



# DUPONT™ TEMPRION™ OHS

## ORGANIC HEAT SPREADER

### DESCRIPTION

DuPont™ Temprion™ OHS is a flexible, all-polymeric heat spreader film comprising a heat-spreading core coated with a thermally conductive adhesive on one or both sides. Temprion™ OHS possesses exceptional in-plane thermal conductivity that is 250x greater than its through-plane thermal conductivity. This high ratio enables uniform heat distribution across a substrate, while maintaining thermal insulation of the substrate.

The organic nature of Temprion™ OHS provides inherent electrical insulation, eliminating the need for a coverlay to protect sensitive electronics from the electrically conductive flakes associated with traditional graphite-based heat spreaders. The flexibility of the material enables unique 3D applications.

### APPLICATIONS

- Heat spreader/pipe
- Displays
- Power electronics
- Battery cell isolation
- Package wrap

### FEATURES

- High in-plane thermal conductivity
- Low through-plane thermal conductivity
- Electrically insulating
- Flexible
- High mechanical integrity

**Table 1 – Typical Properties of DuPont™ Temprion™ OHS Film**

Property	OHS	Test Method
<b>Thermal Conductivity</b>		
In-plane (machine direction), W/m•K	45	Angstrom Method
In-plane (transverse direction), W/m•K	0.2	Angstrom Method
Through-plane, W/m•K	0.2	ASTM D5470
Young's Modulus (machine direction), GPa	140	ASTM D882
Young's Modulus (transverse direction), GPa	3	ASTM D882
Tensile Strength* (machine direction), GPa	2	ASTM D882
Elongation to Break* (machine direction), %	2.1	ASTM D882
Dielectric Strength, kV/mil	2.0	ASTM D149
Dielectric Constant, @ 1 MHz	2.2	ASTM D150
Surface Resistivity, $\Omega$	$> 10^{15}$	ASTM D257
Volume Resistivity, $\Omega\cdot\text{cm}$	$> 10^{15}$	ASTM D257
Operating Temperature, °C	-20 – 140	N/A
RoHS Compliant	Yes	N/A

\*Tensile strength and Elongation to break in the transverse direction cannot be measured due to splitting of material

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