



MATERION

A dark blue rectangular area with a pattern of light blue triangles of various sizes and orientations, creating a textured, geometric background.

eStainless[®] Steel

**STRUCTURAL HEAT
SPREADER MATERIALS FOR
LIGHTER, COOLER, THINNER
HANDHELD ELECTRONICS**



MATERION TECHNICAL MATERIALS
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THERMAL+STRUCTURAL MATERIALS FOR ELECTRONICS

eStainless steels are thermally conductive structural materials that enhance performance of consumer electronic devices when used for chassis, frames, EMI shields and anywhere else that metals are used. With their unique property combination, they offer greater design flexibility for next-generation technologies.

WHAT'S YOUR DESIGN CHALLENGE?

- Heat spreading?
- Thickness Constraints?
- Light-Weighting?

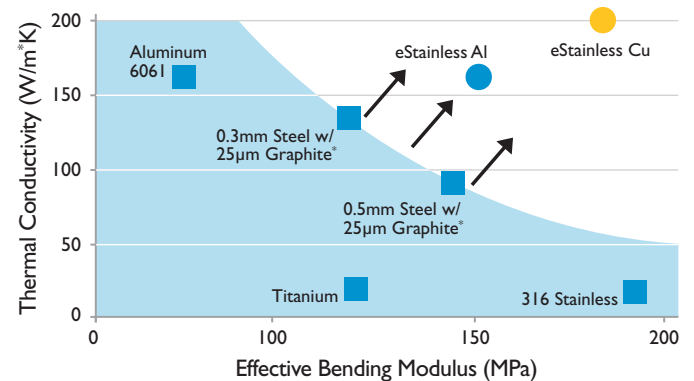
A SUPERIOR COMBINATION OF STRENGTH & THERMAL CONDUCTIVITY

Effective heat spreaders must quickly diffuse heat away from the source to keep device temperatures uniform and cool.

The combined thermal conductivity and stiffness of eStainless steels make them ideal for structural components in electronics since they turn device structures into heat spreaders. Without the need for secondary thermal materials that take up more space, designers have more flexibility to enhance device functionality and performance features. Additionally, the low density of eStainless Steel-Aluminum allows for device lightweighting without sacrificing strength or thermal requirements.



EXPANDING THE BOUNDARIES OF PERFORMANCE



TYPICAL PROPERTIES

Properties	eStainless [®] Steel-Al	eStainless [®] Steel-Cu
Overview	Lightweight, excellent stiffness & conductivity	Best Strength + Conductivity. Similar weight to steel.
X-Y Thermal Conductivity	160 W/m ² K	200 W/m ² K
Z-Thermal Conductivity	44 W/m ² K	37 W/m ² K
Stiffness in Bending	153 GPa	187 GPa
Strength in Bending (depending on temper)	320-740 MPa	370-870 MPa
Density	4.3 g/cm ³	8.4 g/cm ³
Heat Capacity	675 J/kg	440 J/kg

➤ **NEED A MATERIAL WITH GREATER STIFFNESS OR HIGHER CONDUCTIVITY? WE OFFER ADDITIONAL CONFIGURATIONS. FOR MORE INFORMATION, PLEASE CONTACT OUR DESIGN TEAM AT +1-401-288-0697.**