ENCOR® Flex 187 is a high solids, all-acrylic latex designed for elastomeric roof and wall coatings. With its inherent dirt pick-up resistance, this polymer meets the requirements of the “Leadership in Energy and Environmental Design (LEED) Green Building Rating System” and the U.S. Environmental Protection Agency/Department of Energy’s “Energy Star” program, as well as requirements from other federal, state and private regulating bodies.

Properly formulated, ENCOR® Flex 187 also meets the requirements of ASTM D-6083 (“Standard Specification for Liquid Applied Acrylic Coating used in Roofing”) and the “Cool Roof Rating Council’s (CRRC)” product rating program for reflectance and emittance at VOC levels less than 50 grams per liter.

**Polymer Design**
- 100% Acrylic Latex
- High solids for greater formulating latitude
- Low VOC Capable (<50 g/L)

**Performance Benefits**
- UV initiated crosslinking for enhanced dirt pick-up resistance
- Passes Wind Driven Rain test
- Cement compatible
- Meets requirements of ASTM D-6083

**Typical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymer Type</td>
<td>Acrylic</td>
</tr>
<tr>
<td>Total Solids, % by weight</td>
<td>60</td>
</tr>
<tr>
<td>Weight per Gallon, lb</td>
<td></td>
</tr>
<tr>
<td>Latex</td>
<td>8.9</td>
</tr>
<tr>
<td>Polymer</td>
<td>9</td>
</tr>
<tr>
<td>pH Value</td>
<td>8.0</td>
</tr>
<tr>
<td>Particle Size, microns</td>
<td>0.45</td>
</tr>
<tr>
<td>Viscosity, 25°C, (Brookfield, RVT, #6, 60 rpm), cP</td>
<td>150</td>
</tr>
<tr>
<td>Glass Transition Temperature (Tg), midpoint, °C</td>
<td>-18</td>
</tr>
<tr>
<td>Clear Film Properties</td>
<td></td>
</tr>
<tr>
<td>Ultimate Tensile Strength, psi</td>
<td>129</td>
</tr>
<tr>
<td>Ultimate Elongation, %</td>
<td>1330</td>
</tr>
</tbody>
</table>

1 Typical values not to be construed as sales specifications.
ENCOR® Flex 187 has excellent tear strength across PVC range.

**Tear Strength**

![Graph showing tear strength at different PVC levels](image)

ENCOR® Flex 187 displays excellent elongation across the temperature range while maintaining outstanding tensile strength.

**Tensile and Elongation Properties (40% PVC)**

![Graphs showing elongation and tensile strength](image)

ENCOR® Flex 187 displays excellent elongation across the temperature range while maintaining outstanding tensile strength.
ENCOR® Flex 187
All-Acrylic Latex for Elastomeric Coatings

**Water Resistance**

*Permeance*

ENCOR® Flex 187 maintains low perms across the PVC range

**Water Swelling**

ENCOR® Flex 187 demonstrates low water uptake (swelling) across the PVC range

*The physical and paint property data listed are considered to be typical properties, not specifications.*
**Accelerated Dirt Pick-Up Resistance**

* Coatings tested after 100 hours QUV.

ENCOR® Flex 187 demonstrates substantial improvement in dirt pick-up resistance versus a competitive latex across the PVC range.

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**Initial Film** | **Standard elastomeric coating after accelerated DPR testing** | **Coating based on ENCOR® Flex 187**
## Starting Pont Formulations
### ENCOR® Flex 187 Formulation

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Lbs</th>
<th>Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pigment Grind</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>128.0</td>
<td>15.4</td>
</tr>
<tr>
<td>Coadis™ 123K</td>
<td>25.5</td>
<td>2.9</td>
</tr>
<tr>
<td>Surlyn® 104E</td>
<td>2.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Propylene Glycol</td>
<td>17.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Foamaster® NXZ</td>
<td>1.5</td>
<td>0.2</td>
</tr>
<tr>
<td>Ti-Pure® R-960</td>
<td>105.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Drikalite®</td>
<td>375.0</td>
<td>16.6</td>
</tr>
<tr>
<td>Polyphase® 663</td>
<td>7.0</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Letdown</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENCOR® Flex 187</td>
<td>502.7</td>
<td>57.8</td>
</tr>
<tr>
<td>Ester alcohol cosolvent</td>
<td>4.1</td>
<td>0.5</td>
</tr>
<tr>
<td>Foamaster® NXZ</td>
<td>4.1</td>
<td>0.5</td>
</tr>
<tr>
<td>Ammonium Hydroxide (28% aq.)</td>
<td>1.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Natrasol® Plus 330</td>
<td>3.0</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1177.2</td>
<td>100.00</td>
</tr>
</tbody>
</table>

### Paint Properties:
- Weight Solids, % 65.9
- Volume Solids, % 51.4
- PVC, % 39.7
- VOC, lb/gal 0.44
- VOC, g/L 50.0
- Density, lb/gal 11.73
- Total Pigment, % 40.92
- Non-volatile Binder, % 23.56
- Coalescent Level, % 1.48
- Dispersant Level, % 1.168

### Formulating Guidelines
- Avoid associative thickeners due to water sensitivity
- Extenders should be limited to low oil absorption and particle sizes above 10μm
- Keep pigment volume concentration less than 45%; higher PVCs can lower adhesion results
- Field testing is recommended to assure adhesion

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Surlyn® is a registered trademark of Air Products & Chemicals Inc.
Foamaster® is a registered trademark of Cognis IP Management GmbH
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**Product Safety**

Before handling the materials listed in this bulletin, read and understand the product SDS (Safety Data Sheet) for additional information on personal protective equipment and for safety, health, and environmental information. For environmental, safety and toxicological information, contact our Customer Service Department at 1-866-837-5532 to find a SDS, or visit our web site: www.arkemacoatingresins.com

No chemical should be used as or in a food, drug, medical device, or cosmetic, or in a product or process in which it may contact a food, drug, medical device, or cosmetic until the user has determined the suitability and legality of the use. Since government regulations and use conditions are subject to change, it is the user's responsibility to determine that this information is appropriate and suitable under current, applicable laws and regulations.

Arkema Coating Resins requests that the customer read, understand, and comply with the information contained in this publication and the current SDS(s). The customer should furnish the information in this publication to its employees, contractors, and customers, or any other users of the product(s), and request that they do the same.

**Storage and Handling**

Follow procedures typically recommended for polymer dispersions. Use corrosion-resistant storage tanks and piping. Air-operated diaphragm pumps are preferred.

Packaged material should be stored indoors in the original unopened and undamaged container, in a dry place. Exposure to direct sunlight should be avoided.

Avoid extreme temperatures. Do not freeze; store between 40-90°F (4-32°C).

For more details, refer to “Storage and Handling of Arkema Coating Resins Products – A Basic Guide”.

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**ENCOR® Flex 187**

All-Acrylic Latex for Elastomeric Coatings

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