

ENCOR® 636 ACRYLIC LATEX

MULTI-PURPOSE BINDER FOR LOW VOC,
SUSTAINABLE ARCHITECTURAL FORMULATIONS



Product Description

ENCOR® 636 acrylic latex provides a good balance of properties for both interior and exterior formulations compared to our typical acrylic binders. The binder meets the requirements of Arkema's EnVia® certification program¹, and is low VOC-capable, making it suitable for flat to gloss formulations that satisfy both performance and sustainable formulating requirements.

Polymer Design

- 100% acrylic

Performance Benefits

- APEO-Free – ENCOR® 636 acrylic latex meets EnVia® standards, including no use of APEO surfactants.
- Delivers excellent gloss development, good adhesion and grain crack resistance, making it suitable for both interior and exterior formulations.
- Formulations based on ENCOR® 636 acrylic latex show excellent rheology, stability and color acceptance.
- Offers an excellent balance of cost and performance in a low VOC-capable binder.

Typical Properties²

| | |
|--|-----|
| Total Solids, % by weight | 50 |
| Weight per Gallon, lbs | 8.6 |
| pH Value | 9.0 |
| Particle Size, µm | 0.2 |
| Viscosity, Brookfield, cP | 300 |
| Minimum Filming Temperature (MFFT), °C | 20 |
| Glass Transition Temperature (T _g), °C | 29 |

¹ These products meet the standards of Arkema Coating Resin's EnVia® program. These products are designed to assist formulators in meeting their sustainability and regulatory goals in their finished products.

² Typical values not to be construed as sales specifications.



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Performance Evaluations

ENCOR® 636 acrylic latex offers the formulator a balance of properties in formulations for both interior and exterior coatings.

- Good exterior durability
 - good alkali and efflorescence resistance
 - good adhesion
 - grain crack resistance
- Good interior performance properties
 - good scrub and washability
 - good adhesion
 - good block resistance
 - good gloss retention

The information that follows details paint performance using two formulations based on ENCOR® 636 acrylic latex – one flat and one gloss formulation, both under 5 g/l VOC.

Starting Point Formulation

Flat Paint Formulation

| Ingredients | Lbs |
|---------------------------------------|---------|
| Pigment Grind | |
| Water | 250.55 |
| Natrosol™ 250 HBR | 3.80 |
| Ecodis™ P50 | 1.85 |
| Proxel™ GXL | 3.01 |
| AMP-95® | 0.96 |
| FoamStar® ST 2436 (was FoamStar® A36) | 0.99 |
| Tiona® 595 | 107.50 |
| NYAD® 400 | 46.54 |
| BURGESS OPTIWHITE™ | 186.36 |
| DRICALITE® | 251.72 |
| Optifilm™ 400 | 6.00 |
| ENCOR® 636 | 131.50 |
| Water | 14.22 |
| FoamStar® ST 2436 (was FoamStar® A36) | 1.00 |
| TOTAL | 1006.00 |

Typical Paint Properties*

| | |
|------------------|----|
| PVC, % | 76 |
| Volume Solids, % | 44 |
| VOC, g/L | <5 |

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Starting Point Formulation

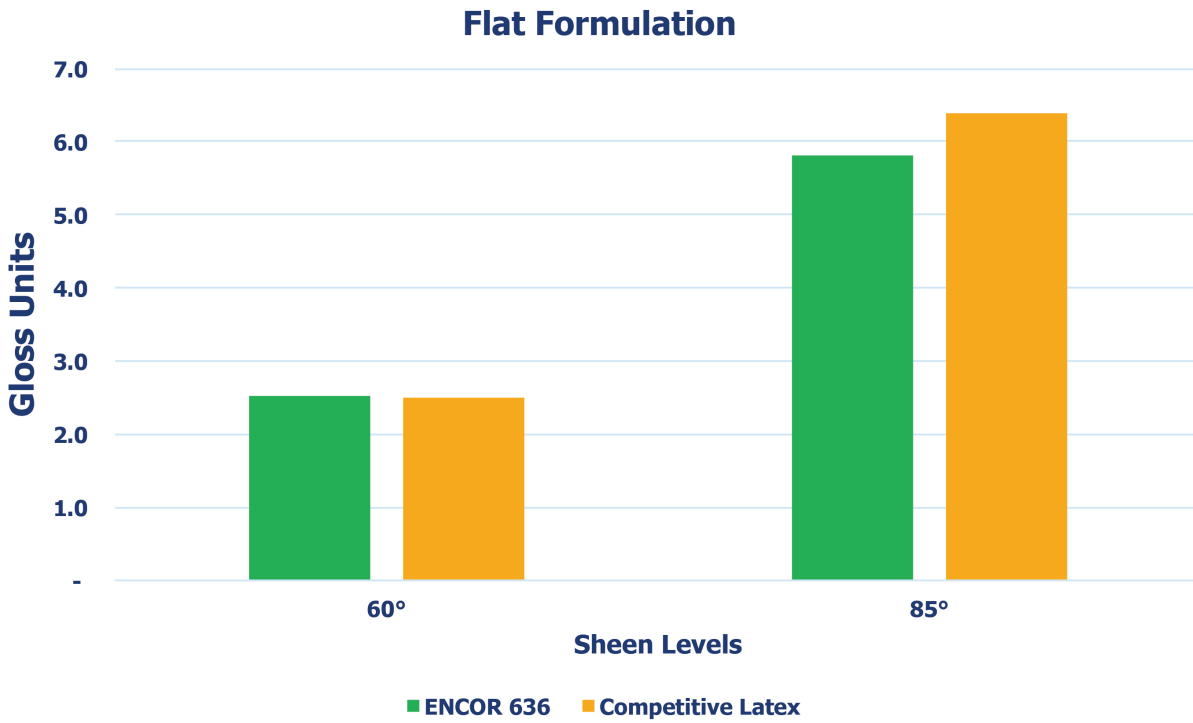
Gloss Paint Formulation

| Ingredients | Lbs |
|---------------------------------------|---------|
| Pigment Grind | |
| Water | 52.00 |
| PROXEL™ GXL | 2.00 |
| FoamStar® ST 2436 (was FoamStar® A36) | 1.50 |
| Coadis™ 123K | 10.00 |
| Tiona® 595 | 210.00 |
| NaOH 20% | 7.00 |
| Coapur™ 2025 | 30.50 |
| Coapur™ 817W | 4.50 |
| FoamStar® ST 2436 (was FoamStar® A36) | 1.00 |
| Optifilm™ 400 | 30.00 |
| ENCOR® 636 | 540.08 |
| Water | 141.50 |
| TOTAL | 1030.08 |

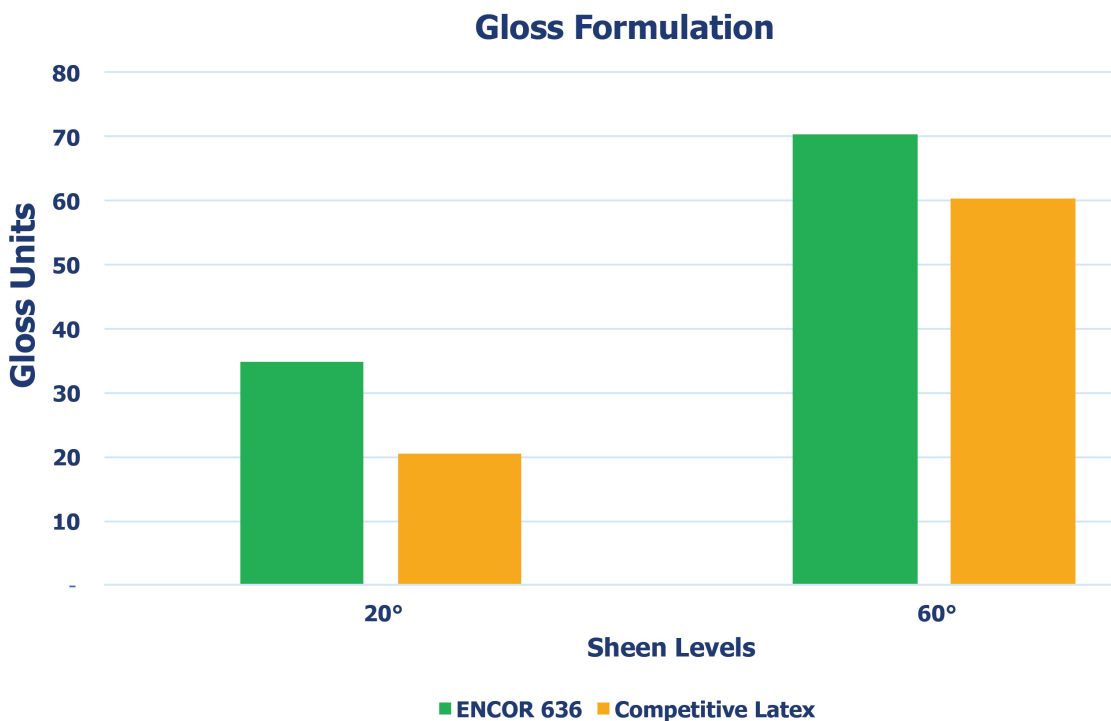
Typical Paint Properties*

| | |
|------------------|----|
| PVC, % | 18 |
| Volume Solids, % | 37 |
| VOC, g/L | <5 |

Sheen Development



ENCOR® 636 develops flat appearance at same or better levels as competitive acrylic latex.

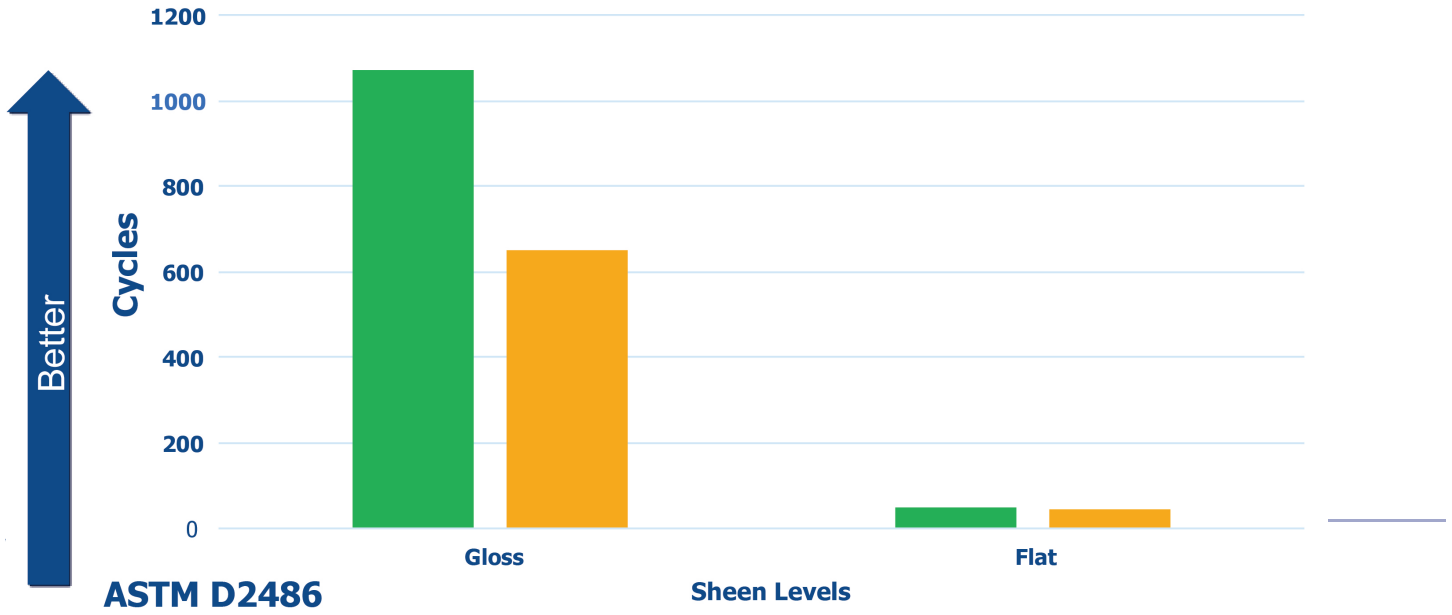


ENCOR® 636 displays superior gloss development.

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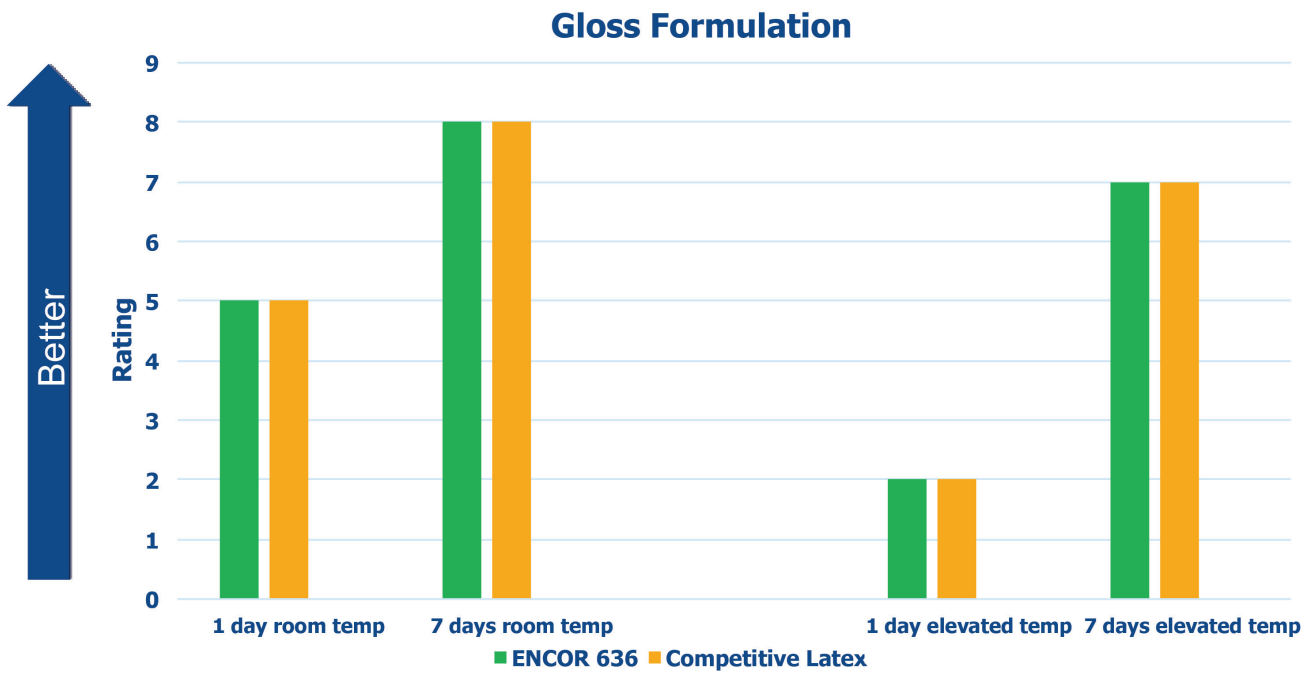
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Scrub Resistance



ENCOR® 636 delivers superior scrub resistance compared to competitive acrylic latex.

Block Resistance



ENCOR® 636 displays equivalent block resistance to competitive acrylic latex (via ASTM D4946).

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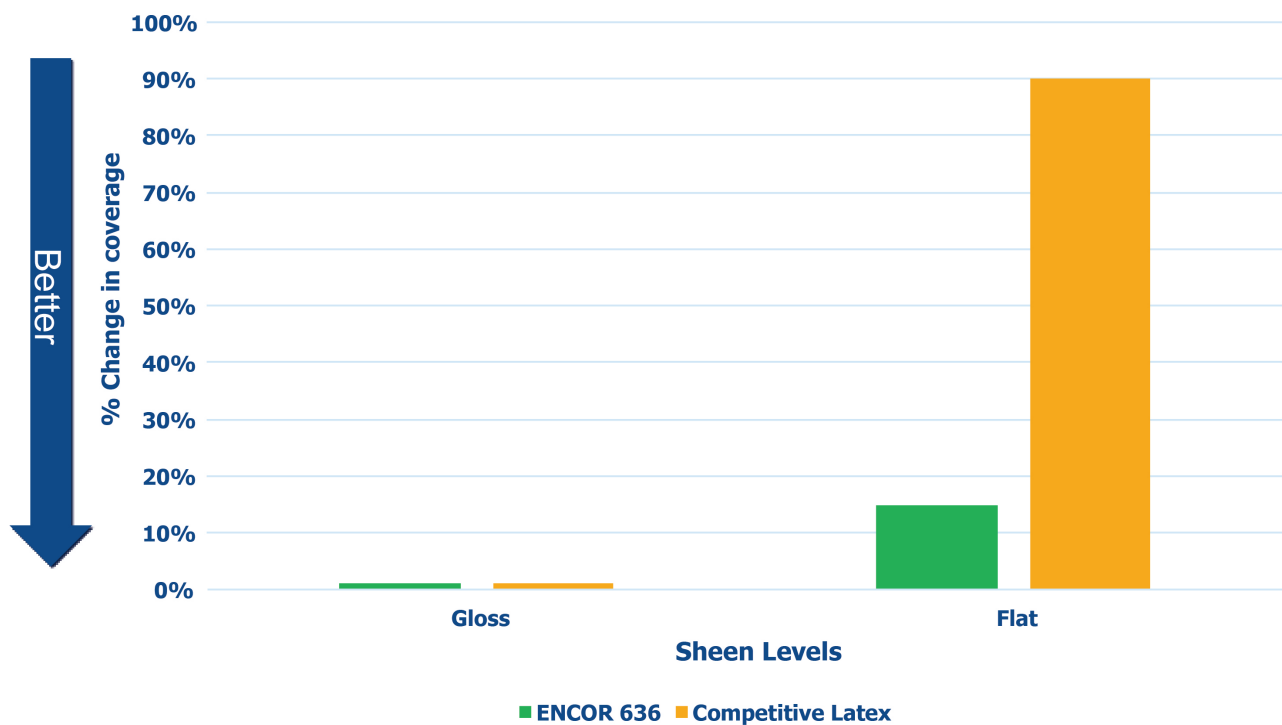
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Wet Adhesion



ENCOR® 636 displays wet adhesion equivalent to competitive technology.

Efflorescence Resistance

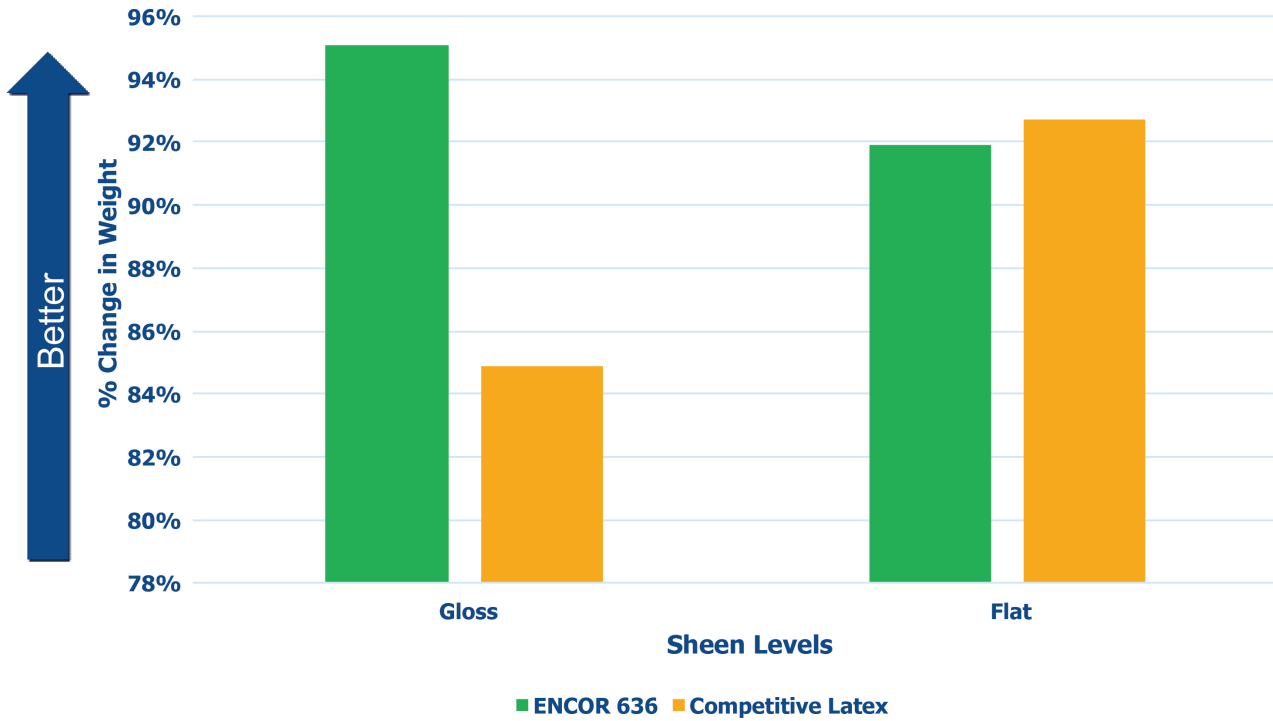


Formulations based on ENCOR® 636 display superior efflorescence resistance.

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MULTI-PURPOSE BINDER FOR LOW VOC, SUSTAINABLE ARCHITECTURAL FORMULATIONS

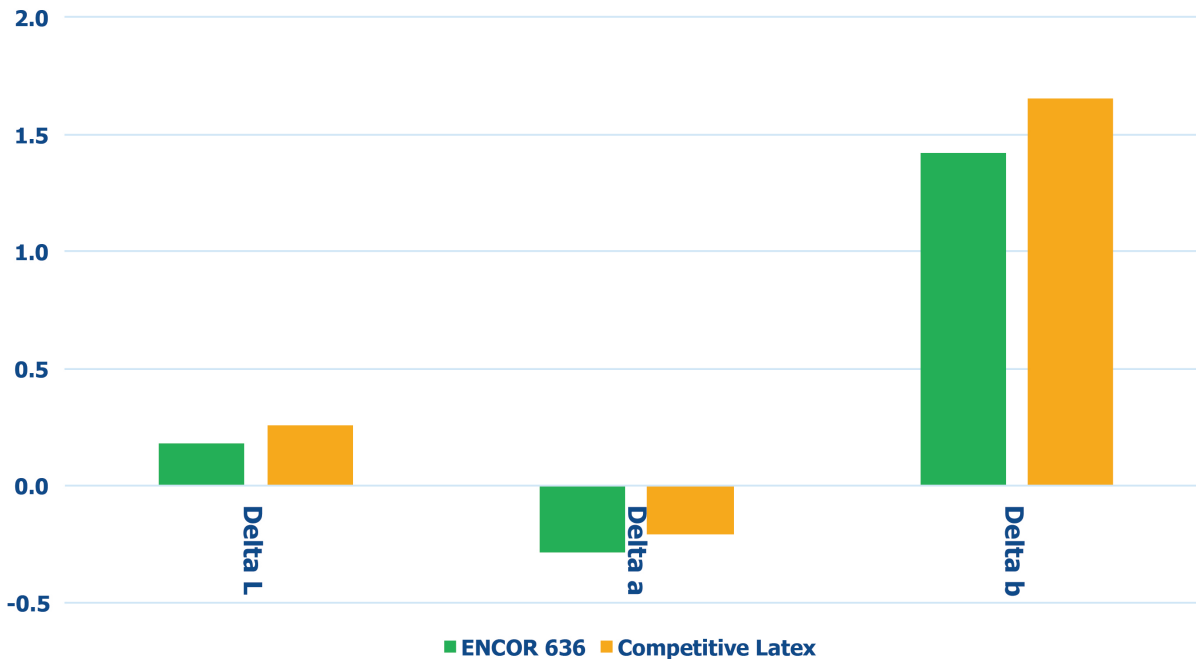
Alkali Resistance



Formulations based on ENCOR® 636 display superior alkali resistance.

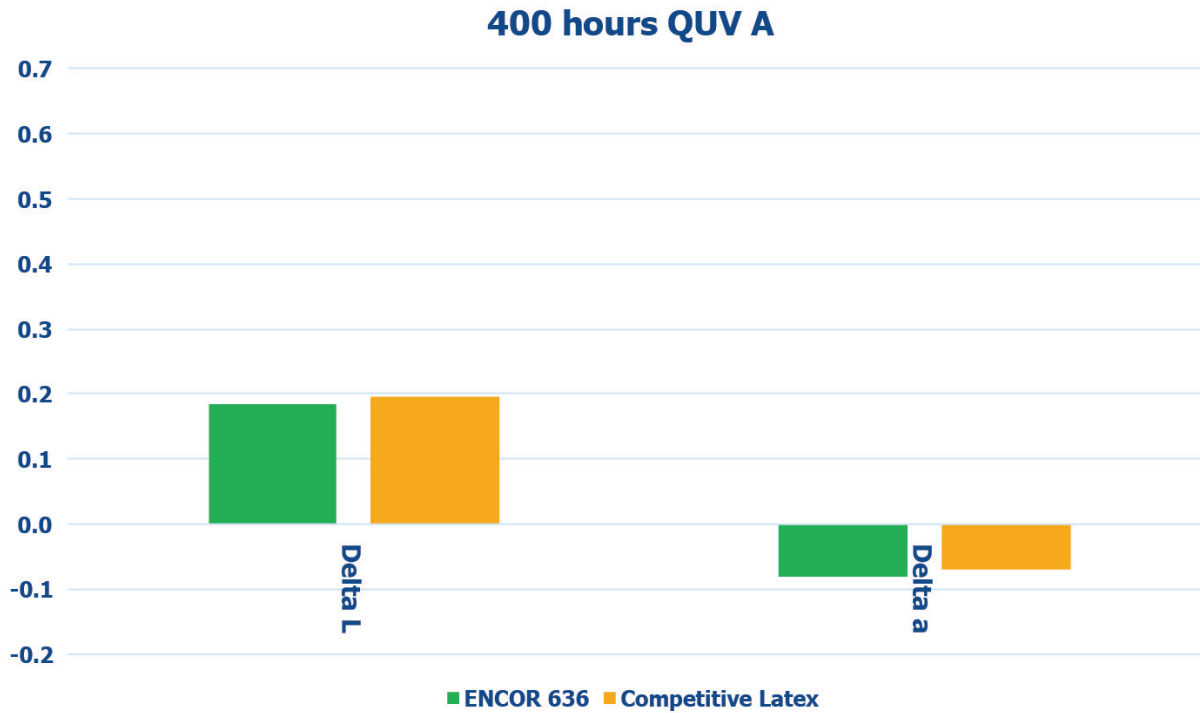
Color Retention

400 hours QUV A



In accelerated weathering, ENCOR® 636 flat formulations demonstrate excellent color retention.

Color Retention (continued)



No UV absorber added.

In accelerated weathering ENCOR® 636 gloss formulations demonstrate excellent color retention.

Formulating Suggestions

Dispersant Choice

- Many standard pigment dispersants work well with ENCOR® 636 latex.
- For low VOC formulations, Coadis™ 144 A offers good washability performance when used in combination with low VOC coalescing agents such as Optifilm™ 400 or K-FLEX® 975P.
- Coadis™ 123 K and Ecodis™ P 90 dispersants also have demonstrated solid performance in combination with Optifilm™ 400.

Thickener Choice

- Coatex offers a wide variety of thickeners for paint formulation:
- Rheotech™ 3800 offers the best washability performance
- Coapur™ 975W offers very good urethane thickening at low VOC
- Coapur™ 817W offers very good overall performance
- Coapur™ 2025 offers excellent film build properties

Product Safety

Before handling the materials listed in this bulletin, read and understand the product MSDS (Material 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 an MSDS, 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.

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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".



Arkema Coating Resins
410 Gregson Dr.
Cary, NC 27511
Telephone:
1.800.777.8227

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