



EE1132 HD7091

May 2013

PRODUCT DESCRIPTION

EE1132 HD7091 provides the following product characteristics:

Technology	Epoxy
Appearance - Part A	Black
Appearance - Part B	Amber
Appearance (cured)	Black
Components	Two component - requires mixing
Mix Ratio, by weight - Part A: Part B	100 : 15
Mix Ratio, by volume - Part A: Part B	100 : 25
Product Benefits	- Two component - Room temperature cure - High temperature resistance
Cure	Room temperature cure or Heat cure
Application	Encapsulant and Potting

EE1132 HD7091 epoxy system is designed for encapsulating or potting electronic devices.

EE1132 HD7091 meets UL 94 V-0 Flammability at 6 mm thickness.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties EE1132

Filler Content, ASTM D2584, %	55
Density @ 25 °C, ASTM D1475,	1.6
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 7, speed 2	80,000
Spindle 7, speed 20 rpm	50,000
Shelf Life @ 25°C (from date of shipment), days	183
Flash Point - See MSDS	

Part B Properties HD7091

Density @ 25 °C, ASTM D1475,	0.95
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 2, speed 20	220
Shelf Life @ 25°C (from date of shipment), days	183
Flash Point - See MSDS	

Mixed Properties

Filler Content, ASTM D2584, %	47.5
Specific Gravity, ASTM-D-792,	1.55
Viscosity, Brookfield - RVF, 200 gram mass, 25 °C, mPa·s (cP):	
Spindle 6, speed 20 rpm	5,000
Pot Life @ 25 °C, hours	3
Flash Point - See MSDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

48 hours @ 25°C

Alternative Cure Schedule

2 hours @ 60°C

Typical cured properties were determined using the recommended cure schedule. Some differences in properties may occur with the alternate or other cure schedules.

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

Hardness, , Shore D, ASTM D2240	92
Thermal Conductivity , ASTM D1674, W/(m-K)	0.377
Moisture Absorption , 48-hour immersion, ASTM D570 0.2 , %	
Guide to Operating Class, IEEE °C	105

Electrical Properties

Dielectric Constant / Dissipation Factor @ 25°C, ASTM D150:	
@ 100 Hz	3.9/0.0201
@ 1 KHz	3.8/0.0134
@ 10 KHz	3.7/0.0135
@ 100 KHz	3.6/0.0135
Volume Resistivity, ASTM D257, ohm-cm	4.5×10 ¹³
Surface Resistivity, ASTM D257, ohms	1.1×10 ¹³

GENERAL INFORMATION

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

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

Liquid Storage - Liquids should be stored at 25°C or below, in closed containers. If stored below 25°C, the material **MUST** be allowed to come to room temperature, in the sealed container, to avoid moisture contamination.

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

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

Disclaimer

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada Corporation, the following disclaimer is applicable:

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 0.0