



Yorkshire Refractory Products Limited

REFRACTORY FIBER PRODUCTS

FIBERFRAX DURABLANKET Z

The FIBERFRAX DURABLANKET family of lightweight needled blankets are manufactured from Fiberfrax refractory ceramic fibres and provide effective solutions to a wide spectrum of thermal management problems.



Utilizing our proprietary high output blowing and spinning techniques these products offer superior insulating performance, flexibility and resilience. Fiberfrax Durablanket products are unaffected by most chemicals (except hydrofluoric & phosphoric acids and concentrated alkalis). Thermal and physical properties are retained after drying following wetting by oil, steam or water. Fiberfrax Durablanket products are completely inorganic, so there are no fumes when heating for the first time. Available in a variety of chemistry, density and thickness combinations, the Fiberfrax Durablanket range is one of the most versatile available to the market today.

FIBERFRAX DURABLANKET Z is a high temperature blanket made from spun zirconia stabilised ceramic fibre. It is a highly efficient insulator with extremely low shrinkage characteristics at elevated temperatures, low heat storage capacity and complete resistance to damage from thermal shock. Fiberfrax Durablanket Z is ideally suited to use in high temperature furnace lining systems.

Typical applications

- ♣ Investment casting mould wrappings
- ♣ Removable insulating blankets for field stress relieving welds
- ♣ Reusable insulation for steam and gas turbines
- ♣ Flexible high temperature pipe insulation
- ♣ High temperature kiln and furnace insulation
- ♣ Soaking pit seals
- ♣ Fire protection systems
- ♣ Expansion joint seals
- ♣ High temperature gasketing
- ♣ Glass furnace crown insulation
- ♣ Incineration equipment and stack linings
- ♣ Annealing cover seals
- ♣ High temperature filtration

General characteristics

FIBERFRAX DURABLANKET Z has these outstanding characteristics:

- ♣ High tensile strength
- ♣ Low shrinkage
- ♣ Excellent hot strength
- ♣ High resiliency
- ♣ Low thermal conductivity
- ♣ Low heat storage
- ♣ Resistance to thermal shock
- ♣ Good sound absorption
- ♣ High heat reflectance



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Page 2 of 2

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Fire test data

FIBERFRAX & FIBERFRAX DURABLANKET Z is non-combustible and is approved for use against cellulosic and hydrocarbon fires and for dry wrapping of structural steel. Certification details can be supplied on request.

| Chemical Analysis (wt. %) | |
|---|-------------|
| SiO ₂ | 52,0 – 56,0 |
| Al ₂ O ₃ | 28,0 – 32,0 |
| ZrO ₂ | 14,0 – 18,0 |
| Alkalis | <0.25 |
| Fe ₂ O ₃ + TiO ₂ | <0.2 |

Typical physical properties

| | |
|----------------------------|-----------------------|
| Colour | : White |
| Classification temperature | : 1400 °C |
| Melting point | : 1740 °C |
| Fibre diameter | : 3,25 microns (mean) |
| Specific heat at 1000°C | : 1035 J/kgK |

| | <i>96 kg/m₂</i> | <i>128 kg/m₂</i> | <i>160 kg/m₂</i> |
|---|----------------------------|-----------------------------|-----------------------------|
| Tensile strength (kPa) | 55 | 75 | 90 |
| Thermal conductivity data (W/mK) | | | |
| Mean temperature : 600°C | - | - | - |
| 800°C | 0,24 | 0,19 | 0,18 |
| 1000°C | 0,34 | 0,27 | 0,25 |
| 1200°C | 0,44 | 0,36 | 0,33 |

Permanent linear shrinkage (24 hour soak)

| | |
|--------|---------|
| 1200°C | : 2,1 % |
| 1300°C | : 2,5 % |
| 1400°C | : 2,6 % |

| Availability | | | | |
|-----------------------|-----------------------------------|------------|------------|------------------------|
| | <i>Density (kg/m₂)</i> | | | |
| <i>Thickness (mm)</i> | <i>96</i> | <i>128</i> | <i>160</i> | <i>Roll length (m)</i> |
| 13 |] |] |] | 14,64 |
| 19 |] |] |] | 10,0 |
| 25 |] |] |] | 7,32 |
| 38 |] |] |] | 5,0 |
| 50 |] |] |] | 3,66 |

Other thicknesses/sizes may be available on request subject to minimum order requirements.

Versions with aluminium foil and other coverings are available subject to order.