ECCOBOND 45LV/Catalyst 15LV

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PRODUCT DESCRIPTION

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

Technology	Epoxy
Appearance (Part A)	Black
Appearance (Part B)	Black
Components	Two component - requires mixing
Cure	Room Temperature or Heat Cure
Product Benefits	• Low viscosity • General purpose • Variable flexibility
Mix Ratio, by weight - Resin : Hardener **Rigid Formula**	100 : 25
Mix Ratio, by weight - Resin : Hardener **Semi-rigid Formula**	100 : 50
Mix Ratio, by weight - Resin : Hardener **Flexible Formula**	100 : 100
Application	Assembly
Operating Temperature **Rigid**	-40 to 90°C
Operating Temperature **Semi-rigid**	-55 to 80°C
Operating Temperature **Flexible**	-55 to 65°C
Surfaces	Metals, Glass and Plastics

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

ECCOBOND 45 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 *ECCOBOND 45LV*

Viscosity , , mPa·s (cP)	35,000
Specific Gravity	1.58
Shelf Life @ 25°C, months	12
Flash Point - See MSDS	

Part B Properties *Catalyst 15LV*

Viscosity , , mPa·s (cP)	11,000
Specific Gravity	0.97
Flash Point - See MSDS	

Mixed Properties

Rigid Formulation:

Mixed Viscosity, mPa·s (cP)	30,000
Specific Gravity	1.43
Working Time, 100g mass @ 25ºC, minutes	120
Flash Point - See MSDS	

Semi-Rigid Formulation:

Mixed Viscosity, mPa·s (cP)	25,000
Specific Gravity	1.34
Working Time, 100g mass @ 25ºC, minutes	90
Flash Point - See MSDS	

Flexible Formulation:

Mixed Viscosity, mPa·s (cP)	16,000
Specific Gravity	1.23
Working Time, 100g mass @ 25ºC, minutes	90
Flash Point - See MSDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

Cure Temp, °C	Cure Time
25	16 - 24 hours
45	4 - 6 hours
65	2 - 4 hours
90	30 - 60 minutes

The above cure profile is a guideline recommendation. 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:

Coefficient of Thermal Expansion ASTM D 3386:	
Below Tg, ppm/°C	55
Above Tg, ppm/°C	148
Glass Transition Temperature, ISO 11357-2, °C	68
Thermal Conductivity, W/mk	0.4
Shore Hardness, ISO 868, Durometer D	82
Water Absorption, ASTM D 570 , %:	
24 hours	0.1

Electrical Properties:

Dielectric Breakdown Strength, IEC 60243-1, kV/mm	16
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 mHz	3.27 / 0.08
Volume Resistivity, IEC 60093, Ω·cm	$>1\times10^{15}$

Semi-rigid Formulation

Physical Properties:

Coefficient of Thermal Expansion ASTM D 3386:	
Below Tg, ppm/°C	63
Above Tg, ppm/°C	159
Glass Transition Temperature, ISO 11357-2, °C	38
Thermal Conductivity, W/mk	0.4
Shore Hardness, ISO 868, Durometer D	74
Water Absorption, ASTM D 570 , %:	
24 hours	0.2

Electrical Properties:

Dielectric Breakdown Strength, IEC 60243-1, kV/mm	16
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 mHz	3.45 / 0.02
Volume Resistivity, IEC 60093,	$>1\times10^{15}$

Flexible Formulation

Physical Properties:

Coefficient of Thermal Expansion ASTM D 3386:	
Below Tg, ppm/°C	80
Above Tg, ppm/°C	188
Glass Transition Temperature, ISO 11357-2, °C	21
Thermal Conductivity, W/mk	0.4
Shore Hardness, ISO 868, Durometer D	50
Water Absorption, ASTM D 570 , %:	
24 hours	1.7

Electrical Properties:

Dielectric Breakdown Strength, IEC 60243-1, kV/mm	16
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 mHz	3.5 / 0.07
Volume Resistivity, IEC 60093,	$>1\times10^{15}$

TYPICAL PERFORMANCE OF CURED MATERIAL

Rigid Formulation

Lap Shear Strength , ISO 4587:

Aluminum:

Tested @ 25 °C	N/mm² (psi)	17 (2,400)
Tested @ 65 °C	N/mm² (psi)	9 (1,300)

Semi-Rigid Formulation

Lap Shear Strength , ISO 4587:

Aluminum:

Tested @ 25 °C	N/mm² (psi)	16 (2,300)
Tested @ 65 °C	N/mm² (psi)	3.5 (500)

Flexible Formulation

Lap Shear Strength , ISO 4587:

Aluminum:

Tested @ 25 °C	N/mm² (psi)	7 (1,000)

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 ECCOBOND 45LV and Catalyst 15LV into a clean container in the recommended ratio.
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/mm² 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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