



# ECCOBOND 45 Clear/Catalyst 15 Clear

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## PRODUCT DESCRIPTION

ECCOBOND 45 Clear/Catalyst 15 Clear provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Technology (Catalyst)</b>	Amine
Appearance (Resin)	Clear yellow
Appearance (Catalyst)	Clear yellow
Mix Ratio - Resin : Hardener	100 : 100
<b>Rigid Formula</b>	
Mix Ratio - Resin : Hardener	100 : 200
<b>Semi-Rigid Formula</b>	
Mix Ratio - Resin : Hardener	100 : 300
<b>Flexible Formula</b>	
Product Benefits	<ul style="list-style-type: none"> <li>• Unfilled</li> <li>• Ease of use</li> <li>• Non-conductive</li> <li>• General purpose</li> <li>• Controllable flexibility</li> <li>• Bond dissimilar substrates</li> </ul>
<b>Cure</b>	Heat cure
<b>Application</b>	Assembly

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 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.

ECCOBOND 45 Clear/Catalyst 15 Clear 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 45 Clear

Viscosity, Brookfield , ASTM D2393, mPa·s (cP)	13,500
Density, ASTM D792, g/cm <sup>3</sup>	1.17
Flash Point - See MSDS	

### Part B Properties Catalyst 15

Viscosity, Brookfield , ASTM D2393, mPa·s (cP)	25,000
Density, ASTM D792, g/cm <sup>3</sup>	0.97
Flash Point - See MSDS	

### Mixed Properties

Rigid Formulation:

Viscosity, Brookfield , ASTM D2393, mPa·s (cP)	20,000
Density, ASTM D792, g/cm <sup>3</sup>	1.06

Work Life, 100 grams @ 25°C, minutes	120
Flash Point - See MSDS	

Semi-Rigid Formulation:

Viscosity, Brookfield , ASTM D2393, mPa·s (cP)	20,000
Density, ASTM D792, g/cm <sup>3</sup>	1.03
Work Life, 100 grams @ 25°C, minutes	140
Flash Point - See MSDS	

Flexible Formulation:

Viscosity, Brookfield , ASTM D2393, mPa·s (cP)	21,000
Density, ASTM D792, g/cm <sup>3</sup>	1.01
Work Life, 100 grams @ 25°C, minutes	160
Shelf Life @ 25 °C, months	12
Flash Point - See MSDS	

## TYPICAL CURING PERFORMANCE

### Cure Schedule

15 to 30 minutes @ 105°C
2 to 4 hours @ 65°C
4 to 6 hours @ 45°C
16 to 24 hours @ 25°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

Rigid Formulation

### Physical Properties:

Hardness, Shore D, ATSM D2240	75
Flexural strength , ASTM D790	N/mm <sup>2</sup> 57 (psi) (8,300)
Temperature Range of Use, °C	-40 to 90

### Electrical Properties:

Volume Resistivity @ 25°C, ASTM D257, ohm-cm	>1×10 <sup>13</sup>
Dielectric Strength , ASTM D149, kV/mm	16
Dielectric Constant @ 1MHz, ASTM D150	3
Dissipation Factor @ 1MHz, ASTM D150	0.03

Semi-rigid Formulation

### Physical Properties:

Hardness, Shore D, ATSM D2240	52
Temperature Range of Use, °C	-55 to 80



**Electrical Properties:**

Volume Resistivity @ 25°C, ASTM D257, ohm-cm	>1×10 <sup>13</sup>
Dielectric Strength, ASTM D149, kV/mm	16
Dielectric Constant @ 1MHz, ASTM D150	3.0
Dissipation Factor @ 1MHz, ASTM D150	0.03

Flexible Formulation

**Physical Properties:**

Hardness, Shore A, ASTM D2240	45
Temperature Range of Use, °C	-55 to 65

**Electrical Properties:**

Volume Resistivity @ 25°C, ASTM D257, ohm-cm	>1×10 <sup>10</sup>
Dielectric Strength, ASTM D149, kV/mm	16
Dielectric Constant @ 1MHz, ASTM D150	3.0
Dissipation Factor @ 1MHz, ASTM D150	0.03

**TYPICAL PERFORMANCE OF CURED MATERIAL**

Rigid Formulation

**Shear Strength:**

Tensile Lap Shear Strength, ASTM D1002:	
Aluminum to aluminum @ 25 °C	N/mm <sup>2</sup> 16.5 (psi) (2,400)

**GENERAL INFORMATION**

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

**DIRECTIONS FOR USE**

1. 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.
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.
3. Power mixing is preferred to ensure a homogeneous product.
4. 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.
5. 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.
6. 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.
7. Apply adhesive to all surfaces to be bonded and join together.
8. 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<sup>2</sup> 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**

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