

L-314

Modified Epoxy Film Adhesive, High Toughness



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Product Data Sheet

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Description

L-314 is a toughened, modified epoxy adhesive film with heat resistance suitable for a wide variety of applications. Metallic or non-metallic substrates may be bonded with L-314 to provide a tough, durable, structural joint with excellent resistance to temperatures up to 250°F (121°C). Facings may be bonded to aluminum or aramid / phenolic honeycomb core. L-314 may be cured over a broad range of time, temperature, and pressure cycles to match the requirements of the manufacturer's process or curing equipment.

Advantages of L-314

- ❖ Film weights as low as 0.005 lbs/ft² (24 g/m²) can be manufactured for ultra lightweight designs such as aerospace components or electronics components.
- ❖ L-314 will co-cure well with many of today's modern epoxy matrix composites.
- ❖ L-314 may be reticulated by the user to minimize the total weight of a sandwich structure.
- ❖ Room temperature outlife exceeds 7 days at 75°F (24°C) or below.

Physical Properties

- *Standard Weight:* 0.030 lbs/ft² (146 g/m²)
- *Optional Weights:* 0.005 lbs/ft², 0.0045 lbs/ft², 0.060 lbs/ft² (other weights are available)
- *Standard Thickness:* 0.011" (0.279 mm) Nominal
- *Volatile Content:* Less than 2.0%
- *Tack:* Light Tack

Availability

- 36" Rolls x 80 Yards Long (91 cm x 73 m)
- 50" Wide Rolls x 80 Yards Long (127 cm x 70 m)

Shelf Life

- 6 months at 0°F (-18°C)
- 7 days at Room Temperature (75°F or 24°C)

Cure Cycles

- 120 minutes at 225°F (107°C), or
- 60 minutes at 250°F (121°C), or
- 40 minutes at 275°F (135°C).

Adhesive Primers

L-314 is designed to be used with:

- *L-319-1 Corrosion Inhibiting Adhesive Primer*

Applicable Documents

- *MMM-A-132*
- *MIL-A-25463*

Mechanical Properties: 0.060 lbs/ft² (292 g/m²) Adhesive Film

Property	25 PSI (0.17 MPa) Cure in Platen Press	Press Cure after 1 Month Outlife	Test Method
Tensile Shear Strength			
-67°F (-55°C)	6,700 PSI (46.2 MPa)	6,680 PSI (46.0 MPa)	ASTM D1002
Room Temp	5,900 PSI (40.6 MPa)	5,950 PSI (41.0 MPa)	ASTM D1002
180°F (82°C)	4,600 PSI (31.6 MPa)	4,500 PSI (31.0 MPa)	ASTM D1002
250°F (121°C)	2,250 PSI (15.5 MPa)	2,000 PSI (13.8 MPa)	ASTM D1002
Sandwich Peel Strength			
-67°F (-55°C)	42 in lb/in (187 N/25mm)	40 in lb/in (178 N/25 mm)	ASTM D1781
Room Temp	39 in lb/in (173 N/25mm)	35 in lb/in (156 N/25 mm)	ASTM D1781
180°F (82°C)	35 in lb/in (156 N/25 mm)	32 in lb/in (142 N/25 mm)	ASTM D1781
Flatwise Tensile Strength			
-67°F (-55°C)	1,250 PSI (8.6 MPa)	1,140 PSI (7.9 MPa)	ASTM C297
Room Temp	1,120 PSI (7.7 MPa)	1,100 PSI (7.6 MPa)	ASTM C297
180°F (82°C)	660 PSI (4.5 MPa)	620 PSI (4.3 MPa)	ASTM C297
Sandwich Flexural Strength			
-67°F (-55°C)	core failure	core failure	ASTM C393
Room Temp	core failure	core failure	ASTM C393
180°F (82°C)	core failure	core failure	ASTM C393
T-Peel Strength			
-67°F (-55°C)	52 in lb/in (231 N/25 mm)	50 in lb/in (223 N/25 mm)	ASTM D1876
Room Temp	49 in lb/in (218 N/25 mm)	47 in lb/in (209 N/25 mm)	ASTM D1876
180°F (82°C)	41 in lb/in (182 N/25 mm)	40 in lb/in (178 N/25 mm)	ASTM D1876
Floating Roller Peel Strength			
-67°F (-55°C)	105 in lb/in (467 N/25mm)	104 in lb/in (463 N/25 mm)	ASTM D3167
Room Temp	95 in lb/in (423 N/25 mm)	94 in lb/in (418 N/25 mm)	ASTM D3167
180°F (82°C)	85 in lb/in (378 N/25 mm)	82 in lb/in (365 N/25 mm)	ASTM D3167

NOTICE:

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