

**OM638**

March 2010

**PRODUCT DESCRIPTION**

Macromelt®OM638 provides the following product characteristics:

<b>Technology</b>	Polyamide
<b>Appearance</b>	Black
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• Easy moldability</li> <li>• Good adhesion to a variety of substrates</li> <li>• Excellent moisture resistance</li> <li>• Excellent environmental resistance</li> <li>• Simplified process flow</li> </ul>
<b>Application</b>	Molding compound thermoplastic
<b>Typical Application</b>	Encapsulation
<b>Flammability</b>	94 V-0
<b>Operating Temperature</b>	-40 to +125 °C

OM638 high performance thermoplastic polyamide is designed to meet low pressure molding process requirements. This product can be processed at low processing pressure due to its low viscosity, allowing encapsulation of fragile components without damage. This material produces no toxic fumes in process and provides a good balance of low and high temperature performance. OM638 is useful in applications requiring service temperatures as high as 125°C, such as in an automotive firewall.

OM638 meets UL 94 V-0 Flammability at 3.175mm thickness.

**LIQUID-STATE TYPICAL PROPERTIES**

Viscosity @ 210 °C, mPa·s (cP)	3,400
Specific Gravity @ 25 °C	0.98
Shelf Life @ 25°C, years	2
Softening Point, °C	170 to 180
Flash Point - See MSDS	

**TYPICAL PROCESS DATA****Handling:**

Molding Temperature, °C	200 to 240
Typical Cycle Time, seconds	30 to 75

OM638 has been formulated to provide the best possible moldability and as wide a molding latitude as possible. Much of the final molding parameters will be determined by the mold design. Although molding and curing conditions will vary from situation to situation, recommended starting ranges are shown above.

**SOLID-STATE PROPERTIES****Physical Properties:**

Coefficient of Thermal Expansion , ppm/°C:	
Below Tg	224
Glass Transition Temperature, °C	-36
Shore Hardness, Shore A	90
Elongation , at break,%	400

**Electrical Properties:**

Dielectric Constant / Dissipation Factor, IEC 60250:	
1MHz	3.6 / 0.076
1 GHz	2.7 / 0.023
1.8 GHz	2.9 / 0.042
Dielectric Strength, kV/mm	19
Volume Resistivity, ohms-cm	2.4×10 <sup>13</sup>

**TYPICAL PERFORMANCE OF SOLID-STATE MATERIAL**

Lap Shear Strength , ISO 4587:

Steel	N/mm <sup>2</sup>	189
	(psi)	(27,405)
FR4	N/mm <sup>2</sup>	1,290
	(psi)	(187,050)

**PERFORMANCE AND RELIABILITY DATA**

Surface Insulation Resistance (SIR) Testing IPC-TM-650	Pass
---	------

**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**

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

Macromelt®OM638 will absorb moisture from the air. Material from opened containers should be transferred immediately into air tight containers. Material should be stored in sealed containers in a cool dry location in order to maximize shelf life.

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 0.1