

Dual Layer Heat Shield Enhanced Thermal Performance

The para flux product in the Lydech flux product family is designed to provide a marked temperature drop in high temperature applications. The dual metallic layer product has four functioning low emissivity surfaces, which lowers the IR heat flux. The metallic surfaces are decoupled by a layer of air, which dramatically lowers the composite's thermal conductivity, while improving its recyclability, mass and cost.



General Performance

- $\circ~$ Two metallic layer IR heat shield
- $\circ\;$ Low emissivity, parallel surfaces for high IR environments
- $\circ~$ A heat flux reduction 1/3 greater than single layer shields
- $\circ~$ High lateral thermal conductivity to spread heat away from hot zones
- $\circ\;$ Low vertical thermal conductivity (air) to increase the temperature drop across the shield
- Hemmed edges for handling safety and increased product robustness
 Metallic Layers

(a) Aluminum

- $\circ~$ Hot Side and Cold Side
- \circ Commercially pure 1000 series is common;
- $\circ~$ 3000 and 5000 series are ~ also employed
- \circ Flat or embossed
- \circ Shield T_{max} < 300 °C
- (i) Stainless Steel
 - $\circ\;$ Austenitic and Ferritic grades based on temperature, environmental and economic constraints.
 - o Flat or embossed
 - \circ Shield T_{max} < 1000 °C
- (s) Aluminized Steel
 - Various draw steel grades
 - Various aluminized coating weights as a function of environmental/corrosion resistance requirements
 - \circ Flat or embossed
 - \circ Shield T_{max} < 500 °C

Insulation Layer

(n) Air

- Thickness can be varied based on packaging space
- Low thermal conductivity / Lightweight / Fully recyclable /Quasi-Free

All data and statements concerning these products may be considered as being indicative of representative properties and characteristics obtainable. We make no warranty, express or implied, concerning actual use or results because of industry specific influences.

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