

Isofrax® 1260C Blanket

Introduction

Isofrax® Thermal Insulation from Unifrax is a revolutionary new fiber that utilizes a unique, patented silica-magnesia chemistry to solve a variety of demanding, high-temperature application problems. Isofrax 1260C Blanket is the product of a long-term research and development effort by Unifrax to produce an insulating blanket which has the high-temperature performance characteristics required in many applications at temperatures up to 2300°F/1260°C and also meets European regulatory requirements (Directive 97/69/EC). Isofrax 1260C Blanket provides:

- Low thermal conductivity
- Excellent thermal stability
- Thermal shock resistance
- Low weight
- Required handling strength
- Low heat storage
- Flexibility
- Excellent corrosion resistance

Isofrax 1260C Blanket has excellent chemical stability and is unaffected by most chemicals except hydrofluoric and phosphoric acids and concentrated alkalis. If wet by water or steam, thermal and physical properties remain unaffected after drying. Isofrax 1260C Blanket also provides superior resistance to attack from molten aluminum alloys at high temperatures.

Product Forms

Isofrax 1260C Blanket is an inorganic, needled insulating blanket which is manufactured using Isofrax 1260C spun fibers. The extra-long spun fibers, cross-locked through a unique forming process, produce a blanket with good handling strength. The following table summarizes the standard sizes available for Isofrax 1260C Blanket:

| | |
|-----------------------|-------------------------------------|
| Thickness – in (mm) | ½" (13), 1" (25), 1½" (38), 2" (50) |
| Density – pcf (kg/m³) | 6 pcf (96), 8 pcf (128) |
| Width – in (mm) | 24" (610), 48" (1220) |
| Roll length – ft (mm) | 25' (7620) |

Applications

Isofrax 1260C Blanket provides solutions to a variety of heat processing problems. These typical applications include:

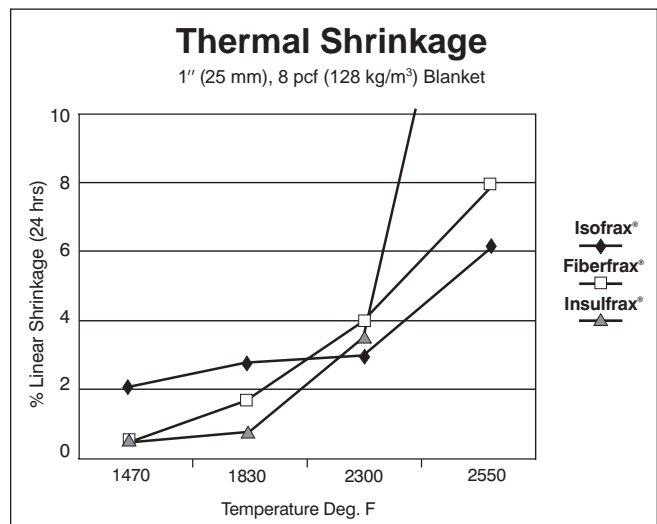
- Removable insulating blankets for weld stress relieving
- Reusable insulation for steam and gas turbines
- High-temperature kiln and furnace insulation
- Furnace door linings and seals
- Furnace repairs
- Boiler and incinerator linings
- Seals and gaskets
- Automotive heat shields
- Appliance insulation
- Fire protection
- Duct, stack and flue linings
- Vessel covers and lids
- Personnel heat shields
- Molten metal splash protection



Typical Product Properties

| | |
|--|------------------------|
| Color | Bluish White |
| Melting Point | 2730°F (>1500°C) |
| Temperature Grade | 2300°F (1260°C) |
| Recommended Operating Temperature ¹ | 2300°F (1260°C) |
| Specific Gravity | 2.54 g/cm ³ |

Isofrax 1260C Blanket has a temperature rating of 2300°F, but can withstand short-term temperature excursions above 2300°F with moderate shrinkage. The enhanced thermal stability of Isofrax 1260C Blanket provides a safety margin in the event of a furnace control malfunction or burner failure. This safety margin helps to avoid furnace hot spots and equipment damage resulting from temperature overruns. The following graph compares the shrinkage characteristics of Isofrax 1260C Blanket with other high-temperature insulating materials.



Typical Product Parameters

Isofrax 1260C Blanket is produced on the Unifrax Corporation's SEF furnaces which utilize proprietary mechanical spinning and needling processes, along with the latest process control technology. Use of this state-of-the-art manufacturing process results in the following product parameters for Isofrax 1260C Blanket:

| Parameter | Isofrax 1260C Blanket | Isofrax 1260C Blanket |
|--|---|--|
| Density | 6 pcf (96 kg/m ³) | 8 pcf (128 kg/m ³) |
| Chemical Analysis (%) | SiO ₂ – 70 to 80 MgO – 18 to 27 Trace Elements – 0 to 4 | SiO ₂ – 70 to 80 MgO – 18 to 27 Trace Elements – 0 to 4 |
| Average Fiber Diameter (microns) | 3.0 to 5.0 | 3.0 to 5.0 |
| Average Tensile Strength (ASTM 686-76) | 5 psi (35 kPa) | 6 psi (42 kPa) |
| Compression Recovery (%) | @ 10% Compression: 96% Recovery @ 30% Compression: 89% Recovery @ 50% Compression: 78% Recovery | |

For additional information about product performance or to identify the recommended product for your application, please contact the Unifrax Application Engineering Group at 716-278-3888.

Data are average results of tests conducted under standard procedures and are subject to variation. Results should not be used for specification purposes.

Insulating Value

The following table summarizes the insulating characteristics of Isofrax 1260C Blanket (assumes 8 pcf (128 kg/m³) density):

| Insulation Thickness | 1" (25 mm) | 2" (51 mm) | 4" (102 mm) | 8" (203 mm) | 10" (254 mm) |
|----------------------|-------------------|------------|-------------|-------------|--------------|
| Hot Face | Cold Face (°F/°C) | | (°F/°C) | (°F/°C) | (°F/°C) |
| 1202°F (650°C) | (343/173) | (248/120) | (182/83) | (139/60) | (129/54) |
| 1598°F (870°C) | (485/251) | (350/177) | (250/121) | (182/83) | (165/74) |
| 2012°F (1100°C) | (649/343) | (477/248) | (341/171) | (242/117) | (217/103) |

All heat flow calculations are based on a surface emissivity factor of 0.90, an ambient temperature of 80°F (27°C) and 0 mph (km/h) wind velocity, unless otherwise stated.

Health and Safety Information

Isofrax Thermal Insulation from Unifrax, according to Directive 97/69/EC, possesses a fiber chemistry within the regulatory definition of a "man-made vitreous (silicate) fiber with random orientation with alkaline oxide and alkaline earth oxide content greater than 18% by weight." Isofrax fibers have been tested pursuant to EU protocol ECB/TM/26, Revision 7, Nota Q, Directive 97/69/EC, with results that are below regulatory thresholds. As a result, Isofrax Thermal Insulation does not require additional labeling or further testing. In addition, Intratracheal Instillation Biopersistence Testing per

the German Hazardous Substance Ordinance has been conducted on Isofrax fibers with results that are below German regulatory thresholds. Refer to the product Material Safety Data Sheet (MSDS) for recommended work practices and other product safety information.

Notes:

- (1) The recommended operating temperature of Isofrax 1260C Blanket is determined by irreversible linear change criteria, not melting point.

