



Datasheet – Heat Shield Materials Comparison – NEW ZircoFlex® GOLD

	ZircoFlex® I GOLD	ZircoFlex® II GOLD	ZircoFlex® III GOLD
Physical properties:			
Construction:	Zircotec ceramic based thermal barrier on matrix of aluminium and glass fibre with reflective gold backing sheet.	Engineered heatshield with two ZircoFlex® I sheets bonded together with reflective gold backing sheet.	Engineered heatshield with three ZircoFlex® I sheets bonded together with reflective gold backing sheet.
Material thickness:	0.40mm	0.65mm	1.0mm
Overall product thickness:			
Weight:	0.63 kg/m ²	1.17 kg/m ²	1.67 kg/m ²
Surface finish:	Bright reflective gold coloured finish on one side with a grey/green ceramic finish to the other side. Self-adhesive option has peel-back layer on ceramic side.	Bright reflective gold coloured finish on one side with a grey/green ceramic finish to the other side. Self-adhesive option has peel-back layer on ceramic side.	Bright reflective gold coloured finish on one side with a grey/green ceramic finish to the other side. Self-adhesive option has peel-back layer on ceramic side.
General:	Strong & robust. Easily bent or formed to mould around other parts/objects to reduce heat transfer. Easily cut with sharp knife or scissors. Glass-fibre layer helps prevent tearing.	Strong & robust. Easily bent or formed to mould around other parts/objects to reduce heat transfer. Easily cut with sharp knife or scissors. Glass-fibre layer helps prevent tearing.	Strong & robust. Easily bent or formed to mould around other parts/objects to reduce heat transfer. Easily cut with sharp knife or scissors. Glass-fibre layer helps prevent tearing.
Thermal performance:			
Thermal conductivity:	~0.3 W/m ² K at 200°C ⁽¹⁾	~0.3 W/m ² K at 200°C ⁽¹⁾	~0.3 W/m ² K at 200°C ⁽¹⁾
Measured surface temp. reductions when used as a contact heat shield ⁽²⁾ :	-64°C (200°C hot surface) -82°C (300°C hot surface) -121°C (400°C hot surface) -160°C (500°C hot surface)	-93°C (200°C hot surface) -120°C (300°C hot surface) -166°C (400°C hot surface) -195°C (500°C hot surface)	-105°C (200°C hot surface) -146°C (300°C hot surface) -178°C (400°C hot surface) -225°C (500°C hot surface)
Measured source to receiver temperature reductions ⁽³⁾ when used as an offset heat shield:	-315°C (500°C source).	-383°C (500°C source).	-423°C (500°C source).
Temperature ceiling:	Tested to 500°C (hot side temp.). Max. long term exposure limit of 200°C for reflective face.	Tested to 500°C (hot side temp.). Max. long term exposure limit of 200°C for reflective face.	Tested to 500°C (hot side temp.). Max. long term exposure limit of 200°C for reflective face.

1. Tests based on guarded hot plate method in accordance with BS874 Pt 2 (1986).
2. Tests based on SAE International Standard SAE J1361 (Nov. 2013); Surface Vehicle Recommended Practice.