



INFINITY

GROUP OF COMPANIES

*Ergonomic And Product Improvements Of
Infinity Range Of Thermal Shields*

Thermal Insulation

Removable Insulation Blankets are used to insulate engine parts, exhaust piping and components, industrial process piping and machinery. In particular applications which use diesel engines, such as power generation, off highway equipment, trucks, light vehicles, and marine vessels, they often require insulation blankets to manage the heat that these engines generate. With our extensive library of patterns and designs we can offer custom removable blanket kits to suit nearly all makes of engines and machines including Caterpillar®, Atlas Copco, M.T.U, Detroit, Komatsu, Liebherr, Hitachi and Terex.

What are Removable Insulation Blankets used for?

1. Protecting employee personnel from burn related injuries therefor reducing OH & S risks
2. Increase exhaust system efficiencies and reduce engine compartment temperatures
3. Protecting hoses, wiring, and solenoids from excess heat generated from engines and exhaust systems
4. Reduce the potential of fires hazards caused by hydraulic oil and diesel leaks igniting on hot surfaces
5. Many Mine and Construction sites OH & S regulations stipulate a mandatory requirement for all machines to meet thermal protection customers to comply with through the provision, back up support and service of their products.
6. The dense fibrous composition of some of the materials used for heat insulation is also an effective acoustic absorber and these characteristics can be further increased by using multiple layers within the removable blanket products construction. All materials used in our products meet fire rating standards.

Blanket Composition and Specification details

Layer	Material	Service Temp	Function
Inner (Optional)	Knitted Stainless Steel mesh	650 -980°C	Provides extra strength and durability to the inner of the blanket helping to contain insulating media
Secondary Inner	Vermiculite Coated Silica Cloth	1000°C	High temperature resistant insulating cloth layer for the primary high temperatures
Middle	E Glass Needle Felt Fibreglass	600°C	This insulating layer is the material which provides the main reduction in temperatures emanated from the heat source
	Belcotex Needle mat	1000°C	
	Silica Needle mat	1000°C	
Outer	PTFE Impregnated E-Glass	260-540°C	Protective outer layer

THERMAL INSULATION IDENTIFICATION

We will only focus on two different types of insulation mediums in this document to explain the hazards and functionality of the materials.

- **Infinity Insulation medium**
 - **Belcotex 110 Needled Mat.**
- **Market Standard Insulation Medium (Used by other Suppliers)**
 - **Refractory Ceramic Wool.**

TECHNICAL AND SAFETY INFORMATION

- | | |
|---|---|
| <ul style="list-style-type: none">• <u>MARKET STANDARD</u>
<u>REFRACTORY CERAMIC</u>
<u>WOOL</u>• 1093 deg c working temperature.• Wool type look and feel.• High exposure to fibre fly due to it being a spun construction of fibres.• Category 2b carcinogen to human exposure and high skin and respiratory exposure risk.• Looses insulation efficiency when exposed to vibration and condensation.• High PPE Demand for handling and storage.• Shortened installed life span. | <ul style="list-style-type: none">• <u>INFINITY THERMAL</u>
<u>BELCOTEX 110</u>
<u>NEEDLEMAT</u>• 1050 deg c working temperature.• Compressed sheet / mat look and feel.• No fibre fly due to it being a needled woven mat material.• It is non-respirable , environmentally friendly and non hazardous, absolutely no itching or irritation whatsoever.• Keeps full insulation functionality even when exposed to vibration and condensation.• No PPE demand for handling and storage , no harmful effects.• Increased installed lifespan due to tensile strength of insulation construction. |
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PLEASE REFER TO THE ATTACHED MSDS SHEET.

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INFINITY IMPROVEMENTS

MARKET STANDARD REFRACTORY CERAMIC WOOL

- Spring Retainers.
- Insulation on the full surface area of the shield.
- Stainless Steel Edge Protection.
- Part Number Tag per Shield.
- PTFE impermeable outer Material.
- Additional Hot Surface Protection.
- Superior insulating Properties.
- Increased Lifespan
- Improved Safety with regards to skin irritation and respiratory hazards.

INFINITY THERMAL BELCOTEX 110 NEEDLEMAT



**Market Standard
Supplier Example**

INFINITY THERMAL SHIELDS

VS.

MARKET STANDARD SUPPLIERS

Belcotec 110 Mat



Refractory Ceramic Wool



Belcotec 110 Mat
Infinity Shield



Refractory Ceramic Wool
Market Standard Suppliers



VS.

Perfect example **no** "Fibre Fly" **no** fibres separation present due to rigid woven construction.

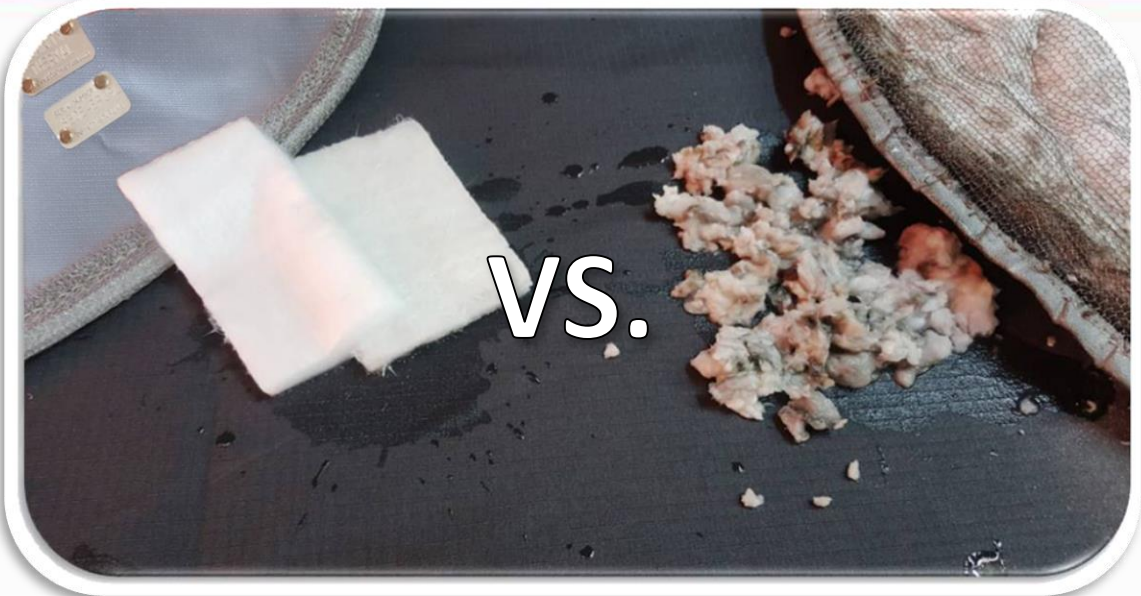
Perfect example of "Fibre Fly" fibre separation that causes skin and respiratory health hazards.



REF Belcotex 110 MSDS
Sheet

REF Refractory Ceramic Fibre
MSDS Sheet

EXAMPLES OF EXPOSURE TO WATER, HANDLING AND VIBRATION



**No change in insulation
or construction
integrity**

**Failure and Health
Hazard**



**Refractory Ceramic Fibre
Exposure**



**Belcotex 110 Fibre
Exposure**

Infinity Sourcing prides itself in :

1. Custom manufactured covers to meet the clients specific needs and requirements.
1. All our thermal shields (covers) are locally manufactured.
2. Only market leading textiles used in construction of the thermal shields.
3. Prolonged lifespan.
4. Designed specifically for mobile equipment and harsh mining environment.
5. Lead time and costing.
6. World class insulation values.
7. Installation ease and ergonomical advancements with relation to fibre exposure.

EXAMPLES







EXAMPLES

