



HexBond™ ST1035

Epoxy Film Adhesive



Product Data Sheet

Description

HexBond™ ST1035 adhesive film is a 120°C/248°F cure modified epoxy film supported (moisture-resistant polyester carrier) or unsupported. Standard areal weights are 150, 250 and 300 g/m². 75, 100, 200, 400 and 450 g/m² films are also available on demand. Designed for the manufacture of sandwich structures from a various types of skins and cores and for bonding a wide range of substrates (metals, plastics, reinforced plastics and composite structures, marble, etc.).

Features

- Excellent balance between peel and shear in the range of -55°C/67°F to 120°C/248°F
- Very flexible cure temperature from 90°C/194°F to 160°C/320°F and processing methods (press, oven or autoclave)
- Good tack for easy adhesive joint assembly

Applications

- Sandwich construction
- Metal-to-metal bonding
- Composite-to-composite bonding
- Metal-to-composite bonding

Form

The film is protected on one side by a polyethylene film and the other side by a release paper.

Reference	Areal Weight (g/m ²)	Carrier	Width (mm)	Roll Surface (m ²)
ST1035 75 g/m ² unsupported	75 g/m ² ± 15	-	1270	101.6
ST1035 100 g/m ² unsupported	100 g/m ² ± 15	-		
ST1035 100 g/m ² supported		Polyester non-woven (17 g/m ²)		
ST1035 150 g/m ² unsupported	150 g/m ² ± 20	-		
ST1035 150 g/m ² supported		Polyester non-woven (17 g/m ²)		
ST1035 200 g/m ² unsupported	200 g/m ² ± 25	-		
ST1035 200 g/m ² supported		Polyester non-woven (17 g/m ²)		
ST1035 250 g/m ² unsupported	250 g/m ² -0 / +30	-		
ST1035 250 g/m ² supported		Polyester non-woven (17 g/m ²)		
ST1035 300 g/m ² unsupported	300 g/m ² ± 30	-		
ST1035 300 g/m ² supported		Polyester non-woven (17 g/m ²)		
ST1035 400 g/m ² supported	400 g/m ² ± 40	-		69.85
ST1035 450 g/m ² unsupported	450 g/m ² ± 45	-		



Instructions For Use

Refer to the Safety Data Sheet before handling.

- To avoid any moisture, allow the adhesive to warm-up to room temperature before opening the waterproof polyethylene bag
- Bonding surfaces should be clean, dry and properly prepared
- Cut the film to the shape and size required
- Remove the release paper and position the adhesive on the prepared bonding surface
- Remove the polyethylene backing sheet
- Complete the joint assembly and proceed to the curing

Curing

- Typical cure cycle: 60 min at 120°C/248°F

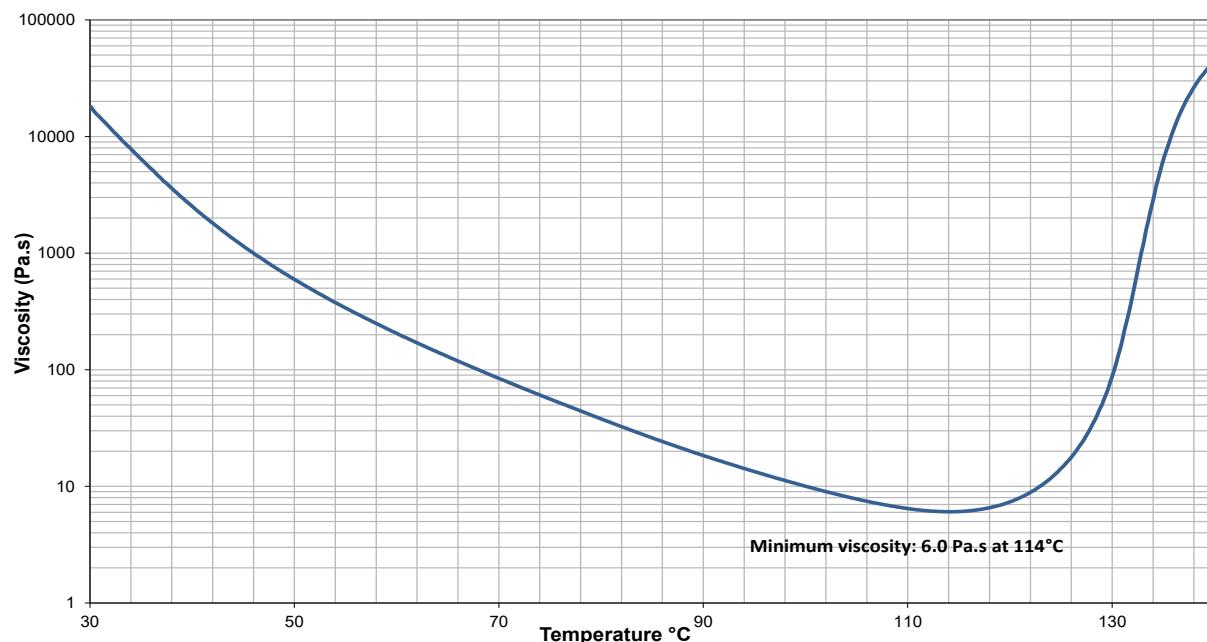
- Alternative cure cycles:

Temperature (°C / °F)	150 / 302	140 / 284	130 / 266	120 / 248	110 / 230	100 / 212	90 / 194
Time (min)	10	20	40	60	150	300	600

- Recommended heat-up rate: 0.5 to 5.5°C/min
- Recommended pressure: 1.5 to 3.5 bar (22 to 51 psi) during whole cycle
- For sandwich structures the pressure application should be selected to suit the type of core and skins being used
- Enough time should be allowed for heat to penetrate evenly through the assembled parts to ensure that the adhesive reaches that temperature before timing starts
- Cool down the components to below 70°C before releasing the pressure

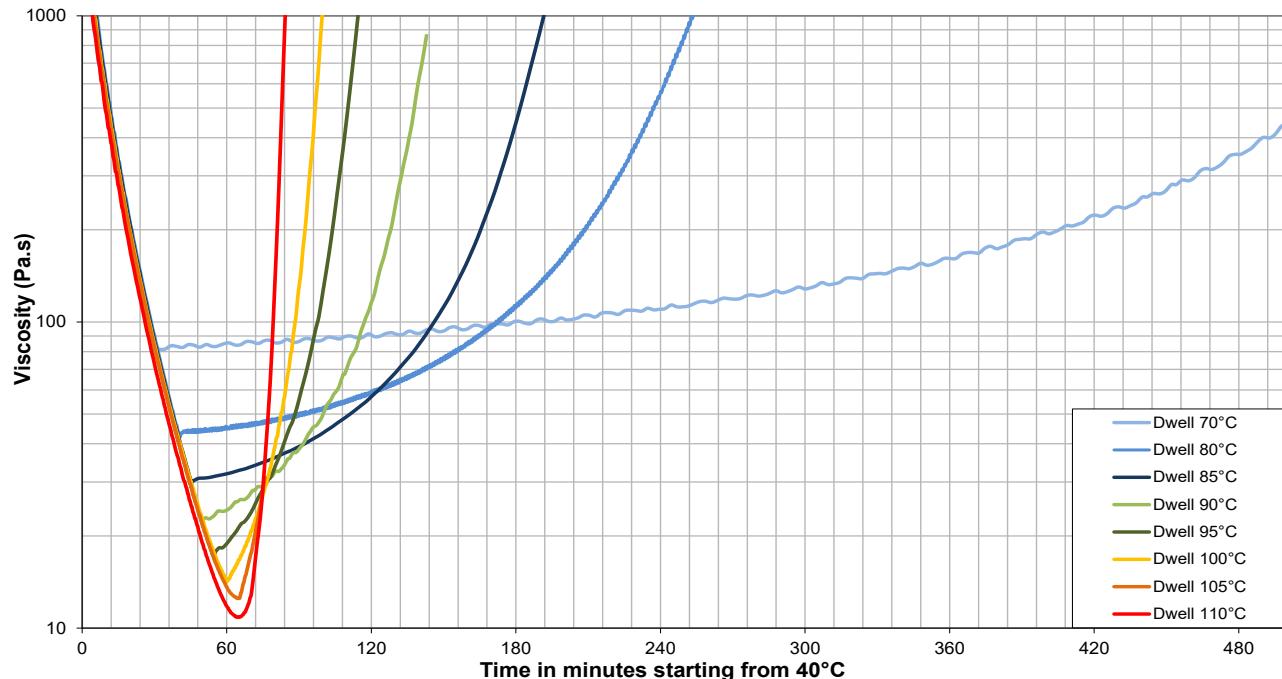
Resin Properties

Rheology profile (Heat-up rate: 2°C/min):





Viscosity versus temperature:



Mechanical Properties

Test	Environmental Conditioning	Test Temperature (°C / °F)	Typical Values			
			150 g/m ² Supported	250 g/m ² Supported	300 g/m ² Supported	300 g/m ² Unsupported
Lap shear strength ⁽¹⁾ (Mpa / psi)	None	23 / 73	33	34	41	43
		70 / 158	29	31	33	37
		120 / 248	16	16	18	19
	70°C 85% RH (1000h)	23 / 73	25	30	33	31
		70 / 158	15	20	18	18
Climbing drum peel ⁽²⁾ (Lower skin) (Mn/m)	None	23 / 73	-	54	65	-



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Shelf-Life / Out-Life

- Shelf-life: 24 months at -18°C/0°F
- Out-life: 4 weeks at 23°C/73°F

Handling Precautions

- Usual precautions necessary when handling synthetic resins should be observed
- Safety Data Sheet is available on request

For more information

Hexcel is a leading worldwide supplier of composite materials to aerospace and industrial markets. Our comprehensive range includes:

- HexTow® carbon fibers
- HexForce® reinforcements
- HiMax™ multiaxial reinforcements
- HexPly® prepgs
- HexAM™ additive manufacturing
- HexMC® molding compounds
- HexFlow® RTM resins
- HexTool® tooling materials
- HexWeb® honeycombs
- HexBond™ adhesives
- Acousti-Cap® sound attenuating honeycomb
- Engineered core
- Engineered products
- Polyspeed™ laminates

For US quotes, orders and product information call toll-free 1-800-688-7734. For other worldwide sales office telephone numbers and a full address list, please go to:

<http://www.hexcel.com/contact/salesoffice>

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