

ENCOR® 631

HIGH PERFORMANCE ACRYLIC LATEX FOR ARCHITECTURAL COATINGS



Product Description

ENCOR® 631 is a high performance 100% acrylic latex that can be formulated from flat to high gloss coatings for both interior and exterior applications. It allows coatings formulators the ability to meet the rigorous demands of interior/exterior coatings and a wide variety of environmental initiatives. ENCOR® 631 latex is certified in the EnVia® program.

Polymer Design

- 100% acrylic
- No added alkyl phenol ethoxylates (APEO) surfactants
- No added formaldehyde or added formaldehyde donors¹
- Low VOC capable from 0-50 g/L
- Low odor

Performance Benefits

- Excellent block resistance
- Outstanding gloss development
- Excellent scrub resistance
- Good washability
- Outstanding adhesion over a wide range of substrates
- Excellent exterior durability

Typical Properties²

| | |
|--|---------|
| Total Solids, % by weight | 50 |
| Weight per Gallon, lbs | 8.9 |
| pH Value | 8.5-9.5 |
| Particle Size, µm | 0.13 |
| Viscosity, Brookfield, cP | <500 |
| Minimum Filming Temperature (MFFT), °C | 0 |

¹ Formaldehyde is a trace material in our environment, and there is no accepted regulatory or common definition of "formaldehyde free."

² The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications.

* 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.



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The following is a list of the starting point formulations for exterior flat and exterior semigloss formulations.

Starting Point Formulation

Exterior Flat Paint Formulation

| Ingredients | Lbs | Gallons |
|-------------------------------------|-------|---------|
| Pigment Grind | | |
| Water | 200.0 | 24.0 |
| CELLOSIZETM QP-4400 | 2.0 | 0.2 |
| Tetrapotassium pyrophosphate (TKPP) | 1.5 | 0.1 |
| TAMOL® 1124 | 5.0 | 0.5 |
| PROXEL® GXL | 2.0 | 0.2 |
| TRITON™ CF-10 | 3.0 | 0.3 |
| DREWPLUS™ L-475 | 2.0 | 0.2 |
| Propylene glycol | 12.0 | 1.4 |
| TI-PURE® R-706 | 220.0 | 6.6 |
| MINEX® 4 | 125.0 | 5.7 |
| NYTAL® 300 | 50.0 | 2.1 |
| Eagle Zinc™ 417W | 25.0 | 0.5 |

Thindown

| | | |
|----------------------|---------------|--------------|
| ENCOR® 631 | 363.0 | 40.8 |
| DREWPLUS™ L-475 | 1.0 | 0.1 |
| AMP™ 95 | 1.0 | 0.1 |
| Water | 100.0 | 12.0 |
| ACRYSOL® RM-2020 NPR | 5.0 | 0.6 |
| SKANE® M-8 | 1.0 | 0.1 |
| Water | 50.0 | 6.0 |
| TOTAL | 1170.5 | 101.5 |

Typical Paint Properties*

| | |
|-------------------|-------|
| Weight Solids, % | 54.1 |
| Volume Solids, % | 35.5 |
| PVC,% | 41.5 |
| VOS, lb/gal | 0.38 |
| VOC, g/L | 45.3 |
| Specific Gravity | 1.38 |
| Pounds per Gallon | 11.48 |

Starting Point Formulation

Exterior Semigloss Formulation

| Ingredients | Lbs | Gallons |
|--------------------------|-------|---------|
| Pigment Grind | | |
| Water | 110.0 | 13.2 |
| CELLOSIZETM QP-300 | 1.0 | 0.4 |
| Propylene Glycol *** Mix | 10.0 | 1.2 |
| KATHONTM LX 1.5% | 1.8 | 0.2 |
| RHODOLINE® 286N | 5.5 | 0.6 |
| TRITONTM CF-10 | 3.0 | 0.3 |
| DREWPLUSTM L-475 | 2.0 | 0.2 |
| TIPURE® R-900 | 240.0 | 7.2 |
| OMYACARB® UF | 60.0 | 2.7 |
| AMP™ 95 | 2.0 | 0.3 |
| POLYPHASE® 633 | 8.0 | 0.9 |

Letdown

| | | |
|-------------------------|---------------|--------------|
| ENCOR® 631 | 500.0 | 56.2 |
| Water | 132.0 | 15.8 |
| AMP™ 95 | 1.0 | 0.1 |
| DREWPLUSTM L-475 | 2.4 | 0.3 |
| POLYPHOBE® TR116 | 2.0 | 0.2 |
| Ester alcohol cosolvent | 4.0 | 0.5 |
| TOTAL | 1084.7 | 100.3 |

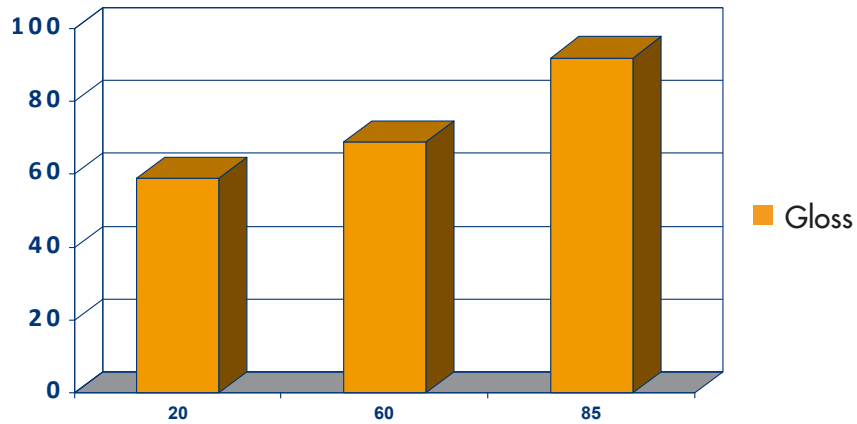
Typical Paint Properties*

| | |
|-------------------|-------|
| Weight Solids, % | 54.1 |
| Volume Solids, % | 39.0 |
| PVC, % | 25.3 |
| VOS, lb/gal | 0.40 |
| VOC, g/L | 47.7 |
| Specific Gravity | 1.30 |
| Pounds per Gallon | 10.84 |

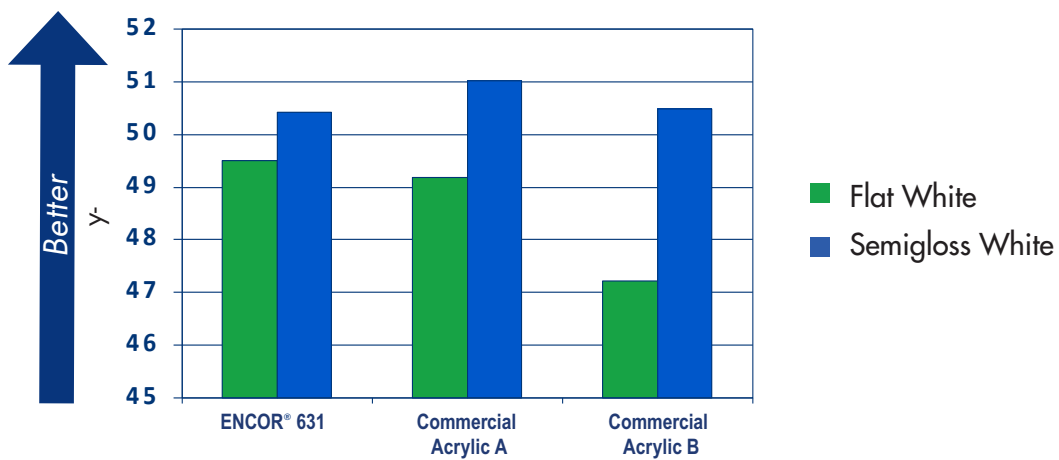
ENCOR® 631

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Gloss Potential

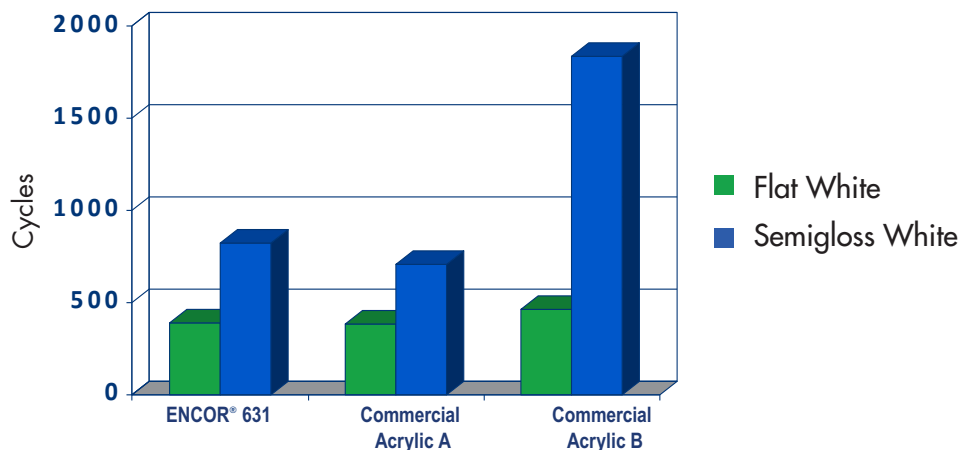


Tint Strength



ENCOR® 631 offers excellent tint strength consistency.

Scrub Resistance

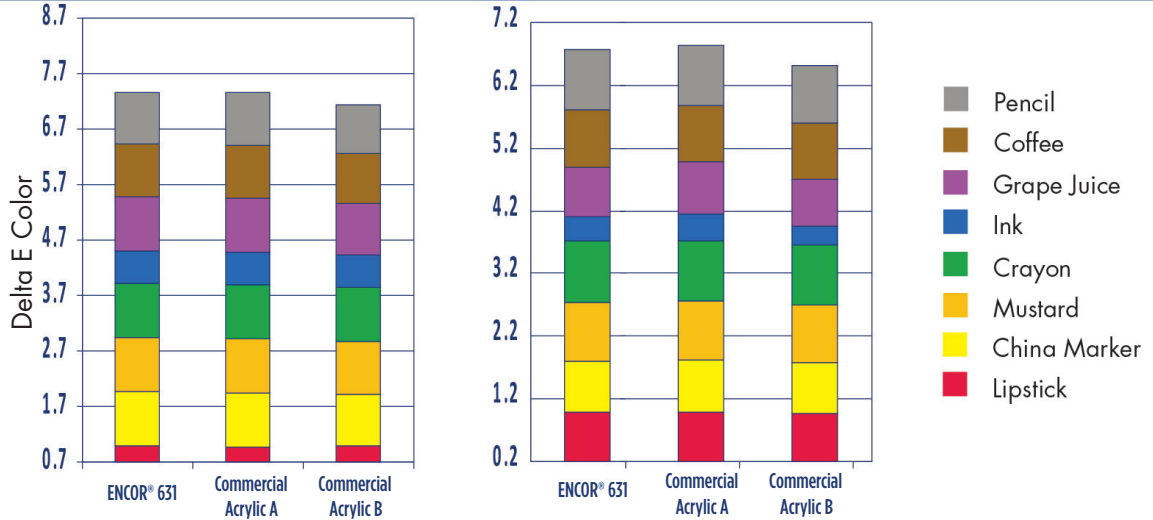


ENCOR® 631 offers good scrub resistance, improved performance is obtainable with formulation.

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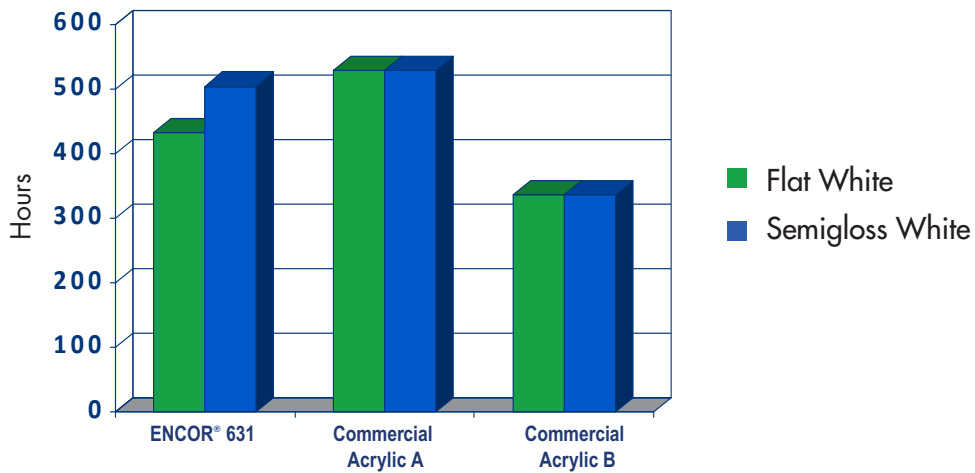
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Washability



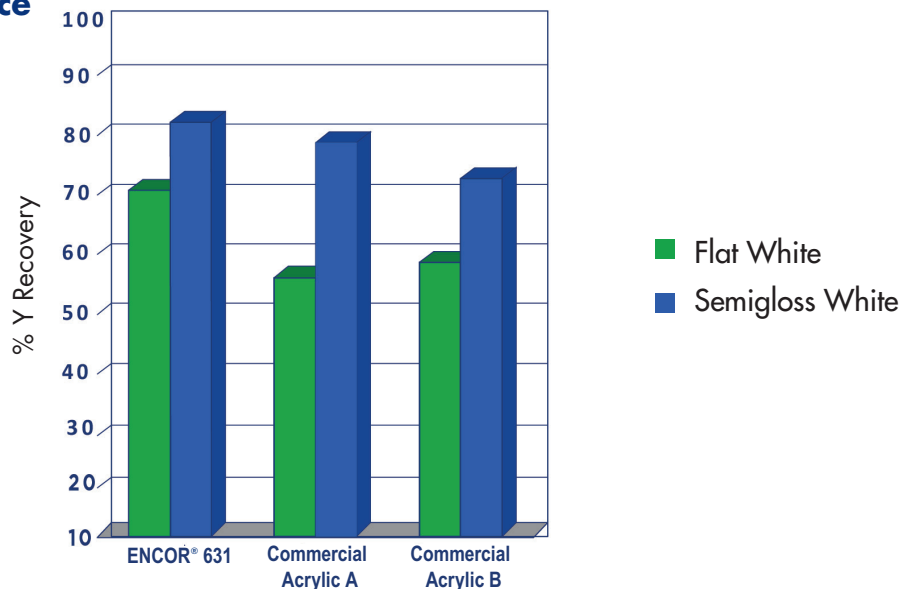
ENCOR® 631 offers equal to better washability than competitive Low VOC latexes.

Alkali Resistance



ENCOR® 631 offers alkali resistance equal to the commercial acrylic.

Dirt Pickup Resistance



ENCOR® 631 offers good dirt pickup resistance.

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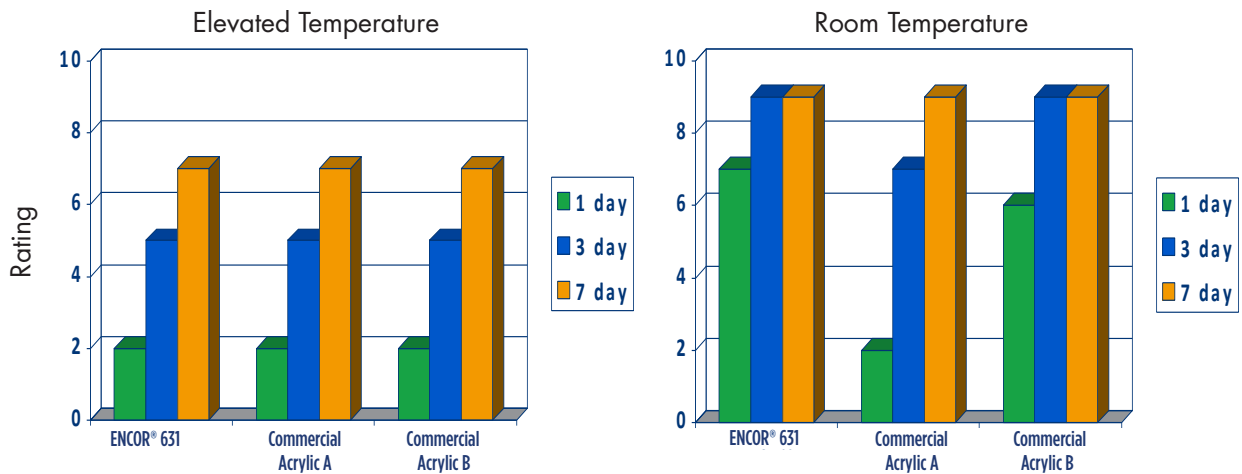
Exterior Durability – Flat Formulation



ENCOR® 631 offers excellent exterior durability

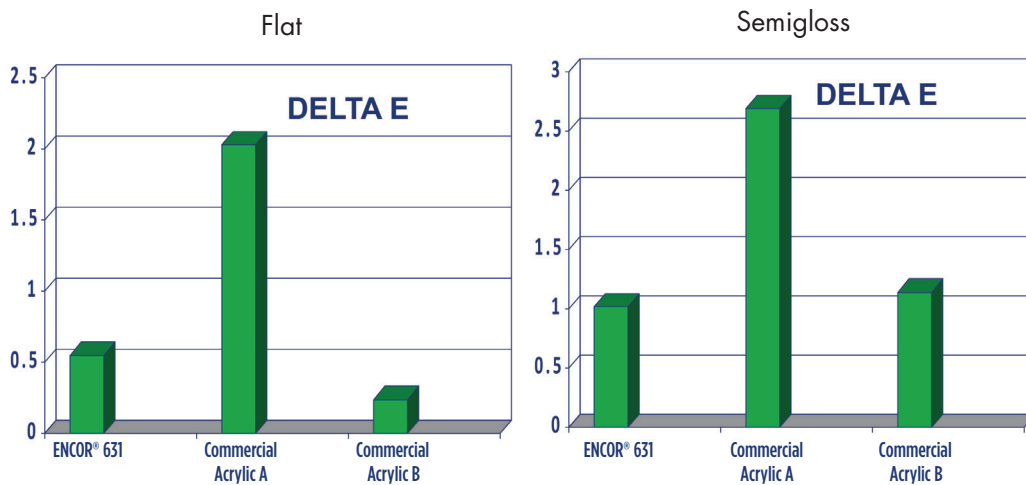
- masonry panels
- 4 plus years of exterior exposure in Cary, NC

Block Resistance – Semigloss Formulation



ENCOR® 631 has excellent block resistance when evaluated in whites to deep tint base color at both room and elevated temperatures

Wet Croak - Deep Tint - Color Rub Off

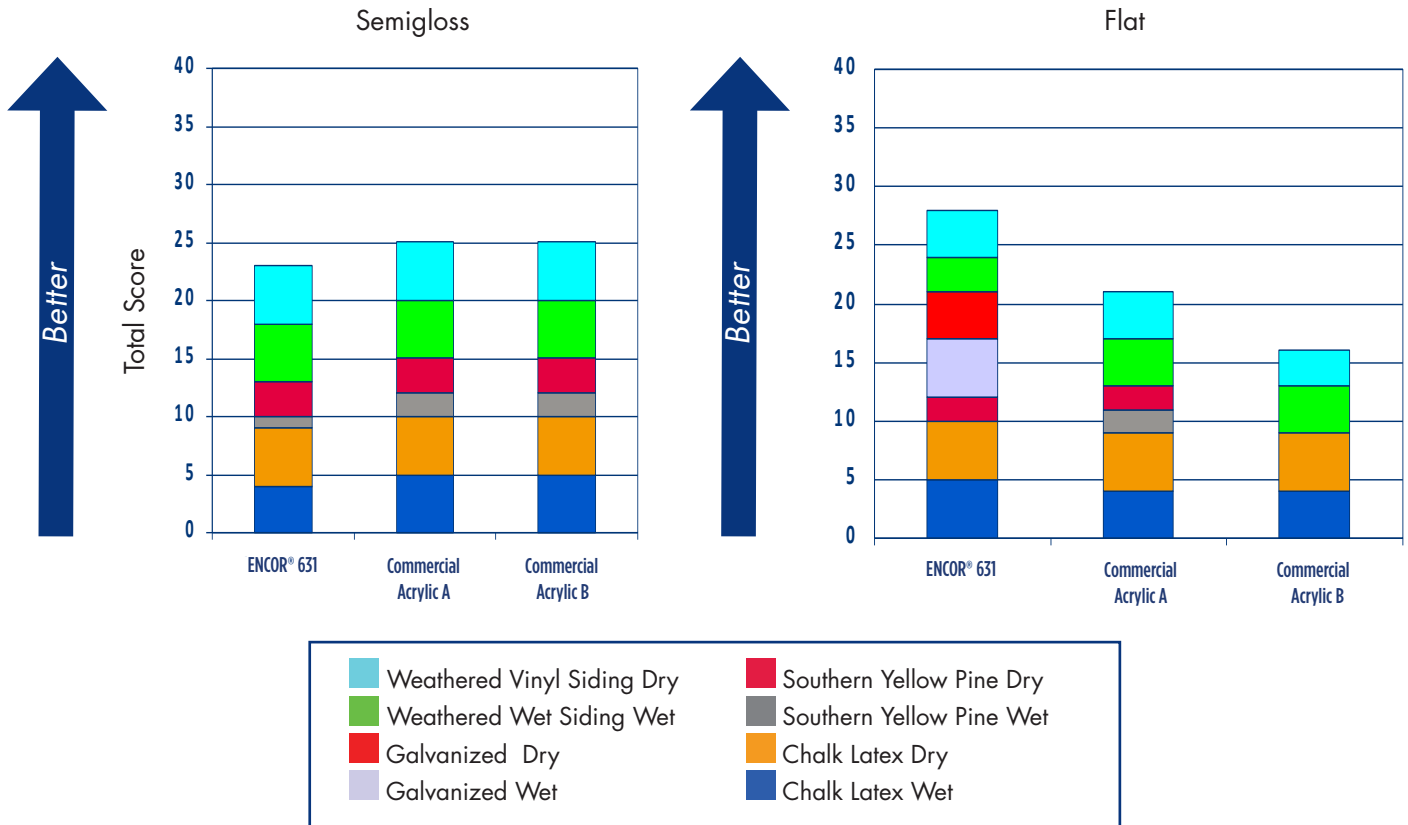


ENCOR® 631 offers excellent color rub off resistance in deep colors

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Adhesion - Tape Pull



ENCOR® 631 demonstrates equal to better adhesion over a wide selection of substrates

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".



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