COMPOSITE TECHNOLOGIES TECHNICAL DATA SHEET

AX-2114

High Peel / Flame Retardant /
Toughened Epoxy Film Adhesive / 121°C (250°F)

Product

AX-2114 is a 121°C (250°F) curing, flame retardant epoxy film adhesive designed for performance bonding applications requiring high toughness. The elastomeric, flame-retarded epoxy adhesive formulation offers excellent shear and superior peel properties. Solvent-free hot melt processing provides AX-2114 with volatile-free curing and handling. Cured bondlines exhibit a combination of high strength and resistance to common industrial fluids. The service temperature envelope for AX-2114 is -55°C (-67°F) to 93°C (200°F). This film adhesive is available both supported and unsupported. Supported films contain a nonwoven carrier for improved handling and bondline thickness control.

Typical Applications

» High performance / toughness bonding: metal & composite substrates
» Aramid/ Nomex & Metallic honeycomb sandwich panel bonding
» Aramid and Nomex honeycomb sandwich panel bonding
» Polymer foam core panel bonding
» Ceramic bonding / tile bonding
» Applications requiring compliance with MMM-A-132 Type 1 Class 2, SAE-AMS-A- 25463 Type 1 Class 1 or 2 adhesive specifications as well as FAR 25.853.

Adhesive Weights and Supports

Product	Supported or Unsupported	Available Weights	Standard Width	Standard Roll Length
AX-2114	Supported	0.030 psf (145 gsm) 0.060 psf (290 gsm) 0.090 psf (390 gsm)	50" (127 cm) or 60" (152 cm)	60 LY (55 m)

Our products are flexible by design:
Additional weights, roll sizes, and reinforcements are available.

Recommended Cure Cycles

Optimum properties are achieved with the following cycles:

Apply 2.06-3.45 bar (30-50 psi) and cure:

» 60 minutes at 121°C (250°F)

» 40 minutes at 132°C (270°F)

» 90 minutes at 113°C (235°F)

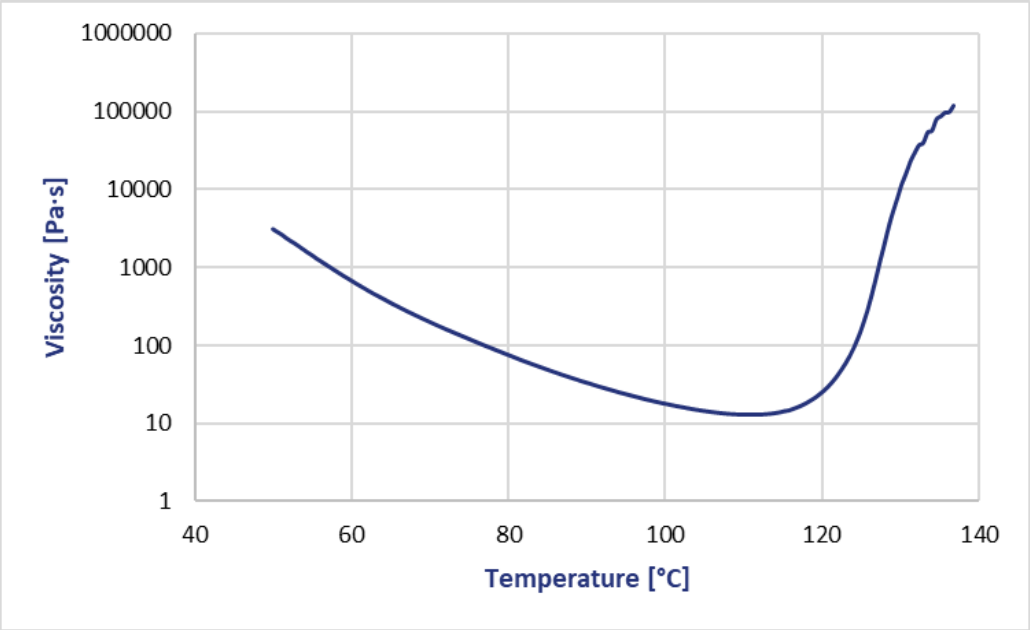
Cure Considerations

» Temperature heat up and cool down under pressure is recommended, but not mandatory.

» This film adhesive is vacuum-bag, platen press, and autoclave compatible.

» Peak operating temperatures generally depend on cure temperature. For a 121°C (250°F) cure the service temperature envelope is -55°C (-67°F) to 93°C (200°F).

Viscosity Curve



Physical and Mechanical Properties *(Examples only. For the wider adhesive film range, please contact Kordsa)*

Glass Transition Temperature		
	Test Method	**Avg Value**
Range	ASTM D5279	103°C (218°F)

Climbing Drum Peel Strength[1]		
	Test Method	**Avg Value**
-55°C (-67°F)	ASTM D1781	15 in.lb/in (66.6 Nm/m)
24°C (75°F)		21 in.lb/in (93.2 Nm/m)
82°C (180°F)		15 in.lb/in (66.6 Nm/m)

[1]Typical average results with 0.060 psf supported film adhesive cured 60 minutes 121°C (250°F).

Climbing Drum Peel Strength[2]		
	Test Method	**Avg Value**
24°C (75°F)	ASTM D1781	25 in.lb/in (110 Nm/m)

[2]Typical average results with 0.085 psf supported film adhesive cured 60 minutes 121°C (250°F).

Flexural Strength		
	Test Method	**Avg Value**
-55°C (-67°F)	ASTM C393	20.7 MPa (3000 psi)
24°C (75°F)		22.1 MPa (3100 psi)
82°C (180°F)		16.9 MPa (2450 psi)

Flexural Strength		
	Test Method	**Avg Value**
-55°C (-67°F)	ASTM C297	9.6 MPa (1400 psi)
24°C (75°F)		9.6 MPa (1400 psi)
82°C (180°F)		7.2 MPa (1050 psi)

Environmental Resistance			
		Test Method	**Avg Value**
Tensile Shear after 7 days Skydrol	**24°C (75°F)**	ASTM D1002	27.5 MPa (4000 psi)
Tensile Shear after 30 days Salt spray	**24°C (75°F)**		28.2 MPa (4100 psi)
Tensile Shear after 30 days 120°F, 95% RH	**24°C (75°F)**		28.6 MPa (4150 psi)

» Tested in conformance with SAE-AMS-A-25463 and MMM-A-132
» AX-1000, corrosion inhibiting primer, is recommended to enhance bond properties.

Storage Requirements

Shelf life is from date of manufacturing according to storage temperature below. Working life is the cumulation of time outside of storage temperature.

Storage Condition	AX-2114
Shelf Life at -18ºC (0ºF)	6 months
Working Life at 24ºC (75ºF)	21 days

Handling & Safety Instructions

›› Store adhesive suspended horizontally to avoid flat spots and thinning under the weight of the roll.

» Allow product sufficient time (4-6 hours) to reach ambient temperatures after removal from cold storage to prevent condensation on the adhesive surface.

›› Use the appropriate safety equipment for this product.

›› Refer to the AX-2114 Material Safety Data Sheet for specific safety instructions.

Technical Assistance

In a bind? Call us anytime. We provide fast and knowledgeable technical support:

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