ECCOBOND® 56 C

Two Component
Electrically Conductive Epoxy Adhesive

Key Feature	Benefit
Two component adhesive	Long shelf life at room temperature
Curable at low temperatures	Usable in heat sensitive applications

Product Description :

ECCOBOND 56 C is a two component, silver-filled epoxy adhesive featuring extremely low electrical resistance. It can be cured at temperatures as low as 50°C in 2 hours or in a few minutes at elevated temperature. Supplied in paste form, the adhesive will not flow when applied.

Applications :

ECCOBOND 56 C bonds tenaciously to metal, glass, ceramics and plastics. It is used for making electrical connections where hot soldering is impractical and at locations or substrates which cannot be subjected to high temperature. The CATALYST 11 cure results in optimum high temperature properties but gives somewhat poorer electrical conductivity.

Instructions For Use :

1. Weigh out the amount of adhesive required. Use 1 part CATALYST 9 to 40 parts ECCOBOND 56 C by weight. A medicine dropper provides a convenient method of measurement of catalyst. Use one drop of CATALYST 9 for each gram of ECCOBOND 56 C. Mix very thoroughly.
2. Apply to surface to be bonded. No pressure is required. Cure takes place within 2 hours at 50°C, but can be accomplished within a few minutes at 65°C to 90°C. Cure at a temperature of 65°C or above is preferred for low resistivity.
3. For longer pot life, use one part CATALYST 11 to 30 parts of ECCOBOND 56 C. Mix very thoroughly. Cure for 8 hours at 80°C or 1 hour at 120°C.

Notes :

1. The CATALYST 11 cure results in optimum high temperature properties but gives somewhat poorer electrical conductivity.
2. Thinning of ECCOBOND 56 C with a small amount of Toluene (10 % by weight maximum) has been used where a thin film is applied. Solvent must be evaporated to assure low resistance. The solvent can be added to the catalyst for ease of use.
3. Items to be bonded should be clean.

Properties Of Material As Supplied :

Property	Test Method	Unit	Typical Value
Chemical Type			Epoxy
Appearance	TP-76W		Silver
Density	TP-13W	g/cm³	3,3 - 3,6
Silver Content As Supplied		% by weight	79 - 81
Viscosity			Paste

Cure Schedule :

Please refer to the “Instructions For Use” above.

Properties Of Material After Application :

Property	Test Method	Unit	Typical Value
Volume Resistivity	TP-296W	Ohm.cm	4×10^{-4}
Thermal Conductivity		W/m.K	3,0
Tensile Lap Shear Strength	TP-21W	MPa	6
Flexural Strength	ASTM-D-790	MPa	75
Glass Transition Temperature	TP-525W	°C	80
Coefficient of Linear Thermal Expansion below Tg above Tg	TP-525W	10^{-6} K^{-1}	 32 120
Ionic Content Na^+ NH_4^+ K^+ Cl^-	TP-91W	ppm	 1 10 1 1
Service Temperature with CATALYST 9 with CATALYST 11		°C	 -60 to +120 -60 to +175

Storage And Handling :

Store ECCOBOND 56 C in well sealed, unopened containers at temperatures between 18°C and 25°C.

Storage Temperature (°C)	Usable Shelf Life (months)
18°C to 25°C	12

Health & Safety :

It is recommended to consult the Emerson & Cuming product literature, including material safety data sheets, prior to using Emerson & Cuming products. These may be obtained from your local sales office.

Attention Specification Writers :

The technical information contained herein is generally consistent with the properties of the material and should not be used in the preparation of specifications, as it is intended for reference only. This technical information has been derived from one batch of material and may not exactly match the properties of each individual delivered batch. For assistance in preparing specifications, please contact your local Emerson & Cuming office for details. Please contact Emerson & Cuming Quality Assurance for test method details.

(ECCOBOND® is a registered trademark of National Starch and Chemical Company)

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