



ECCOBOND[®] 286 A/B

Easy Mix Ratio, General Purpose Epoxy Adhesive

Key Feature:	Benefit:
• Convenient mix ratio	• Ease of use
• Room temperature cure	• Simplified manufacturing process
• Good thermal conductivity	• Dissipation of heat from bonded components

Product Description:

ECCOBOND 286 A/B is a two component, thermally conductive, room temperature curing, epoxy adhesive. The proper amount of thixotropy is built in to assure minimum flow without sacrificing wetting. ECCOBOND 286 A/B offers good adhesion to a variety of substrates including most metals and plastics.

Applications:

ECCOBOND 286 A/B is recommended for a wide variety of maintenance and production applications. It is ideal for use in piping applications involving metal and/or plastic pipe.

Instructions For Use:

Thoroughly read the information concerning health and safety contained in this bulletin before using. Observe all precautionary statements that appear on the product label and/or contained in individual Material Safety Data Sheets (MSDS).

Properties of Material As Supplied:

Property	Test Method	Unit	Value - Part A	Value - Part B
Chemical Type			Epoxy	Amine
Appearance	Visual		White paste	White paste
Density	ASTM-D-792	g/cm ³	1.21	2.00

Properties of Material As Mixed:

Property	Test Method	Unit	Value
Mix Ratio - Amount of Part B per 100 parts of Part A		By Weight	180
		By Volume	100
Working Life (100 g @ 25°C)	ERF 13-70	minutes	30
Density	ASTM-D-792	g/cm ³	1.71

To ensure the long term performance of the bonded assembly, complete cleaning of the substrates should be performed to remove contamination such as oxide layers, dust, moisture, salt, and oils which can cause poor adhesion or corrosion in a bonded part. For information on proper substrate preparation, refer to the reprint "Good Adhesive Bonding Starts With Surface Preparation" available from Emerson & Cuming.

Some filler settling is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use. Power mixing is preferred to ensure a homogeneous product.

Accurately weigh resin and hardener into a clean container in the recommended ratio. Weighing apparatus having an accuracy in proportion to the amounts being weighed should be used.

Blend components by hand, using a kneading motion, for 2-3 minutes. Scrape the bottom and sides of the mixing container frequently to produce a uniform mixture. If possible, power mix for an additional 2-3 minutes. Avoid high mixing speeds which could entrap excessive amounts of air or cause overheating of the mixture resulting in reduced working life.

Apply the adhesive to all surfaces to be bonded and join together. In most applications only contact pressure is required.

"Our service engineers are available to help purchasers obtain best results from our products, and recommendations are based on tests and information believed to be reliable. However, we have no control over the conditions under which our products are transported to, stored, handled, or used by purchasers and, in any event, all recommendations and sales are made on condition that we will not be held liable for any damages resulting from their use. No representative of ours has any authority to waive or change this provision. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care[®] program."

Cure Schedule:

Cure at any one of the recommended cure schedules. For optimum performance, follow the initial cure with a post cure of 2 - 4 hours at the highest expected use temperature. Alternate cure schedules may also be possible. Contact your Emerson & Cuming Technical Representative for further information.

Temperature	Cure Time (hours)
°C	Time
25	24
45	4
65	2

Properties of Material After Application:

Property	Test Method	Unit	Value
Flexural Strength	ASTM-D-790	mPa psi	83 12,000
Tensile Lap Shear Strength aluminum to aluminum @ 25°C	ASTM D-1002	mPa psi	15.2 2,200
Coefficient of Thermal Expansion	ASTM-D-3386	10 ⁻⁶ /°C	36
Thermal Conductivity	ASTM-D-2214	W/m.K Btu-in/hr-ft ² -°F	1.04 7.2
Temperature Range of Use		°C	-55 to +105
Volume Resistivity @ 25°C	ASTM-D-257	Ohm-cm	>10 ¹⁵

Storage and Handling:

The shelf life of ECCOBOND 286 Parts A and B are 12 months at 25°C. For best results, store in original, tightly covered containers. Storage in cool, clean and dry areas is recommended. Usable shelf life may vary depending on method of application and storage conditions. Certain resins and hardeners are prone to crystallization. If crystallization does occur, warm the contents of the shipping container to 50-60°C until all crystals have dissolved. Be sure the shipping container is loosely covered during the warming stage to prevent any pressure build-up. Allow contents to cool to room temperature before continuing.

Health and Safety:

The ECCOBOND 286 Part A, like most epoxy compounds, possesses the ability to cause skin and eye irritation upon contact. Certain individuals may also develop an allergic reaction after exposure (skin contact, inhalation of vapors, etc.) which may manifest itself in a number of ways including skin rashes and an itching sensation. Handling this product at elevated temperatures may also generate vapors irritating to the respiratory system.

The ECCOBOND 286 Part B is classified as a corrosive material. Direct contact with unprotected eyes or skin can cause severe burns. Certain individuals may

also develop an allergic skin or respiratory reaction after exposure. These reactions may manifest themselves in a number of ways including skin rashes, itching sensation and breathing difficulties. Handling this product may also generate vapors irritating to the respiratory system.

Good industrial hygiene and safety practices must be used when handling this product. Proper eye protection and appropriate chemical resistant clothing must be worn to prevent contact. Consult the Material Safety Data Sheet (MSDS) for detailed recommendations on the use of engineering controls, personal protective equipment and first aid procedures.

This information is only a brief summary of the available safety and health data. Thoroughly review the MSDS for more complete information before using this product.

Attention Specification Writers:

The values contained herein are considered typical properties only and are not intended to be used as specification limits. For assistance in preparing specifications, please contact Emerson & Cuming Quality Assurance for further details.

Medical Implantable Disclaimer

"In the event this product is intended by you for use in implantation in the human body, you are hereby advised that National Starch (or Emerson & Cuming) has not performed clinical testing of these materials for implantation in the human body nor has National Starch (Emerson & Cuming) sought, nor received, approval from the FDA for the use of these material in implantation in the human body. It is YOUR responsibility, as a manufacturer of any such device, to ensure that all materials and processes relating to the manufacture of any medical device fully comply with all applicable federal, state and local laws, rules, regulations and requirements as well as any such laws, rules, regulations, directives or other orders of any foreign country where such product is sold. If you have not undertaken the necessary investigations to ensure compliance you are advised NOT TO USE this product in the manufacture of any device which is to be implanted in the human body. No representative of ours has any authority to change the foregoing provisions."



// Underfills // Solder Alternatives // C.O.B Materials
// Encapsulants // Coatings // Adhesives // Film Adhesives // Thermal Interfaces
// Electrically Conductive Coatings and Adhesives

// Europe
Nijverheidsstraat 7
B-2260 Westerlo
Belguim
☎ : +(32)-(0) 14 57 56 11
Fax: +(32)-(0) 14 58 55 30

// North America
46 Manning Road
Billerica, MA 01821
☎ :978-436-9700
Fax : 978-436-9701

// Asia-Pacific
100 Kaneda, Atsugi-shi
Kanagawa-ken, 243-
0807
Japan
☎ : (81) 46-225-8815
Fax: (81) 46-222-1347