

## Hexcel® Redux® HP655 Toughened BMI film Adhesive

Category : Polymer , Adhesive , Film

### Material Notes:

Redux® HP655 is a toughened BMI structural adhesive designed for metal to metal, composite to composite, and honeycomb sandwich bonding for both co-cured and precured composite skins. Redux® HP655 combines high fracture toughness and high shear with good peel strengths. Recommended service temperature is up to 350°F wet and 460°F dry. Redux® HP655 was developed to be compatible with Hexcel's entire BMI prepreg product line. Features: Good co-cure potential with Hexcel's BMI prepreg range; Excellent hot lap shear performance; Good fracture toughness; Low volatile content and low out-gassing properties; Available with or without a woven glass carrier. Applications: Metal to metal bonding; Composite to composite bonding; Sandwich constructions.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Hexcel-Redux-HP655-Toughened-BMI-film-Adhesive.php](http://www.lookpolymers.com/polymer_Hexcel-Redux-HP655-Toughened-BMI-film-Adhesive.php)

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	8.07 MPa	1170 psi	Neat Resin, RT
	5.00 MPa @Temperature 21.1 °C	725 psi @Temperature 70.0 °F	Flatwise Tensile; After 500 hrs at 400°F (Weight loss = 0.75%); Composite Honeycomb Sandwich Performance; ASTM C 297
	5.10 MPa @Temperature -55.0 °C	740 psi @Temperature -67.0 °F	Flatwise Tensile; 2.52" Cell; Aluminum Honeycomb Sandwich Performance; ASTM C 297
	5.10 MPa @Temperature 21.1 °C	740 psi @Temperature 70.0 °F	Flatwise Tensile; 2.52" Cell; Aluminum Honeycomb Sandwich Performance; ASTM C 297
	>= 5.17 MPa @Temperature 204 °C	>= 750 psi @Temperature 400 °F	Flatwise Tensile; After 500 hrs at 400°F (Weight loss = 0.75%); Composite Honeycomb Sandwich Performance; ASTM C 297
	5.38 MPa @Temperature 204 °C	780 psi @Temperature 400 °F	Flatwise Tensile; 2.52" Cell; Aluminum Honeycomb Sandwich Performance; ASTM C 297
	6.21 MPa @Temperature 21.1 °C	900 psi @Temperature 70.0 °F	Flatwise Tensile; 15 Cycles, Thermal Cycling
	6.27 MPa @Temperature 21.1 °C	910 psi @Temperature 70.0 °F	Flatwise Tensile; 60 Cycles, Thermal Cycling
	6.55 MPa @Temperature 21.1 °C	950 psi @Temperature 70.0 °F	Flatwise Tensile; Control; Thermal Cycling
	6.96 MPa @Temperature 204 °C	1010 psi @Temperature 400 °F	Flatwise Tensile; Composite Honeycomb Sandwich Performance; ASTM C 297

Mechanical Properties	7.03 MPa Metric	1020 psi English	Flatwise Tensile; 60 Cycles, Thermal Cycling
	@Temperature 166 °C	@Temperature 330 °F	
	7.10 MPa	1030 psi	Flatwise Tensile; 15 Cycles, Thermal Cycling
	@Temperature 166 °C	@Temperature 330 °F	
	7.24 MPa	1050 psi	Flatwise Tensile; Composite Honeycomb Sandwich Performance; ASTM C 297
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	8.27 MPa	1200 psi	Flatwise Tensile; Control; Thermal Cycling
	@Temperature 166 °C	@Temperature 330 °F	
	8.55 MPa	1240 psi	Flatwise Tensile; 1.26" Cell; Aluminum Honeycomb Sandwich Performance; ASTM C 297
	@Temperature 21.1 °C	@Temperature 70.0 °F	
Elongation at Break	2.39 %	2.39 %	Neat Resin
Tensile Modulus	3.62 GPa	525 ksi	Neat Resin
Shear Strength	17.2 MPa	2500 psi	Tensile Lap Shear; Aluminum No Primer; ASTM D1002
	@Temperature -55.0 °C	@Temperature -67.0 °F	
	19.3 MPa	2800 psi	Tensile Lap Shear; Aluminum No Primer; ASTM D1002
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	19.3 MPa	2800 psi	Tensile Lap Shear; Composite; ASTM D1002
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	23.8 MPa	3450 psi	Tensile Lap Shear; Aluminum Primer HP655P; ASTM D1002
	@Temperature -55.0 °C	@Temperature -67.0 °F	
	24.8 MPa	3600 psi	Tensile Lap Shear; Aluminum No Primer; ASTM D1002
	@Temperature 204 °C	@Temperature 400 °F	
	24.8 MPa	3600 psi	Tensile Lap Shear; Titanium with HP655P; ASTM D1002
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	25.6 MPa	3720 psi	Tensile Lap Shear; Aluminum Primer HP655P; ASTM D1002
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	26.9 MPa	3900 psi	Tensile Lap Shear; Composite; ASTM D1002
	@Temperature 204 °C	@Temperature 400 °F	
	27.6 MPa	4000 psi	Tensile Lap Shear; Aluminum Primer HP655P; ASTM D1002
	@Temperature 204 °C	@Temperature 400 °F	
	27.6 MPa	4000 psi	

Mechanical Properties	Metric @ Temperature 204 °C	English @ Temperature 400 °F	Comments Tensile Lap Shear: Titanium with M-1000, ASTM D1002
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Thermal Properties	Metric	English	Comments
Glass Transition Temp, Tg	216 °C	420 °F	Wet
	279 °C	535 °F	Dry

Descriptive Properties	Value	Comments
Areal Weight (psf)	0.04-0.12	
Climbing Drum Peel (in-lb/3in)	21	350°F; Wet
	25	70°F; Dry
	31	70°F; Wet
Roll Width (in)	39	
Standard Roll (ft2)	540	

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