



ECCOBOND[®] 45 Clear / CATALYST 15 Clear

General Purpose, Adjustable Flexibility Epoxy Adhesive

Key Feature:	Benefit:
• Easy mix ratio	• Ease of use
• Adjustable flexibility	• Hardness can be adjusted by varying amount of CATALYST 15 Clear
• General purpose	• Bonds well to metal, glass and plastic substrates

Product Description:

ECCOBOND 45 Clear / Catalyst 15 Clear is a clear, unfilled epoxy adhesive which, by varying the amount of catalyst used, can adjust the hardness from flexible to rigid. It has an easy mix ratio range and bonds well to a wide variety of substrates. ECCOBOND 45 Clear / Catalyst 15 Clear is the clear, unfilled version of ECCOBOND 45 / CATALYST 15.

Applications:

ECCOBOND 45 Clear / Catalyst 15 Clear is designed as a general purpose, clear adhesive and is particularly useful when bonding dissimilar substrates such as metal to plastic.

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).

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 Henkel Corporation.

Some separation of components is common during shipping or 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.

Properties of Material As Supplied:

Property	Test Method	Unit	ECCOBOND 45 Clear	CATALYST 15 Clear
Chemical Type			Epoxy	Amine
Appearance	Visual		Clear yellow	Clear yellow
Density	ASTM-D-792	g/cm ³	1.17	0.97
Brookfield Viscosity	ASTM-D-2393	Pa.s cP	13.5 13,500	25 25,000

Properties of Material As Mixed:

Property	Test Method	Unit	Value		
			Rigid	Semi-rigid	Flexible
Mix Ratio - Amount of Catalyst 15 Clear per 100 parts of ECCOBOND 45 Clear		By Weight	100	200	300
Working Life (100 g @ 25°C)	ERF 13-70	minutes	120	140	160
Density	ASTM-D-792	g/cm ³	1.06	1.03	1.01
Brookfield Viscosity	ASTM-D-2393	Pa.s cP	20 20,000	20 20,000	21 21,000

Cure Schedule:

Cure at any one of the recommended cure schedules. Alternate cure schedules may also be possible. Contact your Henkel Corporation Technical Representative for further information.

Temperature	Cure Time
°C	Time
25	16-24 hours
45	4-6 hours
65	2-4 hours
105	15 - 30 minutes

Properties of Material After Application:

Property	Test Method	Unit	Value		
			Rigid	Semi-rigid	Flexible
Hardness	ASTM-D-2240	Shore	75D	52D	45A
Flexural Strength	ASTM-D-790	mPa psi	57 8,300		
Tensile Lap Shear Strength Aluminum to Aluminum @ 25°C	ASTM-D-1002	mPa psi	16.5 2400		
Temperature Range of Use		°C	-40 to +90	-55 to +80	-55 to +65
Dielectric Strength	ASTM-D-149	kV/mm V/mil	16 400	16 400	16 400
Dielectric Constant @ 1 mHz	ASTM-D-150	-	3.0	3.0	3.0
Dissipation Factor @ 1 mHz	ASTM-D-150	-	0.03	0.03	0.03
Volume Resistivity @25°C	ASTM-D-257	Ohm-cm	>10 ¹³	>10 ¹³	>10 ¹⁰

Storage and Handling:

The shelf life of ECCOBOND 45 Clear / CATALYST 15 Clear is 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 temperature.

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.

Health and Safety:

The ECCOBOND 45 Clear, 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.

Good industrial hygiene and safety practices should be followed when handling this product. Proper eye protection and appropriate chemical resistant clothing should be worn to minimize direct contact. Consult the Material Safety Data Sheet (MSDS) for detailed recommendations on the use of engineering controls and personal protective equipment.

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.

The CATALYST 15 Clear 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 (skin contact, skin absorption, inhalation of vapors, etc.). These reactions may manifest themselves

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 Henkel Corporation 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 Henkel Corporation has not performed clinical testing of these materials for implantation in the human body nor has Henkel Corporation 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."

Note

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