

# PRODUCT INFORMATION

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<i>Technical Data Sheet</i>																																											
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<b>PRODUCT</b>	<p><b>KEY TOUGH-COAT E90-78</b>  <b>Durable UV Resistant Exterior Clear Coating</b></p>																																										
<b>DESCRIPTION</b>	<p><b>KEY TOUGH-COAT E90-78</b> is a low viscosity, one component, UV resistant polymeric water-based urethane coating with excellent thermal shock resistance and outstanding mar, abrasion and chemical resistance. This one component (1K) pre-catalyzed, self-crosslinking coating does not require pre-mixing/activation with a second component, minimizing waste. With a 30 minute tack-free time regardless of ambient conditions, this coating is ideal for applications requiring multiple coats per day and for high output production demands. <b>TOUGH-COAT E90-78</b> is quick-drying and ready for light use within an hour and full service use within 24 hours. The resulting coating is a full strength, tough and durable coating that makes it ideal for sealing and substrate protection. The water-based formula allows for easy solvent-free water clean-up.</p>																																										
<b>ADVANTAGES AND APPLICATIONS</b>	<ul style="list-style-type: none"> <li>• One Component -Self Crosslinking</li> <li>• Excellent thermal shock resistance</li> <li>• Low VOC</li> <li>• Outstanding mar and abrasion</li> <li>• UV Resistant</li> <li>• Superb chemical resistance</li> <li>• Water-based formula</li> <li>• Quick dry - multiple coats per day</li> <li>• Low viscosity – self leveling</li> <li>• Strong adhesion to wood &amp; metal substrates</li> <li>• Wide curing temp range</li> <li>• Easy solvent-free, water clean-up</li> </ul>																																										
<b>PROPERTIES (Typical)</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Property</u></th> <th style="text-align: left;"><u>Unit</u></th> <th style="text-align: left;"><u>Value</u></th> </tr> </thead> <tbody> <tr> <td>Sheen</td> <td>@60°</td> <td>High-Gloss</td> </tr> <tr> <td>Weight Per Gallon</td> <td>lb/gal</td> <td>8.6</td> </tr> <tr> <td>Viscosity</td> <td>Sec at 77°F Zahn #2</td> <td>50-57</td> </tr> <tr> <td>Coverage</td> <td>ft<sup>2</sup>/gal</td> <td>480</td> </tr> <tr> <td>Shelf Life</td> <td>months</td> <td>12</td> </tr> <tr> <td>Weight Solids</td> <td>%</td> <td>38</td> </tr> <tr> <td>Volume Solids</td> <td>%</td> <td>37</td> </tr> <tr> <td>VOC</td> <td>g/l</td> <td>182</td> </tr> <tr> <td>VOC Content</td> <td>lb/gal</td> <td>1.52</td> </tr> <tr> <td>Storage</td> <td>°F</td> <td>40-100</td> </tr> <tr> <td>Boiling Point</td> <td>°C</td> <td>100</td> </tr> <tr> <td>Drying Time</td> <td>min</td> <td>15</td> </tr> <tr> <td>Light Use</td> <td>hours</td> <td>24</td> </tr> </tbody> </table>	<u>Property</u>	<u>Unit</u>	<u>Value</u>	Sheen	@60°	High-Gloss	Weight Per Gallon	lb/gal	8.6	Viscosity	Sec at 77°F Zahn #2	50-57	Coverage	ft <sup>2</sup> /gal	480	Shelf Life	months	12	Weight Solids	%	38	Volume Solids	%	37	VOC	g/l	182	VOC Content	lb/gal	1.52	Storage	°F	40-100	Boiling Point	°C	100	Drying Time	min	15	Light Use	hours	24
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<b>CURE SCHEDULE (Typical)</b>	<p>Tack-Free Time: 30 minutes at 25°C (77°F)            Full Cure: Within 24 hours</p>																																										
<b>INSTRUCTIONS FOR USE</b>	<p>Operating temperature range: 10°C to 110°C. Mix well before using, apply on a dust free surface, can be sprayed, brushed or rolled on.</p>																																										
<b>SAFETY AND HANDLING</b>	<p><b>PLEASE READ SAFETY DATA SHEET BEFORE USING.</b>            -Avoid all contact with skin, eyes, clothing and food.            -Wash thoroughly after handling.</p>																																										
<b>SHELF LIFE AND STORAGE INFO.</b>	<p>Store below 37°C (100°F) and avoid freezing to ensure a maximum shelf life of 12 Months. If frozen, warm to room temperature for 24 hours and mix well before using. Minimize exposure to air or oxygen to avoid premature oxidation.</p>																																										

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# PRODUCT INFORMATION

## Technical Data Sheet

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### PRODUCT

## KEY TOUGH-COAT E90-78 Durable UV Resistant Exterior Clear Coating

### QUV ACCELERATED WEATHERING TESTE

A wood and aluminum panel samples coated with **KEY Tough-Coat E90-78** were subjected to 1000 hours of QUV study at 45°C, Actual Irradiance – 0.77 W/m<sup>2</sup>/nm at 340 nm Wavelength. The panels were evaluated by recording Gloss unit value at 20° and 60° as well as Brightness Level (L\*), Green to Red Level (a\*), Blue to Yellow Level (b\*) and Change in Color ( $\Delta e$ ). Figures 1 and 2 are included for reference purposes. Pictures of the coated panels are shown in figure 3. Results illustrated in figure 4 below demonstrates that KEY Tough-Coat E90-78 is highly resistant to UV weathering demonstrated by the coatings gloss, brightness and color stability. Post-test inspection of sample demonstrate the coating ability to protect of the underlying substrate by blocking UV and preventing blistering and dis-bondment.

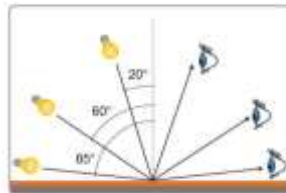


Figure 1: Angular Reflection of Gloss

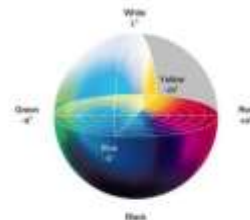


Figure 2: L\*a\*b\* Color Space



Figure 3: wood and aluminum panel samples coated with **KEY Tough-Coat E90-78**

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PRODUCT

**KEY TOUGH-COAT E90-78**  
Durable UV Resistant Exterior Clear Coating

*Technical Data Sheet*

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QUV  
ACCELERATED  
WEATHERING  
TESTE



Figure 4: QUV study results for **KEY Tough-Coat E90-78**

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# PRODUCT INFORMATION

## KEY POLYMER CONDITIONS OF SALE

Key Polymer does not accept any terms or conditions of sale or make any warranties, expressed or implied, other than those contained in this Statement or in any existing written contract between the seller and buyer covering Key Polymer Corporation Products.

### USER'S RESPONSIBILITY:

Key Polymer product usage suggestions, bulletins and manuals cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined if or where additional precautions or procedures may be necessary. All health and safety information contained in Key Polymer's Material Safety Data Sheets for the products being used should be provided to all employees with exposure to the product. It is the responsibility of the user to provide this information in this manner and to use the information to develop appropriate work practice guidelines and employee instructional programs.

### ORDER ACCEPTANCE:

Orders are accepted upon the understanding that seller is not obligated to make delivery by any specified date nor liable for damage due to delay or failure in filling order caused by contingencies beyond its control. If delivery dates are specified, they are estimates only and not guaranteed. In the event of unreasonable delay in filling order, buyer may cancel same on written notice to seller, provided said order is not then in process of manufacture.

### EXCISE TAXES:

The amount of excise taxes on the production, sale, delivery or transportation of material covered hereby shall be paid by the buyer.

### DISCLAIMER OF LIABILITY:

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

Buyer shall make an examination both as to quantity and quality of any material delivered hereunder immediately upon receipt and failure of buyer to give notice of any claims within 15 days after receipt of such material shall be an unqualified acceptance of such material and a waiver by buyer of all claims with respect hereto.

### LIABILITY LIMITATION:

Buyer assumes all risk and liability for the results obtained by the use of any material delivered by Key Polymer in the manufacturing processes of buyer or in combination with other substances in manufacturing and repair processes of buyer or in combination with other substances. No claim of any kind, whether as to material delivered or for non-delivery of material, shall be greater in amount than the purchase price of this material in respect of which such claim is made.

KEY POLYMER CORP.  
LAWRENCE, MA 01843

REV AB  
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