAFETY INFORMATION

A Material Safety Data Sheet 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.

*For polycrystalline wools, the Classification Temperature is also representative of its Continuous Use Temperature. The Continuous Use Temperature is a recommended maximum operating temperature for the material usage under clean, oxidizing atmosphere conditions. 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 certain application conditions (specific chemical contaminants, reducing atmospheres, etc.), the Continuous Use Temperature may be reduced.

**Fiber Index is the amount of material (by weight %) that is fiber vs. "shot". Shot is globular grains of glass and is an undesired biproduct of the fiberization process. Saffil Blankets have extremely high fiber index, yielding a very clean polycrystalline wool blanket. By relation, the typical shot content (wt%) ≥45µm of Saffil 72HD Blanket is less than 3%.



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