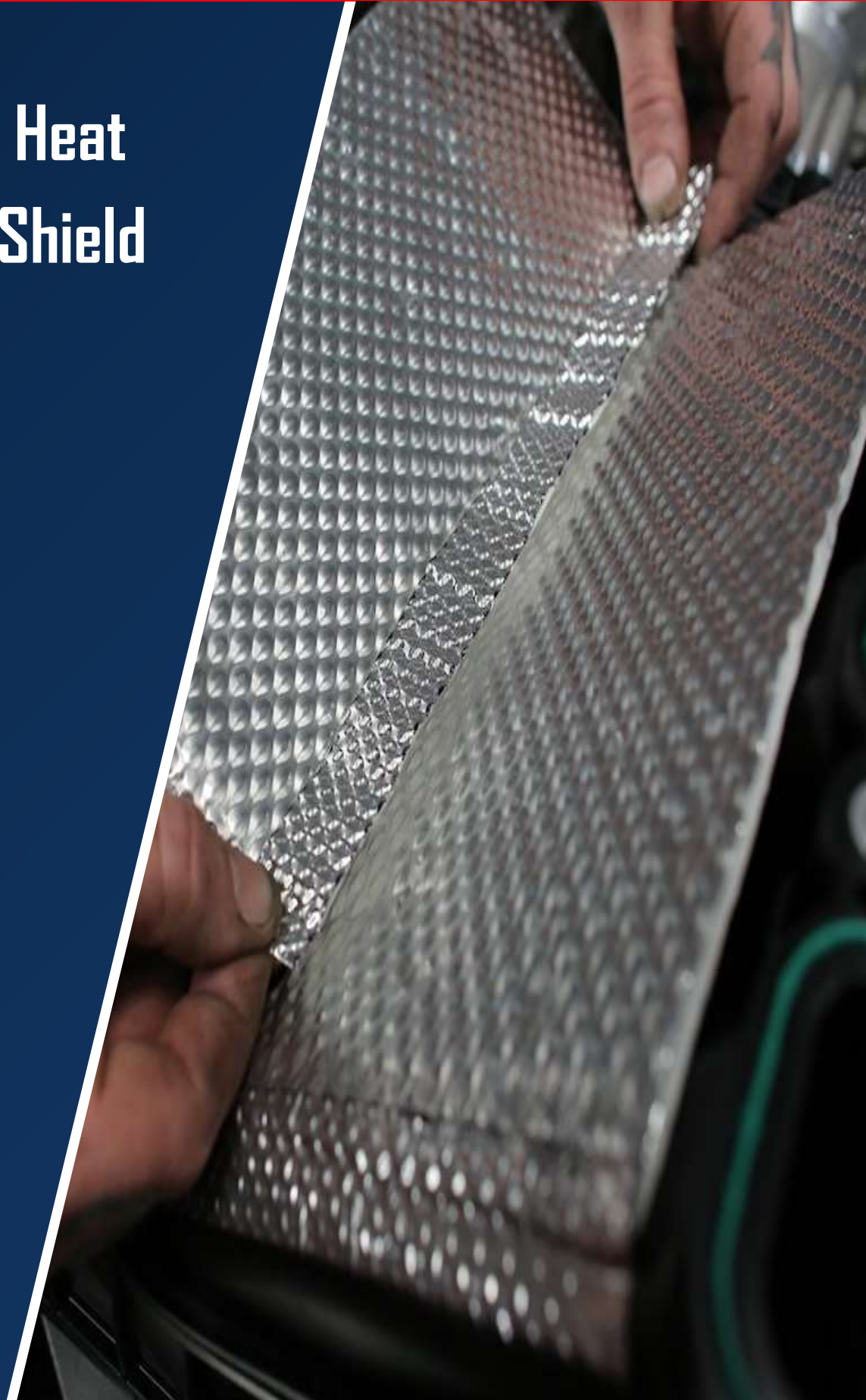




# Automotive Heat Protection Shield





Darco Industries offers a wide range of high quality thermal insulation fabrics and accessories for a multitude of industrial equipment & applications. Our team helps fabricators engineer material systems solutions designed to suit specific chemical and physical environments

### Who we are

Darco Industries is an import/wholesale business established in July 2010 by James Dar BSc who has technical sales experience since 1980. Since 1998 his time has specifically been with high temperature textiles and advanced industrial insulation materials.

Our success is primarily based on fostering competent trust with customers and suppliers. We have long established relationships with the worlds leading glass textile suppliers and core clients spread around Australia and overseas.

Darco Industries strive to improve our product range and services by supplying our customers with cost effective, engineered material system solutions

We understand the properties of our materials and suitability for the various applications where physical and chemical factors like temperature, abrasion, vibration, tensile strength, thermal conductivity, UV, fire ratings, sound absorption, chemical resistance, liquid and vapour permeability etc.

## “Your Problem, Our Solution”



### The Darco Advantage

Darco Industries is Australia's leading importer and wholesaler of the widest range of specialist thermal insulation and fire protection glass textiles and accessories. Based in Perth, Western Australia, our customer focused staff has a proven record of being very responsive to customer needs and special testing demands. Our client base is worldwide and consists of the automotive OEM's, heavy-duty engine OEM's, industrial suppliers and hydraulic companies.

Darco is a leading provider of quality and thermal insulation solutions serving a wide range of industries around the world. From industrial to commercial, aeronautical to marine, Darco Industries are dedicated to adding value to fabricators products and processes, supporting their success in the global marketplace. Darco has the expertise, resources and global reach to support its clients through its extensive network of manufacturers and suppliers in over 100 countries around the world.



### Darco Industries

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More powerful engines, modern exhaust gas technologies and innovative materials used in the construction of passenger cars and commercial vehicles call for greater use of insulation for exhaust systems. Heat protection shields are an excellent solution and perform two different functions

### What is a Heat Protection Shield?

Due to the large amounts of heat given off by internal combustion engines, heat shields are used on most engines to protect components and bodywork from heat damage.

As well as protection, effective heat shields can give a performance benefit by reducing the under-bonnet temperatures, therefore reducing the intake temperature.

### Where are they used?

Depending on the object to be protected and the heat source in question, heat protection shields can be applied in two areas:

- Directly on the component designated as the heat source
- On areas that are to be protected against heat

### How are they made?

To manufacture its heat protection shields, Darco uses needle and stitch-bonded needle mats that are also available in sandwich constructions incorporating aluminium or stainless steel foils

as well as self-adhesive foils or fabrics.

Darco materials offer thermal insulation acoustic absorption vibration resistance and are guaranteed non-toxic.

### Fibre types and product?

- NE – approx. 550 – 600 °C Thermo E-glass needle mat
- NESA – approx. 550 – 600 °C Thermo E-glass needle mat low-sizing (low-emission type)
- NA – approx. 700 – 750 °C Hakotherm®-800 needle mat
- NT – approx. 800 – 850 °C Hakotherm®-900 needle mat
- SK – approx. 1000 °C Hakotherm®-1200 needle mat
- ST – approx. 1050 °C Hakotherm®-1200 turbo needle mat
- SI – approx. 1100 °C Hakotherm®-1300 needle mat

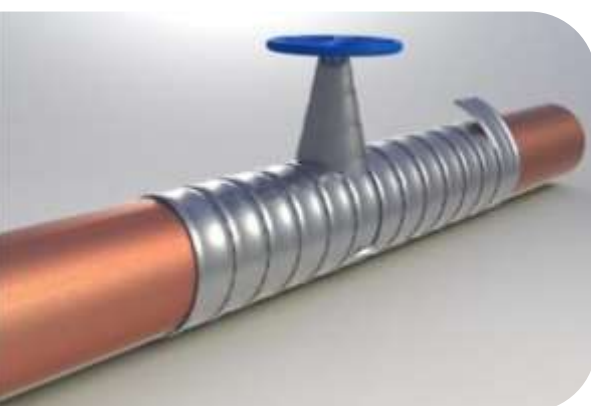
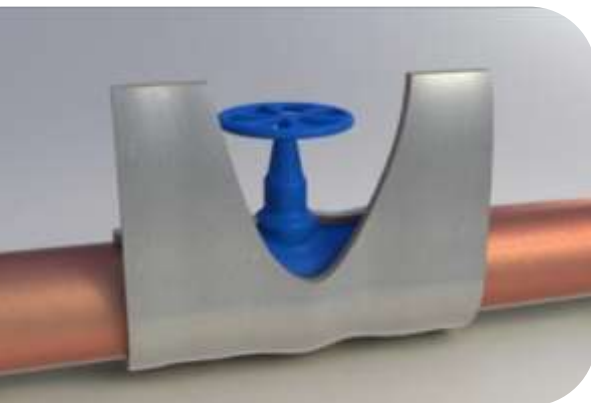
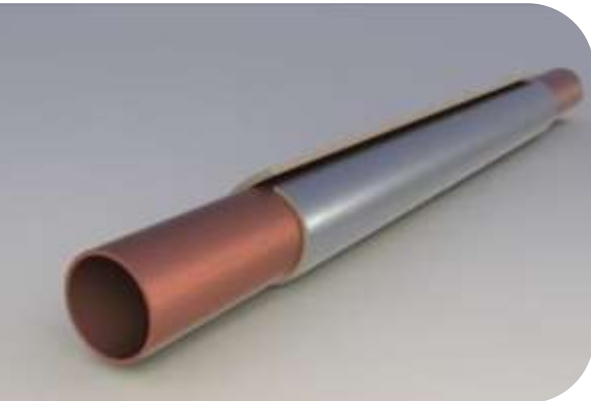
**DETW10012AL**, High quality HKO, Germany Easy Wrap lagging, rated to 800°C, is a 100mmx12mm Calcium Silicate Fibre needled mat faced one side with aluminium foil 18 µm with interlayered scrim; Overlap of foil of approx. 50–60 mm, equipped with a self-adhesive - See HKO Easy Wrap brochure

### Important Details

According to SOLAS, Ch. 11-2 reg. 15.2-10 and IACS rules for classification of ships, all surfaces above 220 °C are to be insulated or otherwise protected in order to avoid ignition of flammable fluids.

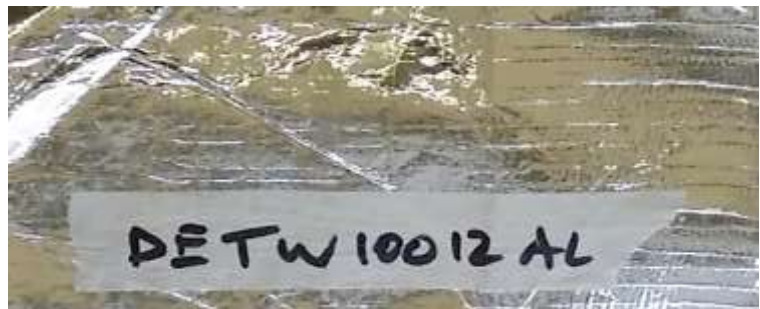
Engine room fires are few in number. Normally they are very costly for the owners and their insurers and one should not overlook the potential for loss of life or injury to crew and / or passengers.

Statistics show that most engine room fires are caused by a ruptured fuel pipe spraying oil onto a hot surface.



### Insulation Guide

Thickness	Temp.	Reduced to
12mm	220°C	94°C
12mm	580°C	219.4°C
25mm	220°C	72°C
25mm	750°C	199.5°C



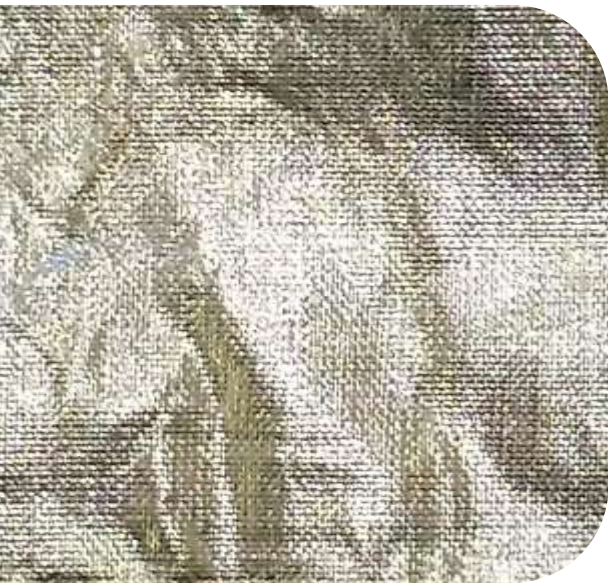
**DETW4003** is fiberglass needle mat using E-glass fiber roving as the raw materials while each strand is chopped into a 2-3 inch fraction via the fiber cutting machine and further decomposed into extreme tiny blanket shape through the cotton carding engine.

**Important Details**

Processed into lath shapes, the fiberglass blanket is applicable to building construction and gaskets of air conditioners for heat insulation and noise elimination..

Processed into straps, it is provide for thermal insulation and protection of cold/hot piping and underground pipes.

Employed as heat-resistant, tensile, waterproof, anti-erosion materials including heat proofing of engine hoods, cars mufflers, and thermal insulation materials of industrials of industrial boiler sand being able to replace expensive fully-importing asbestos goods.



**Specification:**

Thickness : 3mm up to 25mm  
 Density : 100kg/m3 up to 200 kg/m3  
 Width : 1m up to 2m  
 Temperature: 550°C while adhesive is 230°C

**Insulation Guide**

Thickness	Temp.	Reduced to
12mm	220°C	94°C
12mm	580°C	219.4°C
25mm	220°C	72°C
25mm	750°C	199.5°C



**DSENM6/1000/SS** special stitch bonded needlemat holds together much better than plain needlemat especially on hot vibrating exhaust systems. The Stainless Steel foil is more durable than aluminium foil, especially underbody, for better puncture resistance - Rated to 600°C.

### Important Details

Needlemat insulation is composed of 100% selected grade type "E" glass fibres needled together into a mat form. It is non-respirable, incombustible asbestos free and contains no chemical binders. Above all Darco Needlemat has vibration resistant properties allowing it to be successfully used

for engine exhaust jacketing, turbo covers and silencer packing. Other uses include: seals in the glass industry, oven insulation, industrial furnaces, boilers and kilns and is an exceptional material for use as removable insulation pads for pipes, valves and motors.

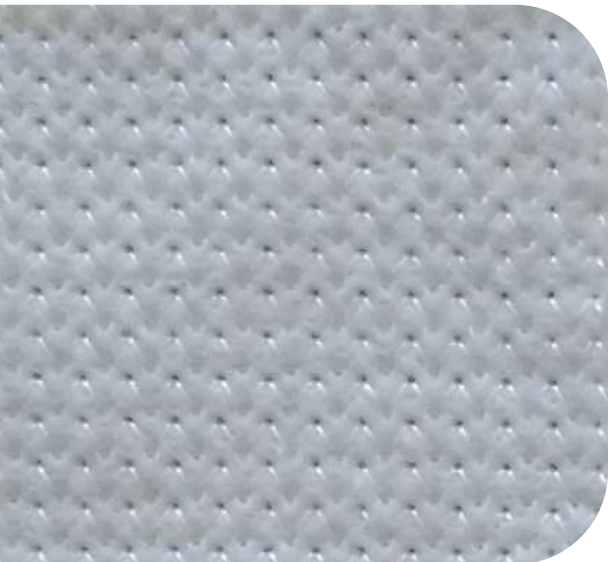


### Specification:

Service Temperature Constant Max:	600°C
Melting Temp.	800°C
Physiologically Harmless refer MSDS:	Yes
Combustibility:	Non combustible to DIN 4102
Coating/finishes:	None
6mm x 1000mm x 40m 1000gsm	
Embossed S/S Foil Faced 1 side	

### Insulation Guide

Thickness	Temp.	Reduced to
12mm	220°C	94°C
12mm	580°C	219.4°C
25mm	220°C	72°C
25mm	750°C	199.5°C



**DSSNM6/1000/SS** special stitch bonded needlemat holds together much better than plain needlemat especially on hot vibrating exhaust systems. The s/s foil is more durable than aluminium foil, especially underbody, for better puncture resistance - Rated to 1000°C.

### Important Details

Silica Needlemat is processed in such a way to maximise thermal and acoustic insulation efficiency. It is non respirable, non-itchy, non-combustible, asbestos free and contains no chemical binders. Above all Silica Needlemat has vibration resistant properties allowing it to be

successfully used for engine exhaust jacketing, turbo covers and silencer packing. Other uses include: seals in the glass industry, oven insulation, industrial furnaces, boilers and kilns and is an exceptional material for use as high temperature removable reusable insulation covers.



### Specification:

Service Temperature Constant Max:	1,000°C
Melting Temp.	1700°C
Lineal Shrinkage @ 1000°C / 24 hr:	< 7 to 15%
Physiologically Harmless refer MSDS:	Yes
Combustibility:	Non combustible
Fibre Diameter Approx:	6 to 9 micron
Chemical Data:	SiO <sub>2</sub> 95% +- 1, Al <sub>2</sub> O <sub>3</sub> 3.5% +- 0.5
Coating/finishes:	None
6mm x 1000mm x 40m 1000gsm	
Embossed S/S Foil Faced 1 side	



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