



HexBond™ EA9686 STRUCTIL Adhesive Film



Product Data Sheet

Description

HexBond™ EA9686 is a 120°C/250°F cure film adhesive designed for metal, composite and honeycomb bonding applications. Its formulation based on epoxy resin provides a structural resistance over a large temperature range with a good toughness.

Features

- Good peel strength
- Cure from 110°C/230°F to 135°C/275°F (the adhesive can withstand cure up to 177°C/350°F)
- Storage life: 1 year at or below -18°C/0°F + 4 weeks at room temperature ($\leq 23^\circ\text{C}/73^\circ\text{F}$)
- Low volatile content (< 1%)

Applications

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

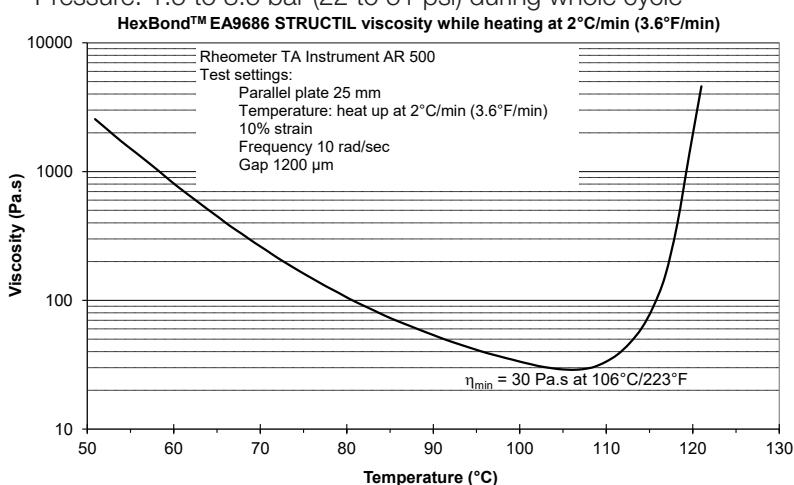
Form

| | Areal Weight (psf // g/m ²) | Color | Support | Roll Width (mm) |
|--------------|--|-------|---------------------------------------|--------------------|
| EA9686.03 NW | 0.03 / 146 | Pink | Nylon non-woven (17g/m ²) | 915 |
| EA9686.06 K | 0.06 / 292 | Pink | Polyester knit (13 g/m ²) | 915 |
| EA9686.09 K | 0.09 / 438 | Pink | Polyester knit (13 g/m ²) | 915 |

Instructions For Use

Refer to the Safety Data Sheet before handling.

- To avoid any moisture, allow the adhesive to warm at room temperature before opening the waterproof polyethylene bag
- Bonding surfaces should be clean, dry and properly prepared
- Remove protective liners before bonding (release paper and polyethylene film)
- Typical cure cycles: 5h at 110°C/230°F, 2h at 121°C/250°F, 1.5h at 135°C/275°F
Heat up rate: 0.5°C to 5.5°C/min (1°F to 10°F/min)
Pressure: 1.5 to 3.5 bar (22 to 51 psi) during whole cycle





Bond Strength Performance After Cure

| Test | Test Temperature (°C/°F) | EA9686.03 NW | EA9686.06 K | EA9686.09 K |
|---|-----------------------------------|--------------|-------------|-------------|
| Lap shear strength ⁽¹⁾ (MPa / psi) | 23 / 73 | 35 / 5067 | 39 / 5656 | 42 / 6091 |
| | 100 / 212 | 26 / 3770 | 28 / 4061 | 30 / 4351 |
| | 120 / 248 | 22 / 3190 | 23 / 3335 | 25 / 3626 |
| | 100 / 212 after WA ⁽³⁾ | | 14 / 2030 | |
| Floating roller peel ⁽²⁾ (N/25 mm // lb/in) | 23 / 73 | 200 / 45 | 208 / 47 | 205 / 46 |
| | 100 / 212 | 205 / 46 | 210 / 47 | 212 / 47 |

Glass Transition Temperature

| Cure Cycle | State | Tg Onset (°C/°F) |
|-----------------------|--------------------|------------------|
| 5h at 110°C / 230°F | As received | 129 / 264 |
| | Wet ⁽³⁾ | 89 / 192 |
| 1.5h at 135°C / 275°F | As received | 125 / 257 |
| | Wet ⁽³⁾ | 89 / 192 |

(1) According to EN 2243-1, on aluminum 2024T3 clad treated with sulfo-chromic acid etch, cure 2h at 120°C/248°F (2°C/min)

(2) According to IGC 04.26.360B, on aluminum 2024T3 clad treated with sulfo-chromic acid etch, cure 2h at 120°C/248°F (2°C/min)

(3) Wet ageing: 70°C/158°F, 85% relative humidity, saturation

This information is provided for informal purposes only, without legal responsibility and does not constitute a specification. Users are expected to perform adequate verification and testing to ensure that materials meet required specification.

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
- Engineered core
- Acousti-Cap® sound attenuating honeycomb
- 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:

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- HexMC[®] molding compounds
- HexFlow[®] RTM resins
- Redux[®] adhesives
- HexTool[®] tooling materials
- HexWeb[®] honeycombs
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