



# 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/m<sup>2</sup>. 75, 100, 200, 400 and 450 g/m<sup>2</sup> 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/m²)	Carrier	Width (mm)	Roll Surface (m²)
ST1035 75 g/m2 unsupported	75 g/m² ± 15	-	1270	101.6
ST1035 100 g/m2 unsupported	100 g/m² ± 15	-		
ST1035 100 g/m2 supported		Polyester non-woven (17 g/m2)		
ST1035 150 g/m2 unsupported	150 g/m² ± 20	-		
ST1035 150 g/m2 supported		Polyester non-woven (17 g/m2)		
ST1035 200 g/m2 unsupported	200 g/m² ± 25	-		
ST1035 200 g/m2 supported		Polyester non-woven (17 g/m2)		
ST1035 250 g/m2 unsupported	250 g/m² -0 / +30	-		
ST1035 250 g/m2 supported		Polyester non-woven (17 g/m2)		
ST1035 300 g/m2 unsupported	300 g/m² ± 30	-		
ST1035 300 g/m2 supported		Polyester non-woven (17 g/m2)		
ST1035 400 g/m2 supported	400 g/m² ± 40			69.85
ST1035 450 g/m2 unsupported	450 g/m² ± 45			



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#### 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

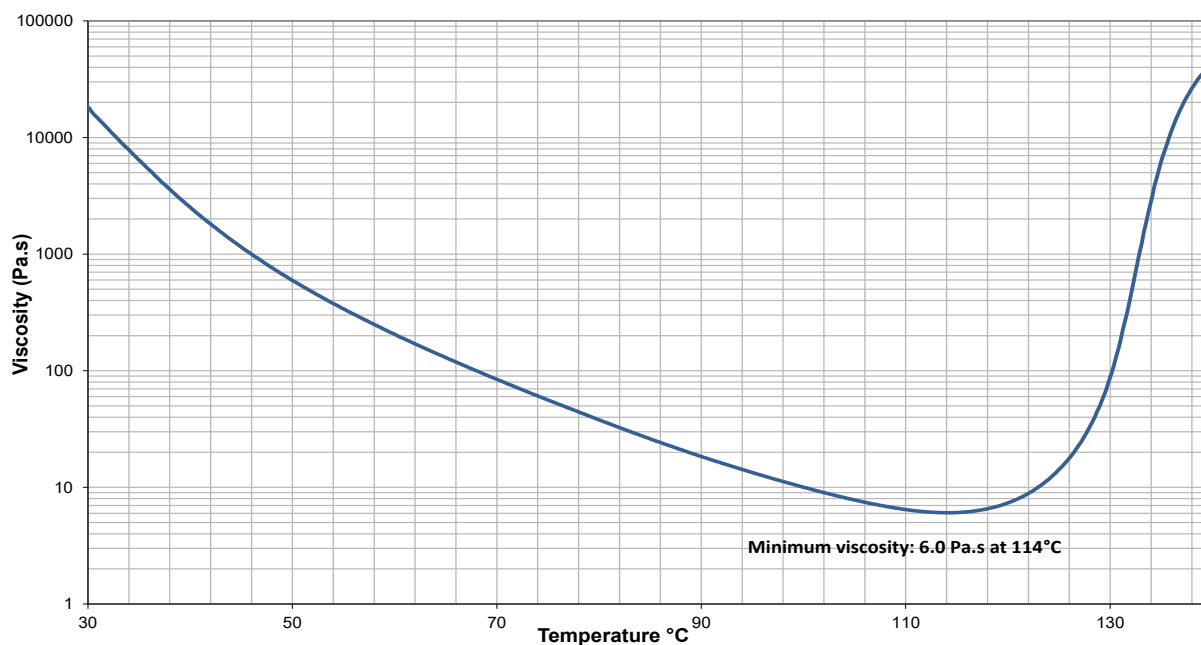
- Typical cure cycle: 60 min at 120°C/248°F
- Alternative cure cycles:

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):





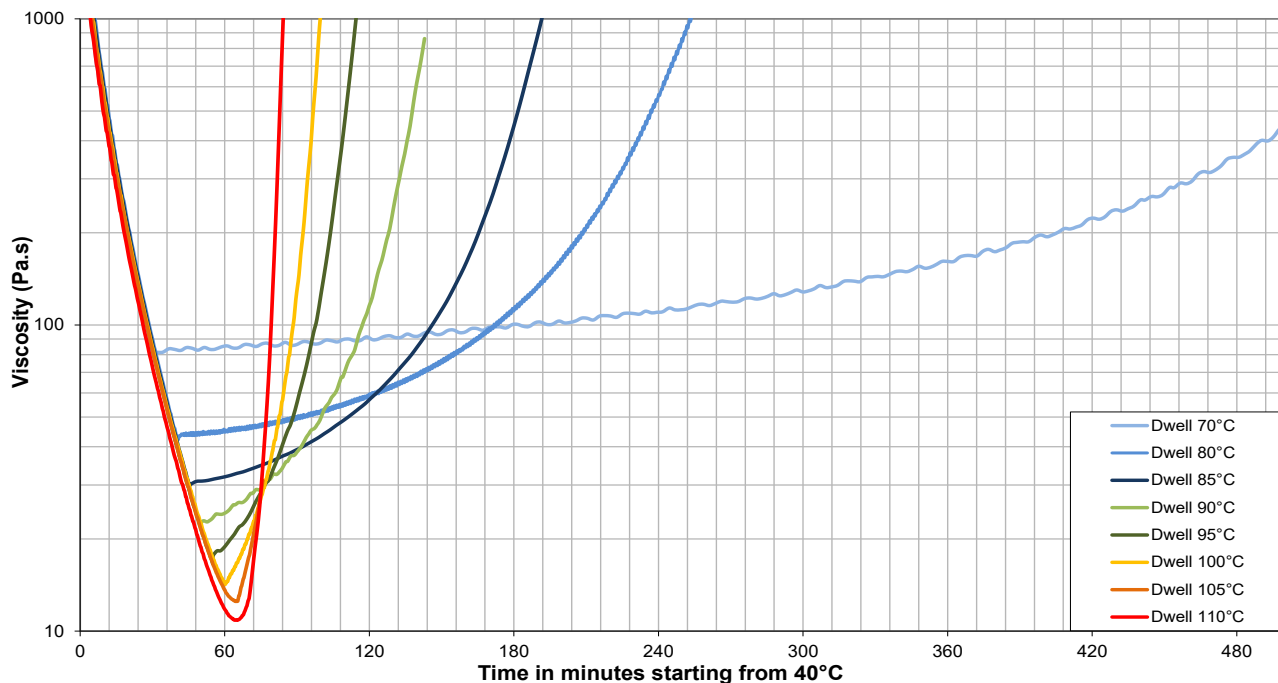
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Viscosity versus temperature:



### Mechanical Properties

Test	Environmental Conditioning	Test Temperature (°C / °F)	Typical Values			
			150 g/m <sup>2</sup> Supported	250 g/m <sup>2</sup> Supported	300 g/m <sup>2</sup> Supported	300 g/m <sup>2</sup> Unsupported
Lap shear strength <sup>(1)</sup> (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 <sup>(2)</sup> (Lower skin) (Mn/m)	None	23 / 73	-	54	65	-



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#### Shelf-Life / Out-Life

- Shelf-life: 24 months at -18oC/0oF
- Out-life: 4 weeks at 23oC/73oF

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

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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