



TECHNICAL DATA BULLETIN

INSTAbond® NPCI

Structural Epoxy Adhesive

PRODUCT DESCRIPTION:

INSTAbond® NPCI is two part Epoxy system that is designed for application on chemical processing equipment where excellent solvent resistance and compliance to UL 971 is a requirement. INSTAbond® NPCI has excellent sag resistance for easy application on vertical surfaces. INSTAbond® NPCI bonds both ferrous and most non-ferrous metals as well as composite plastics in very humid, damp conditions. INSTAbond® NPCI can be applied underwater directly to unprepared FRP, e.g. Epoxy Phenolic substrates with no loss of adhesion or lap shear strength.

INSTRUCTIONS FOR USE:

INSTAbond® NPCI is formulated with a mix ratio of 100:65 by weight and 2:1 by volume. The resin is yellow and the hardener is dark blue. Combine the proper proportions of resin and hardener in a clean container. Mix both components thoroughly until a uniform dark green color is achieved, approximately 2 - 4 minutes should be sufficient. The work life and cure of the mixture will vary with temperature and the quantity of material. Please consult MSDS for safety precautions.

Properties of Materials As Supplied:

(All tests are conducted at 25°+/- 2°C, unless otherwise indicated.)

Part A Resin:

Property	Test Method	Unit	Value
Chemical Type	---	---	Epoxy
Appearance	Visual	---	Yellow Paste
Density	ASTM D792	g /cc (lb/gal)	1.25 (10.4)
Brookfield Viscosity	ASTM D2393	cP	125,000 – 150,000

Part B Hardener:

Property	Test Method	Unit	Value
Chemical Type	---	---	Amine
Appearance	Visual	---	Blue Paste
Density	ASTM D792	g /cc (lb/gal)	1.63 (13.6)
Brookfield Viscosity	ASTM D2393	cP	70,000 – 90,000



Properties of Mixed Material:

Property	Test Method	Unit	Value
Chemical Type	---	---	Epoxy System
Appearance	Visual	---	Dark Green Paste
Density	ASTM D792	g /cc (lb/gal)	1.4 (11.7)
Brookfield Viscosity	ASTM D2393	cP	100,000 – 120,000
Mix Ratio	---	---	100:66 by Weight 2:1 by Volume
Pot Life (100g mass @23°C)	---	minutes	70 - 90
Pot Life (100g mass @40°C)	---		25 - 35

Typical Cure Schedules:

Cure Temperature, °C(°F)	Cure Time (hr)
25(77)	24
50(122)	1

Properties of Cured Material: (all specimens cured at 24hr@25°C and tested at 25°C unless otherwise specified)

Property	ASTM Test Method	Unit	Substrate	Substrate Preparation	Test Fluid Immersion	Value(a)
Lap Shear Strength	D-1002	psi	Cold Rolled Steel 18Ga	MEK wipe	none	2585
			Al 2024T3	FPL Etch	none	3618
			NAT FR-4 Epoxy Phenolic Composite (FRP)	Dry Wipe	none	2055
				Dry Wipe (Cure 1hr@50°C)	none	2100
				120 Grit Sand + Acetone Wipe	None(applied underwater)	2000
				Acetone Wipe	None(applied underwater)	2140
				Dry wipe	None(applied underwater)	2100
				Dry Wipe	7d in Boeing Spec TT-S-735 Solvent	2171
				Dry Wipe	7d in 87 Octane Gasoline w/10% Ethanol	2083
				Dry Wipe	7d in Royco 782 Hydraulic Fluid	2148
Hardness	D-2240	Shore D	N/A	N/A	N/A	88

(a) Lap shear failure modes were all 100% cohesive, no adhesive failure observed

Additional specific cured properties of INSTAbond® NPCI may be evaluated upon request.



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STORAGE AND HANDLING:

The shelf life of INSTAbond® NPCI is 12 months at 25°C. For best results, store in original, tightly closed containers in a cool, dry place out of direct sunlight. Containers should be loosely covered during the heating process to avoid pressure buildup. Allow contents to return to room temperature before mixing resin and hardener.

PACKAGING:

INSTAbond® NPCI is packaged in cartridge kits, pints, quarts, gallons, pails. The hardener is packaged according to the container size of the resin. Specialty packaging options are available on request. Contact customer service for additional information at 800-895-4480 or sales@accrabond.com

GENERAL INFORMATION:

Recommendations for the use of products are based upon tests believed by us to be reliable. However, since the handling and use of our products under user's conditions are beyond our control, no warranty, expressed or implied, including but not limited to merchantability or fitness for a particular use, is made concerning this product. The user assumes all risks of use or handling, whether or not in accordance with any directions or suggestions of the supplier. Seller shall not be liable to purchaser or any other person for loss or damage directly or indirectly arising from the use of our products, from breach of any warranty or any other cause, the exclusive remedy against the seller being to require replacement or repair of defective goods. If the purchaser does not accept products on such items, they are to be returned at once, unopened. **This material is for professional and industrial use only.**

PRODUCT INFORMATION CONTAINED HEREIN IS INTENDED FOR REFERENCE ONLY. MATERIAL SAFETY DATA INFORMATION AVAILABLE AT (662) 895-4480 OR IN WRITING TO: ACCRAbond, Inc. 8848 Hacks Cross Road, Olive Branch, MS 38654, www.accrabond.com.