

The lite flux product in the Lydech 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 Lydech's design and development process which is aligned to create an optimized solution, tailored for the application environment.

Materials - Metallic Layer

Aluminum

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

Aluminized Steel

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

Stainless Steel

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

Thermal Performance

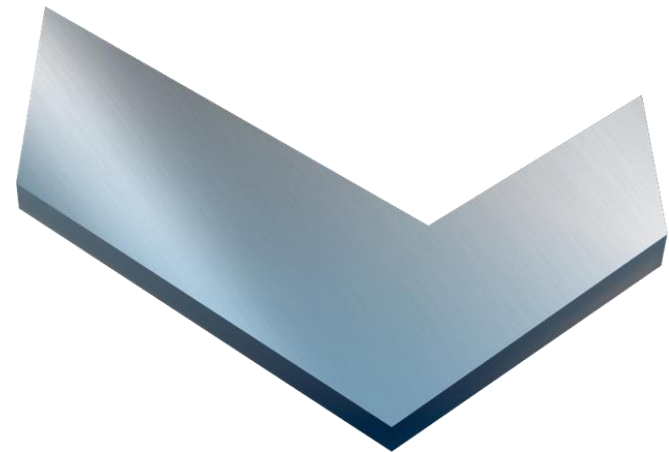
- Low emissivity surfaces for high infrared radiation environments
- High lateral thermal conductivity to spread heat

Acoustical Performance

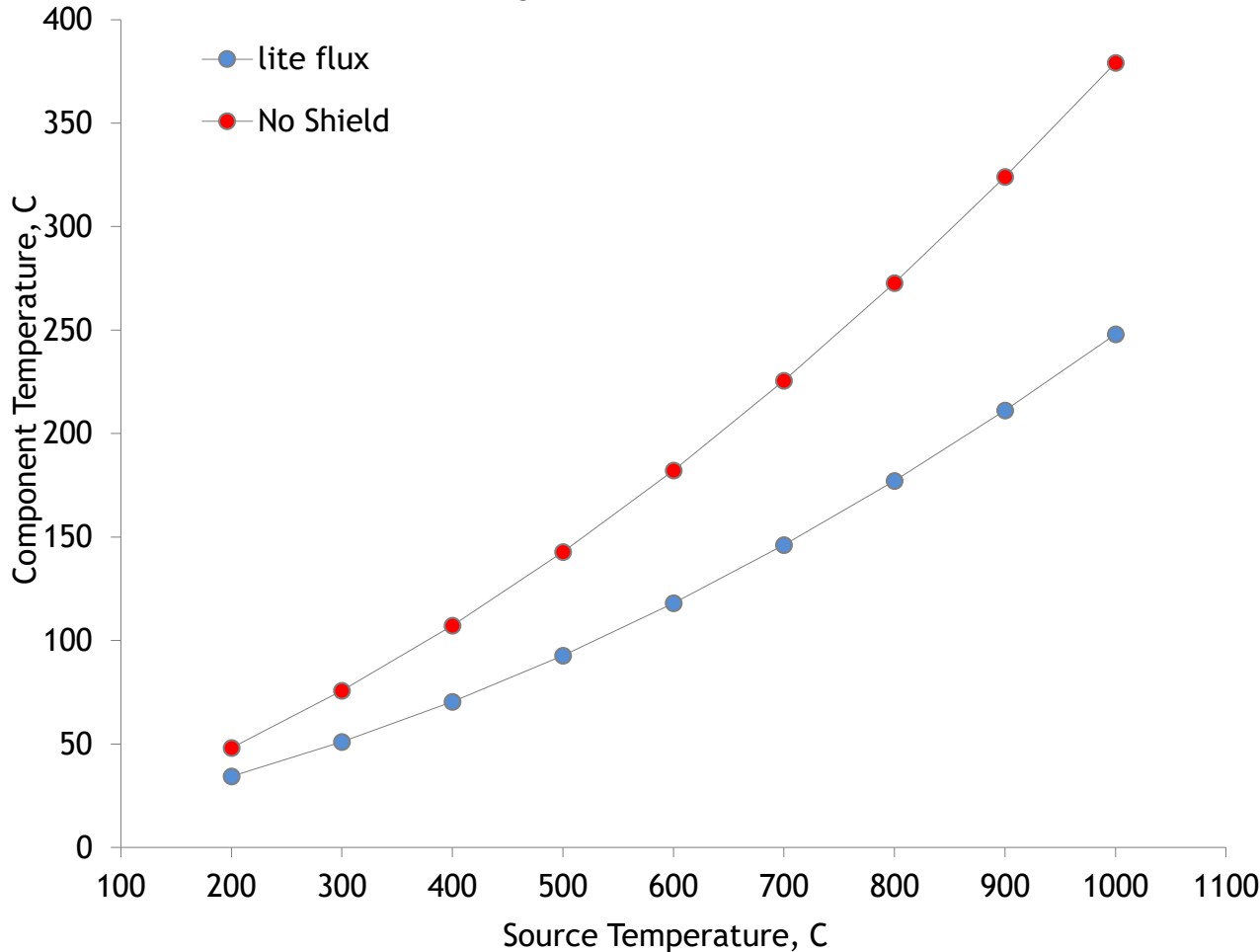
- High transmission loss for better acoustic isolation
- Option to pierce/perforate for noise absorption

Mechanical Performance

- Hemmed edges for handling safety and increased robustness
- Roll and plate embossment provides an increase in part rigidity and improved formability
- 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

- Metal gauge will not impact thermal performance and should only be considered for mechanical purposes
- Embossing facilitates the metal forming process and rigidifies the parent materials, but does not affect thermal performance
- Ambient air temperature and convection effects play a large role in component and shield temperatures
- Consider the application area and distinguish between Underbody and Underhood applications
- Distance plays a fair role in determining thermal responses, but influences temperatures only across large incremental changes
- 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
- Contact us for applications support; we are quietly keeping it cool