Hysol

ECCOBOND 285/Catalyst 9

October 2011

PRODUCT DESCRIPTION

ECCOBOND 285/Catalyst 9 provides the following product characteristics:

Technology	Epoxy
Appearance (Resin)	Black
Mix Ratio, by weight - Material:Catalyst	100 : 3.5
Mix Ratio, by Volume - Material:Catalyst	100 : 8.5
Product Benefits	• Thermally conductive • Non-sag • Thixotropic • Resin versatility • Low CTE • General purpose • Good chemical resistance • Good physical strength
Cure	Room temperature cure and Heat cure
Application	Thermally conductive adhesive
Operating Temperature	-40 to +130 °C
Typical Assembly Applications	Bonding metals and ceramic substrates in heat sink applications

ECCOBOND 285/Catalyst 9 adhesive is designed for assembly applications that require thermal management. It is also recommended for low stress bonding applications.

ECCOBOND 285 can be used with a variety of catalysts. For more information on mixed properties when used with other available catalysts, please contact your local technical service representative for assistance and recommendations.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties *285*

Density , g/cm³	2.4
Shelf Life @ 25°C, months	12
Flash Point - See MSDS	

Part B Properties *Catalyst 9*

Viscosity @ 25 °C, mPa·s (cP)	95
Flash Point - See MSDS	

Mixed Properties

Density , g/cm³	2.27
Working Time, 100 g mass, @ 25ºC, minutes	45
Flash Point - See MSDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

16 to 24 hours @ 25°C or
4 to 6 hours @ 45°C or
1 to 2 hour @ 65°C

For optimum performance, follow the initial cure with a post cure of 2 to 4 hours at the highest expected use temperature.

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Thermal Conductivity, ASTM D-2214, W/mK	1.44

Electrical Properties:

Volume Resistivity, ASTM D257, ohm-cm	1×10^{15}
Dielectric Strength , ASTM D149, kV/mm	17.7

Outgassing Properties:

Sample cured for 7 days @ 25°C

Outgassing , per NASA Reference Publication 1124, ASTM E 595, TML, %	0.29

GENERAL INFORMATION

For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

DIRECTIONS FOR USE

1. Certain resins and hardeners are prone to crystallization. If crystallization does occur, warm the contents of the shipping container to 50 to 60ºC until all crystals have dissolved. Shipping container must be loosely covered during the warming stage to prevent any pressure build-up.
2. Allow contents to cool to room temperature before continuing.
3. 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.
4. Some separation of components 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.
5. Power mixing is preferred to ensure a homogeneous product.
6. 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.
7. Blend components by hand, using a kneading motion, for 2 to 3 minutes and scrape the bottom and sides of the mixing container frequently to produce a uniform mixture.
8. If possible, power mix for an additional 2 to 3 minutes. Avoid high mixing speeds which could entrap excessive amounts of air or cause overheating of the mixture resulting in reduced working life.

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

Storage
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
Optimal Storage: 25 °C
Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Not for product specifications
The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm^2 x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Note
The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation and its affiliates ("Henkel") specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel products. Henkel specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

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Reference 0.0