

**Advanced Materials****Epibond® 100 A/C  
High Temperature Epoxy Structural Adhesive****KEY PROPERTIES**

- High tensile shear strength
- High Dry / Wet Tg
- Resistant to amine blush
- High bond-line thickness tolerance
- Service temperature up to 300°F (149°C)
- Good chemical and environmental resistance
- Gap-filling thixotropic paste
- 2:1 mix ratio by volume
- No SVHC as defined under REACH\*

**DESCRIPTION**

Epibond® 100 A/C is an extrudable, two-component, heat curing epoxy structural adhesive designed for service temperatures up to 300°F (149°C). This product is suitable for bonding a wide variety of materials such as metals, composites and many other dissimilar substrates. The combination of high strength and high hot/wet Tg performance makes this adhesive well suited for aerospace and other demanding applications. Epibond® 100 A/C contains 5 mil (125 micron) spacer beads to help provide the very uniform bond line required in high stress areas.

\* Does not intentionally contain any Substances of Very High Concern (SVHC) for authorization as published by the European Chemicals Agency (ECHA) pursuant to Article 59 REACH as of October 15, 2014

**TYPICAL PROPERTIES**

Property	Epibond® 100 A Resin	Epibond® 100 C Hardener	Mixed Adhesive	Test Method
Color	Off-white	Amber	Off-white	Visual
Specific gravity	1.16	1.0	1.0	ASTM D-891
Viscosity at 77°F (25°C)	Semi-Paste	Paste	Thixotropic Paste	ASTM D-2196
Gel time, 100 gm at 77°F (25°C) (minute)			> 180	ASTM D-2471

**PROCESSING**

Mix Ratio	Parts by Weight	Parts by Volume
Epibond® 100 A resin	100	2
Epibond® 100 C Hardener	44	1

Under normal temperature conditions according to the standard mix ratio this material has a working time of approximately 120 - 140 minutes.

**PRETREATMENT**

Substrates to be bonded should be properly surface treated and be free from contaminants.

**MIXING**

Mix both components thoroughly for several minutes until a homogeneous mixture is obtained, or dispense from a 2:1 200ml or 50ml dual barrel cartridge. For 200 ml cartridges, use a Semmixer (TAH) 9.5-mm dia. x 18-element spiral mixing nozzle or equivalent. For 50ml cartridges, use a Semmixer 6.35-mm dia. x 20- element spiral mixing nozzle or equivalent.

**APPLICATION**

The mixed adhesive should be spread with a spatula to the suitably pretreated dry joint surfaces. A layer of adhesive 0.004 to 0.012 inches (0.1 to 0.3mm) thick will normally provide the maximum lap shear strength. This adhesive, however, has been designed to be effective in layers up to 0.12 in. (3mm). Components to be bonded should be assembled and clamped as soon as the adhesive has been applied. Even contact pressure throughout the joint area during cure will ensure optimum performance.

**HANDLING STRENGTH**

Measured by lap shear strength with PPA and primed Aluminum at RT in psi (MPa)

<b>Cure Time, hrs. / Cure Temp.</b>	<b>150°F (66°C)</b>	<b>158°F (70°C)</b>	<b>167°F (75°C)</b>
<b>0.50</b>	NA	<b>640 (4.4)</b>	NA
<b>1.00</b>	<b>1,650 (11.37)</b>	<b>3,350 (23.0)</b>	<b>3,570 (24.6)</b>
<b>1.50</b>	<b>2,680 (18.5)</b>	NA	NA

NA: Not tested

**Recommended cure cycle:**

1 hours at 150°F - 158°F (65 - 70°C) Plus 3 to 5 hours at ~ 200°F (93°C) to 275°F (135°C).

**TYPICAL CURED  
ADHESIVE  
PROPERTIES**

(Not for specification purposes)

**Substrate**

Phosphoric acid anodized and primed aluminium

**Cure Schedule**

1.0 hour at 150°F (65°C) plus 5.0 hours at 200°F (93°C)

	<b>Test</b>	<b>Units</b>	<b>Results</b>	<b>Test Method</b>
<b>Tensile Lap Shear Strength</b>	At 77°F (25°C)	psi (MPa)	4,400 (30.3)	ASTM D-1002
	At 200°F (93°C)	psi (MPa)	3,600 (24.8)	“
	At 300°F (149°C)	psi (MPa)	2,200 (15.2)	“

	At 350°F (177°C)	psi (MPa)	990 (6.8)	“	
<b>T- Peel Strength</b>	At 77°F (25°C), 20-mil anodized & primed Al, 15-mil bond line	pli (N/mm)	5 (0.87)	ASTM D-1867	
<b>Tg by DMA</b>	Dry Tg as cured	°F (°C)	266 (130)	ASTM D-7028	
	Wet Tg after 42-day at 145°F at 85% RH	°F (°C)	253 (123)	“	
<b>PHYSICAL PROPERTIES</b>	<b>Tensile Strength</b> at 77°F (25°C)	psi (MPa)	7,300 (50.3)	ASTM D-638	
	<b>E-Modulus</b>	Ksi MPa	430 (2,964)		
	<b>Elongation at break</b>	%	4.4		
	<b>Flexural Strength</b> at 77°F (25°C)	psi MPa	12,100 (83.4)	ASTM D-790	
	<b>Flexural Modulus</b>	Ksi MPa	302.6 (2,086.3)		
	<b>Compressive Strength</b> at 77°F (25°C)	psi MPa	12,200 (84.1)	ASTM D-695	
	<b>Shore D Hardness</b>		82	ASTM D-2250	
	<b>Shear Modulus G'</b> at 77°F (25°C)	Ksi MPa	142 (979)	ASTM D-5279	
		140°F (60°C)	Ksi MPa	119.6 (825)	
		194°F (90°C)	Ksi MPa	91.9 (634)	
	284°F (140°C)	Ksi MPa	2.3 (15.8)		

<b>CHEMICAL RESISTANCE</b>	<b>Fluid</b>	<b>Weight Absorption after 24-hours Immersion, %</b>
	Aviation gasoline 100LL	0.03
	Jet-A	0.05
	TKS 406B	0.00
	Skydrol 500B-4	0.00
	Turbo oil 2380	0.01
	Royco 756A	0.04
	X-IT Carbon Remover & Cleaner	0.09

**STORAGE**

When stored in a dry place in their original sealed containers at a temperature within +2°C and +40°C (+36°F and 104°F), Epibond® 100 A resin and Epibond® 100 C have an eighteen months shelf-life from date of manufacture. Tightly reseal containers after each use.

**HANDLING PRECAUTIONS****Caution**

Use in a well ventilated area (e.g. fume hood) or appropriate NIOSH approved respirator if exposure levels are above the established NIOSH TLV or OSHA PEL. Do not use this product until the MSDSs have been read and understood. To protect against any potential health risks presented by our products, the use of proper personal protective equipment (PPE) is recommended. Eye and skin protection must be worn. Respiratory protection may be needed if mechanical ventilation is not available or is insufficient to remove vapors. For detailed PPE recommendations and exposure control options consult the product MSDS or a Huntsman EHS representative.

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