

## PRODUCT DATA SHEET

### DESCRIPTION

Toray MicroPly™ RS-15H is an epoxy film adhesive developed to provide maximum compatibility and adhesive performance for core/face skin structures, co-curing, and secondary bonding. Toray MicroPly™ RS-15H is highly flexible with respect to processing and is compatible with all types of reinforcements and cores. Toray MicroPly™ RS-15H has been evaluated and qualified in areas ranging from marine to aerospace and dielectric structures. Toray MicroPly™ RS-15H may also be cured at temperatures as low as 80°C (176°F), and is compatible with the RS-1 family of prepregs.

### FEATURES

- ▶ Flexible, robust range of process cycles
- ▶ Excellent balance of mechanical performance and toughness
- ▶ Vacuum bag, autoclave, and press consolidation
- ▶ Low outgassing
- ▶ Excellent adhesive for sandwich structures
- ▶ Low shrinkage during cure
- ▶ Lightweight and reticulating films
- ▶ Compatible with spectra fiber for low dielectric constant/loss applications

### PRODUCT TYPE

Epoxy Film Adhesive

### TYPICAL APPLICATIONS

- ▶ Marine structures
- ▶ Dielectric structures
- ▶ Aerospace structures

### PRODUCT FORMS

- ▶ Supported and unsupported adhesive film to 127 cm (50") wide

### TYPICAL NEAT RESIN PROPERTIES

Dielectric Constant	3.0 (at 10 GHz per ASTM D2520 Method A)
Loss Tangent	00.021 (at 10 GHz per ASTM D2520 Method A)

### SHELF LIFE

Out Life:	30 days out life ≤ 21°C (70°F) and ≤ 60% RH
Frozen Storage Life:	12 months at ≤ -18°C (≤ 0°F)

Out life is the maximum time allowed at 21°C (70°F) or below and 60% or less RH before cure, after a single frozen storage cycle in the original unopened packaging at -18°C (0°F) or below for a period not exceeding the frozen storage life noted above.



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**MicroPly™**

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### FILM ADHESIVE PHYSICAL PROPERTIES

Property	Value
Density	1.24 g/cm <sup>3</sup>

### FILM ADHESIVE MECHANICAL PROPERTIES

Property	Test Method	Sample Configuration	Failure Mode	Results	
Lap Shear	ASTM D 1002	Composite-Composite	Adhesive	21 MPa	3020 psi
Cleavage Test	ASTM D 1062	Composite/Balsa	Core	9.7 MPa	1400 psi
Cleavage Test	ASTM D 1062	Composite/AI HC	Partial Core	10.0 MPa	1455 psi
Flatwise Tensile	ASTM C 297	H-80 Foam Core	Core	2.5 MPa	360 psi
Flatwise Tensile	ASTM C 297	H-200 Foam Core	Core	3.6 MPa	520 psi
Flatwise Tensile	ASTM C 297	P-500 Foam Core	Core	1.7 MPa	250 psi
Flatwise Tensile	ASTM C 297	B-5 Foam Core	Core	2.7 MPa	390 psi*

All values above are at room temperature, dry. \* Aramid skins, co-cured

### CURE PARAMETERS

- ▶ Apply vacuum 3.1–6.9 bar  
(if aerospace applications require autoclave or press cure, pressurize to 45–100 psi.)
- ▶ Heat to 65°C (150°F) at 2°C (4°F) minute
- ▶ Hold at 65°C (150°F) for a minimum of 30 minutes (Some applications may not require the 65°C (150°F) dwell. Please contact Toray for technical assistance.)
- ▶ Heat to 93°C (200°F) at 2°C (4°F) minute
- ▶ Hold at 93°C (200°F) for 6 hours
- ▶ Cool under vacuum