

Epoxy (EX-100)

TECHNICAL DATA SHEET



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PRODUCT NAME	Epoxy (EX-100)
USES	Structural adhesive
DESCRIPTION	A flexible, two-part epoxy with high overlap shear strength. It was developed for aerospace applications and is specifically formulated to bond lightweight composites to metallic materials.

FEATURES

- » Temperature range: -320°F to +350°F in continuous service, up to +400°F for 1 hour
- » 90-minute worklife
- » High shear and peel strength
- » Flexible
- » 1:1 mix ratio
- » Flexible

UNCURED PHYSICAL PROPERTIES

COLOR	Gray
HARDNESS	35
WORKLIFE	90 minutes
TACK-FREE TIME	~4 hours
TIME TO HANDLING STRENGTH	6 hours
FULL CURE TIME	14 days
ELONGATION	120%
TENSILE STRENGTH	2,750 psi

ADHESIVE PERFORMANCE CHARACTERISTICS

Overlap shear strength to: (bonds cured at 24hrs at room temperature + 2hrs 160°F [71°C])

ETCHED ALUMINUM	2500 psi
SANDED ALUMINUM (60 GRIT)	1500 psi
COLD ROLLED STEEL	1400 psi
WOOD, FIR	1100 psi
GLASS, BOROSILICATE	300 psi
GLASS + PRIMER	300 psi
POLYCARBONATE	800 psi
ACRYLIC	500 psi
FIBERGLASS	1600 psi
ABS	700 psi
PVC	800 psi
POLYPROPYLENE	50 psi

Rate of strength buildup – overlap shear strength on etched aluminum bonds tested after:

1 HR @ RT	10 psi
6 HRS @ RT	50 psi
24 HRS @ RT	1000 psi
7 DAYS @ RT	2000 psi
1 MONTH @ RT	2200 psi
3 MONTHS @ RT	2500 psi

Environmental testing – overlap shear strength on etched aluminum tested after:

24 HRS RT + 2 HRS @ 160°F (71°C)	2500 psi
24 HRS RT + 2 HRS @ 240°F (115°C)	3000 psi
1 WK RT + WK 90°F/90% RH	2400 psi
1 WK RT + 1 WK 284°F (120°C)	3500 psi
1 WK RT + 1 WK H₂O IMMERSION	2500 psi

ADHESIVE PERFORMANCE CHARACTERISTICS

Overlap shear strength vs temperature – bonds cured 24 hrs at RT + 2 hrs 160°F (71°C). Bonds tested at:

-67°F (-55°C)	1500 psi
70°F (21°C)	2500 psi
120°F (49°C)	1000 psi
150°F (66°C)	600 psi
180°F (82°C)	400 psi

180°F peel strength v temperature – bonds cured 24 hrs at RT + 2 hrs 160°F (71°C). Bonds tested at:

-67°F (-55°C)	3 piw
70°F (21°C)	20 piw
120°F (49°C)	10 piw
150°F (66°C)	4 piw
180°F (82°C)	2 piw

Solvent resistance – one hour/one month:

ACETONE	Unaffected/Unaffected
ISOPROPYL ALCOHOL	Unaffected/Unaffected
FREON TF	Unaffected/Unaffected
FREON TMC	Unaffected/Unaffected
1,1,1-TRICHTHOETHANE	Unaffected/Unaffected
RMA FLUX	Unaffected/Unaffected