

Polymer Composites Incorporated

1871 South Lake Place Ontario California 91761

Tel. (909) 673 -1625 Fax (909) 673 1625

www.polymercompositesinc.com

Technical Data Sheet MAX 5MIN A/B Epoxy Resin System

MAX 5MIN A/B is a two part toughened epoxy/polymercaptan resin system that provides fast set up time suitable for bonding, general assembly and construction. It is a high performance equivalent to the common 5 minute epoxy resins that is typically supplied in dual-syringe packaging but formulated to provide higher tensile shear and peel strength.

MAX 5MIN A/B offers higher peel strength than the conventional 5- minute systems which makes it suitable for a wider selection of bondable substrates.

MAX 5MIN A/B is mixed equal parts by volume or weight. MAX 5MIN A/B has a fast set up time even in thin film applications making it an excellent choice for fast filed repairs for fast development of mechanical properties and handling strengths.

Pre-Mix and Mixing Notes

Prepare all needed materials before mixing the resin and curing agent together. Pour the desired amount of resin then the curing agent in a clean container and gently mix with a spatula or mixing blade until uniform blend is achieved. Scrape the sides and bottom of the container to insure a thorough mix. Apply the mixed resin directly unto the prepare surface and allow to cure Bonded items can be handled within 10 minutes and will be fully cured after 24 to 36 hours of room temperature curing (25. The mixed resin will set-up to a hard polymer in less than 2 hours and can be handled in 3 to 4 hours.

Shorter working times may be experienced when mixing the material above 80°F.

DO NOT MIX IN A LARGE VOLUME (Greater than 8 Ounces) AND ALLOW IT TO SIT IN A CONFINED MASS. THE MIXED MATERIAL WILL GENERATE HIGH EXOTHERMIC TEMPERATURES IN EXCESS OF 300°F AND WILL CAUSE FUMES AND MAY CAUSE SEVER BURNS. DOUSE THE CONTAINER WITH WATER IF UNCONTROLABLE REACTION OCCURS.

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Physical Curing Data		
Working Time	100 gram mass	4 minutes
Peak Exotherm	2 ounces in 6 ounce wide mouth container	267°F
Set to Dry Touch Time	0.015 Thick Film	6 minutes
Green Strength/ Handle Time	Support 1000 gram mass 3 point beam overlap bond (1inch x 4 inch bond surface area)	20 minutes
0.015 inch @ 25°C	1 hour	2B
	24 hours	4H
	48 hours	5H
Shore Durometer Hardness		
Shore A Scale	5 minutes	18
Shore A Scale	15 minutes	22
Shore A Scale	30 minutes	66
Shore A Scale	60 minutes	93
Shore A Scale	8 hours	45
Shore D Scale @ 25°C	12 hours	69
Shore D Scale @ 25°C	24 hours	74
Shore D Scale @ 25°C	48 hours	78

Test setup for
SHORE TYPE A & D

Durometer	Indenting foot	Applied mass [kg]	Resulting force [N]
Type A	Hardened steel rod 1.1 mm - 1.4 mm diameter, with a truncated 35° cone, 0.79 mm diameter	0.822	8.064
Type D	Hardened steel rod 1.1 mm - 1.4 mm diameter, with a 30° conical point, 0.1 mm radius tip	4.550	44.64

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Mechanical Properties Cured Data

Pencil Hardness ASTM D3363 - 05	0.100 Inch Film Thickness Test Temperature@ 25°C	Result
	After 1 hour	2B
	After 24 hours	4H
Cured Film Color	0.010 Inch Film Thickness	Transparent Amber Tint
Tensile Shear Strength ASTM D 1002	Etched Aluminum 6064 T3	
	After 24 hours Cure @ 25°C	1618 psi @ 25°C
	After 36 hours Cure @ 25°C	1890 psi @ 25°C
	After 48 hours Cure @ 25°C	2091 psi @ 25°C
Elongation at Break	After 48 hours Cure @ 25°C	3.8%



PACKAGING AND STORAGE

MAX 5MIN A/B is available in special kit sizes, 5 gallon and 55 gallon Kits. Use size kits and special packaging requests are also available. The use power mixing equipment is recommended to achieve uniform dispersion of filler. MAX 5MIN A/B should be stored in a cool dry place. DO NOT store above 30°C for prolonged period. MAX 5MIN A/B has a 12-month shelf from the date of shipment when store properly.

SAFETY NOTE

This product is for industrial use only. Please review all precautions before using this product. As with all products of the same nature, avoid prolonged inhalation and repeated skin contact. Always wear safety goggles and impervious rubber gloves when handling this material. Large mass curing of this product is not recommended for it may produce noxious fumes.

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