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Advanced Materials

Fastweld 10 A/B Adhesive

HIGH-SETTING EPOXY ADHESIVE

DESCRIPTION :

Fastweld 10 A/B epoxy adhesive is a rapid-setting, two-component paste offering a convenient one-to-one mixing ratio by volume or weight. Fastweld 10 A/B epoxy adhesive produces strong bonds in a very short period. It is especially suited for bonding small parts and for repair work.

APPLICATIONS :

No special techniques are required to wrk with this adhesive. Mix the two components thoroughly on a clean, dry surface. The bonding surface can be wood, metal, plastic or cardboard, among others. For best results, the two surfaces being bonded should be free of oil, dirt, moisture, etc. And should be slightly roughened or sanded to remove gloss.

TYPICAL PROPERTIES :

		Test Values[1]	
Property	**Test Method**	**Resin**	**Hardener**
Color/appearance	Visual	Black paste	White paste
Specific Gravity	ASTM D-792	1.48	1.44
Viscosity (cP) @ 73 °F (23 °C)	ASTM D-2393	260,000	160,000

TYPICAL MIXED PROPERTIES :

Property	**Test Method**	**Test Values[1]**
Resin/Hardener Ratio (by weight)	ASTM D-2471	100/100
Resin/Hardener Ratio (by volume)		100/100
Viscosity (cP) @ 77 °F (25 °C)		250,000
Pot Life, minutes @ 77 °F (25 °C) (2 fl oz mass)		3-4

CURE SCHEDULES :

Temperature	Cure Time
77 °F (25 °C)	4 hours
(Heat cure is not recommended)	

TYPICAL CURED PROPERTIES :

Pretreatment
The strength and durability of a bonded joint are dependent on proper pretreatment of the surfaces to be bonded.

At the very least, joint surfaces should be cleaned with a good degreasing agent such as acetone or trichloroethylene, in order to remove all traces of oil, grease and dirt. Never use alcohol, gasoline or paint thinners.

The stongest and most durable joints are obtained by either mechanically abrading or chemically etching ("pickling") the degreased surfaces. Abrading should be followed by a second degreasing treatment.

Application of Adhesive
Apply the resin/hardener mix with a spatula to the pretreated and dry joint surfaces.

A layer of adhesive 0.002 to 0.004-inches (0.05 to 0.10-mm) thick will normally impart the greatest lap strength to a joint.

The joint components should be assembled and clamped as soon as the adhesive has been applied. Event contact througouth ensures proper cure.

Standard test Specimens
Unless otherwise stated, the figure given below were all determined by testing standard specimens made up by lap-joint 4-inch x 1-inch x 0.06-inch (10-cm x 2.5-cm x 1.5-mm) strips of degreased and 100-grit abraded aluminum. The joint area was 0.5 x 1 inch (12.5 mm x 2.5 cm) in each case.

TYPICAL CURED PROPERTIES :

Lap Shear Strength
Effect of Cure Time and Temperature

		Test Values @ 77 °F (25 °C)	
Cure Temperature °F (°C)	Cure Time	psi	MPa
41 °F (5 °C)	1 hour	1420	10
	4 hours	1560	11
	24 hours	1710	12
77 °F (25 °C)	30 min	1710	12
	1 hour	2130	15
	4 hours	2840	20
	24 hours	2840	20

Effect of test Temperature
(Load applied 10 minutes after specimens reach test temperature.)

Cure Cycle	Test Temperature °F (°C)	Shear Strength @ 77 °F (25 °C) psi	MPa
24 hrs. @ 77 °F (25 °C)	-40 °F (-40 °C)	1560	11
	77 °F (25 °C)	2840	20
	104 °F (40 °C)	2420	17
	140 °F (60 °C)	1140	8

Effect of Tropical Exposure
120 °F (49 °C) / 95 % R.H. Exposure

Cure Cycle	Exposure Time	Shear Strength @ 77 °F (25 °C) psi	MPa
24 hrs. @ 77 °F (25 °C)	0 day	2840	20
	10 days	1710	12
	30 days	1000	7

Effect of Heat Aging
Cured 24 hrs. @ 77 °F (25 °C)

Aging Temperature °F (°C)	Exposure Time	Shear Strength @ 77 °F (25 °C) psi	MPa
140 °F (60 °C)	0 day	2840	20
	10 days	2840	20
	30 days	2990	21
	60 days	2560	18

Tested @ 77 °F (25 °C), unless otherwise noted.

STORAGE:

Fastweld 10 A/B epoxy adhesive components should be stored in their original, sealed container at temperature between +2°C and +40°C (+36°F and 104°F). Under these storage conditions, the shelf life is 3 years. The product should not be exposed to direct sunlight.

If stored below 60°F, the adhesive should be brought to 60°F – 77°F and conditioned at this temperature for some time prior to use.

PRECAUTIONARY STATEMENT:

Huntsman Advanced Materials Americas LLC maintains up–to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!
Refer to MSDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

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