



ECCOBOND 2332

June 2010

PRODUCT DESCRIPTION

ECCOBOND 2332 provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Cure	Heat cure
Product Benefits	• One component • Excellent adhesion • Non-conductive • Low temperature cure • High strength
Application	Non-conductive adhesive
Operating Temperature	-40 to 150 °C
Surfaces	Copper, Aluminum, Nickel, FRP and Rigid plastics

ECCOBOND 2332 is a solventless epoxy adhesive that develops high bond strength when cured at temperatures as low as 100°C. This product combines toughness at low temperatures plus high peel and tensile shear strengths over a very broad temperature range.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity @ 25 °C, mPa·s (cP)	65,000 to 85,000
Specific Gravity	1.17 to 1.23
Shelf Life @ 0 to 8°C, months	6
Flash Point - See MSDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

1 hour @ 120°C

Alternative Curing Conditions

90 minutes @ 100°C or
30 minutes @ 120°C or
20 minutes @ 150°C

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:

Coefficient of Thermal Expansion, K ⁻¹	100×10 ⁻⁶
Glass Transition Temperature (T _g) by TMA, °C	105
Hardness Shore D	
@ 25°C	75
@ 120°C	30

Tensile Modulus, DMTA :

@ 50 °C	N/mm ²	1,043
	(psi)	(151,235)
@ 100 °C	N/mm ²	508
	(psi)	(73,660)
@ 150 °C	N/mm ²	20
	(psi)	(2,900)
@ 200 °C	N/mm ²	10
	(psi)	(1,450)

Linear Shrinkage, %	2.3
---------------------	-----

Electrical Properties:

Volume Resistivity, ohm/cm @ 25°C	6×10 ¹⁴
-----------------------------------	--------------------

TYPICAL PERFORMANCE OF CURED MATERIAL

Lap Shear Strength :

Aluminum:

Tested @ 25 °C	N/mm ²	20.4
	(psi)	(2,960)
Tested @ 90 °C	N/mm ²	15.3
	(psi)	(2,220)
Tested @ 125 °C	N/mm ²	12.5
	(psi)	(190)
Tested @ 150 °C	N/mm ²	4.9
	(psi)	(710)

PBT:

Tested @ 25 °C	N/mm ²	6.0
	(psi)	(870)
Tested @ 125 °C	N/mm ²	3.1
	(psi)	(450)
Tested @ 150 °C	N/mm ²	1.2
	(psi)	(175)

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Carefully clean and dry all surfaces to be bonded
2. 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

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.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 0 to 8°C. Storage greater than or below 0 to 8°C can adversely affect product properties.

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.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\text{N} \times 0.225 = \text{lb}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{N/mm}^2 \times 145 = \text{psi}$

$\text{MPa} \times 145 = \text{psi}$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

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 specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation 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 Corporation 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.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.2