

# DuPont™ Temprion® OHS

Organic Heat Spreader



## Product Description

DuPont™ Temprion® OHS is a flexible, all-polymeric heat spreader film. 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.

## Key Features and Benefits

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

## Applications

- Heat spreader/Heat pipe
- Antenna Cover
- Displays
- Power Electronics
- Package Wrap

**Table 1 – Standard Temprion® OHS Offerings**

Product Code	Thickness μm (mil)
UC045000N000	45 (0.9)

## Packaging

DuPont™ Temprion® OHS Organic Heat Spreader is supplied in roll form weighing approximately 30lb (13.61kg) each and approximately 300sqM of material. Rolls come on a cardboard core with a size of 6" ID x 10.5" W.

## Storage and Warranty

DuPont™ Temprion® OHS Organic Heat Spreader should be stored in original packaging, in clean dry conditions at ambient below 60 °C (140 °F) and away from the sunlight. Do not expose to unusual wear and tear or to long-term sunlight / UV rays. Subject to compliance with the foregoing handling and storage recommendations, DuPont's warranties shall remain in effect for the period provided in the DuPont Standard Conditions of Sale.

## Quality and Traceability

Complete material and manufacturing records, which include archive samples of finished product, are maintained by DuPont. Each manufactured lot is identified for reference traceability. The packaging label serves as the primary tracking mechanism in the event of customer inquiry and includes the product name, batch number, size, and quantity.

## Product Performance

Table 2 - DuPont™ Temprion® OHS Organic Heat Spreader Properties

Property	Typical Values UC045000N000	Test Method
Dimensions		
Thickness, mm (mil)	45 (0.9)	
Width, mm (in)	250 (9.8)	
Thermal Conductivity		
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
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
Volume Resistivity, $\Omega \cdot \text{cm}$	$>10^{15}$	ASTM D257
Surface Resistance, $\Omega$	$>10^{15}$	ASTM D257
Operating Temperature, °C	-40 to +125	N/A

\*Tensile strength and Elongation to break in the transverse direction cannot be measured due to splitting of material  
Data within this table are typical values for the listed product. Performance can vary depending on construction and processing.



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For more information on Temprion® OHS Organic Heat Spreader or other DuPont products, please visit [electronics.dupont.com](https://electronics.dupont.com).

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