

The lite flux™ product in the Lydall flux™ product family is a single layer metallic shield designed for common applications where lower thermal loads permit the placement of an economical solution. The lite flux™ value proposition is pinned to Lydall's design and development process which is aligned to create an optimized solution, tailored for the application environment.

Materials - Metallic Layer

Aluminum

- o 0.1 to 2.5 mm
- o Flat or Embossed
- o 1000, 3000 and 5000 Series Alloys
- o Lightweight
- o Excellent formability
- o Operating temperature < 300 °C

Aluminized Steel

- o 0.25 to 1.0 mm
- o Flat or Embossed
- o Various coating weights and draw quality steels
- o High strength materials
- o Operating Temperature < 500 °C

Stainless Steel

- o 0.1 to 2.5 mm
- o Flat or Embossed
- o Ferritic and Austenitic grades selected as a function of operating temperature and corrosion requirements
- o High strength and high temperature applications
- o Operating Temperature < 1000 °C

Thermal Performance

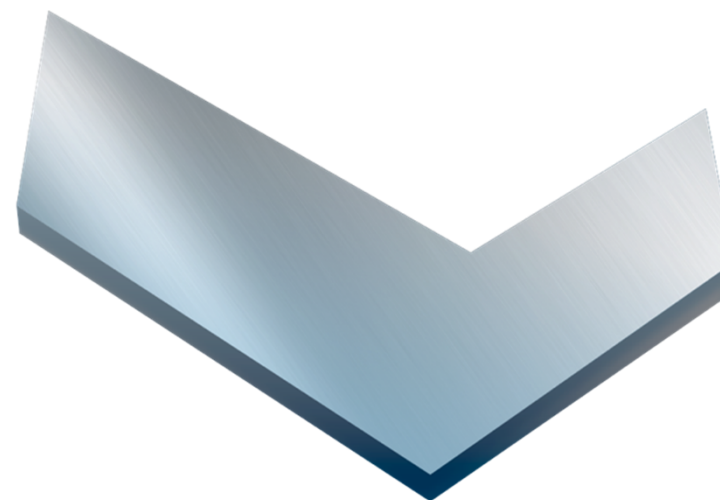
- o Low emissivity surfaces for high infrared radiation environments
- o High lateral thermal conductivity to spread heat

Acoustical Performance

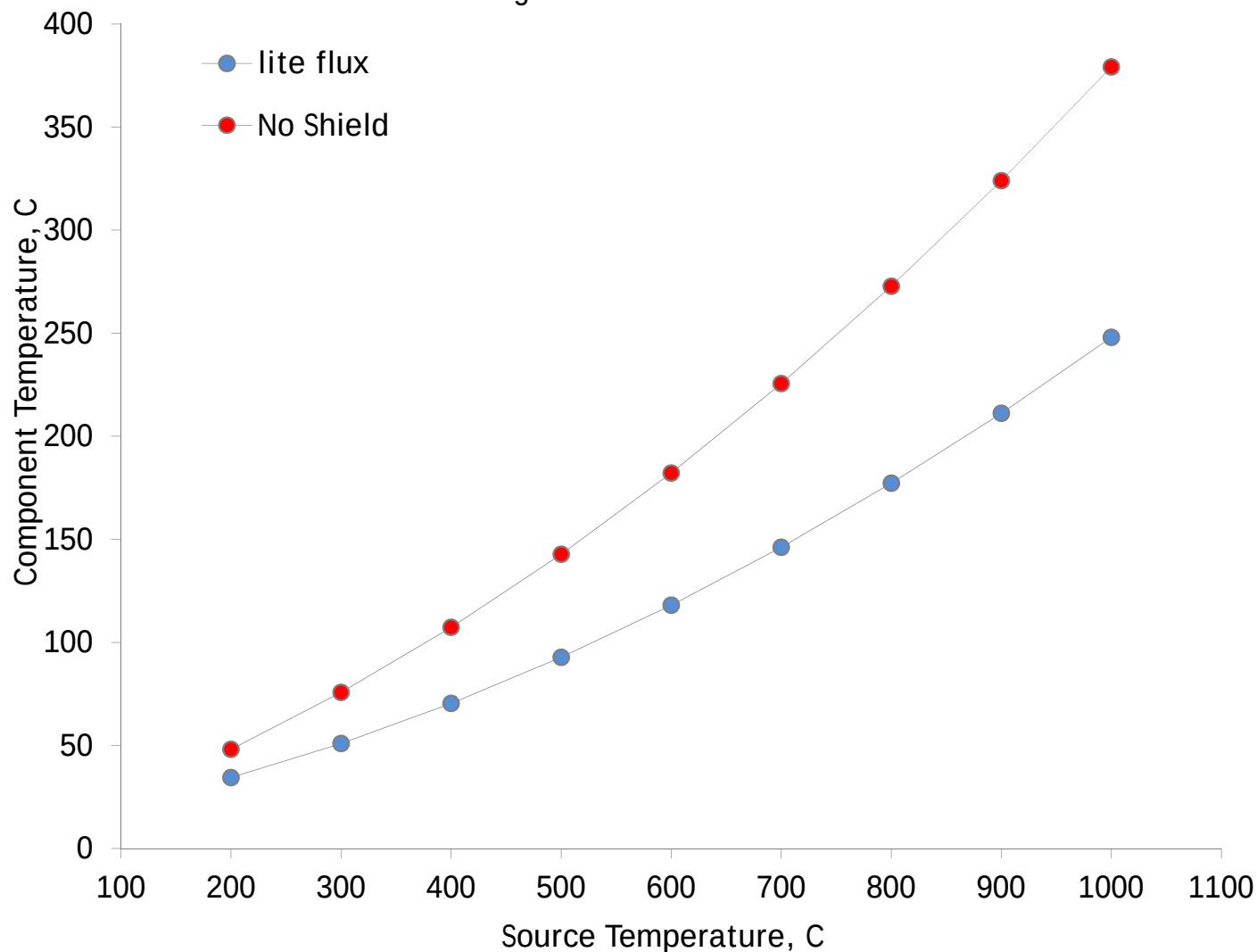
- o High transmission loss for better acoustic isolation
- o Option to pierce/perforate for noise absorption

Mechanical Performance

- o Hemmed edges for handling safety and increased robustness
- o Roll and plate embossment provides an increase in part rigidity and improved formability
- o Wide array of approved and commonly used alloys available to exceed the requirements of harsh thermal and mechanical environments



Component Thermal Response as a Function of Source Temperature
Single Wall Aluminum Shield



Design Considerations

- o Metal gauge will not impact thermal performance and should only be considered for mechanical purposes
- o Embossing facilitates the metal forming process and rigidifies the parent materials, but does not affect thermal performance
- o Ambient air temperature and convection effects play a large role in component and shield temperatures
- o Consider the application area and distinguish between Underbody and Underhood applications
- o Distance plays a fair role in determining thermal responses, but influences temperatures only across large incremental changes
- o The mechanical integrity of the single layer shield is highly coupled to the location of lower order vibration modes and their amplification relative to vibration input levels and frequencies
- o Contact us for applications support; we are quietly keeping it cool