Toray MicroPly™ RS-15H

Toray Advanced Composites

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

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.

YPICAL 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)

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FILM ADHESIVE PHYSICAL PROPERTIES

Property	Value
Density	1.24 g/cm³

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/Al 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

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