

ENCOR® 657

VERSATILE HIGH SOLIDS 100% ACRYLIC LATEX FOR INTERIOR, EXTERIOR AND MASONRY COATINGS



Product Description

ENCOR® 657 latex is a 100% acrylic high solids binder that can be formulated into coatings for masonry, interior wall paints and exterior architectural coatings that display an excellent balance of cost and performance.

ENCOR® 657 latex is especially well suited for masonry coatings, offering excellent alkali and efflorescence resistance in formulations.

Interior flat wall paints based on ENCOR® 657 latex exhibit outstanding washability and color retention.

Exterior coatings based on ENCOR® 657 latex shows good durability. The polymer can be blended with wet adhesion promoters to allow formulation of a wide range of cost-effective exterior paints. ENCOR® 657 latex is certified in the EnVia® program.

Polymer Design

- High solids
- 100% acrylic
- No added alkyl phenol ethoxylates (APEO) surfactants
- No added formaldehyde or added formaldehyde donors¹

Performance Benefits

- Alkali and efflorescence resistance in masonry coatings
- Cost-effective performance in interior and exterior paints
- Good stain resistance
- Good adhesion on masonry substrates in exterior formulations
- Very good color retention

Typical Properties²

Total Solids, % by weight	58
Weight per Gallon, lbs	8.9
pH Value	9.0
Particle Size, µm	0.30
Viscosity, Brookfield, cP	500
Minimum Filming Temperature (MFFT), °C	14
Glass Transition Temperature (T _g), °C	16

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 interior flat formulations.

Starting Point Formulation - Flat

Exterior White House Paint with Zinc Oxide

Ingredients	Lbs	Gallons
Pigment Grind		
Water	124.2	14.90
Ammonium Hydroxide, 28% aqueous solutions	1.8	0.24
PROXEL® GXL biocide	2.0	0.21
RHODOLINE® 226/35	8.3	0.93
RHODOLINE® 640	1.9	0.18
TRITON™ Nonionic Surfactant X-100	3.2	0.36
Propylene Glycol	31.2	3.63
Potassium Tripolyphosphate (KTPP)	1.5	0.07
Ti-Pure® R-706	219.6	6.41
Eagle Zinc™ 417-W	24.4	1.05
MINEX® 4	122.9	5.65
VANSIL® W-40	48.8	5.15
Letdown		
ENCOR® 657	184.0	20.67
ENCOR® 6046	231.0	26.25
Ester Alcohol Cosolvent	10.4	1.31
RHODOLINE® 640	1.9	0.18
SKANE® M-8	2.2	0.25
Ammonium Hydroxide, 28% aqueous solutions	0.9	0.12
Water	96.6	11.59
POLYPHOBE® TR-116	2.0	0.22
POLYPHOBE® TR-117	20.4	2.27
TOTAL	1137.3	101.46

Typical Physical Properties*

Pigment Volume Concentration (PVC), %	34.1
Total Solids, %	
by weight	39.2
by volume	54.2
pH value	9.1
Stormer Viscosity, KU	98 ≤2
ICI, poise	1.7
Brookfield Viscosity, poise	200
Freeze-Thaw Stability, cycles passed	>5
Heat-aged Stability, 120 °F, weeks passed	>2
Opacity, 3-mil drawdown	96.7
Wet Adhesion, gloss alkyd	Excellent

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Starting Point Formulation - Flat Interior

Interior White Flat Wall Paint

Ingredients	Lbs	Gallons
Pigment Grind		
Water	350.0	42.00
NATROSOI® 250	5.7	0.50
PROXEL® GXL	0.5	0.05
RHODOLINE® 226/35	10.0	1.00
TRITON™ Nonionic Surfactant CF-10	2.5	0.28
DREWPLUS™ L-475	4.0	0.49
TIONA® RCL-595	225.0	6.80
OMYACARB® 6	200.0	8.80
OPTIWHITE®	100.0	5.40
Ammonium Hydroxide, 28% aqueous solution	2.0	0.10
Letdown		
ENCOR® 657	226.6	25.46
Ester Alcohol Cosolvent	10.5	1.30
DREWPLUS™ L-475	3.0	0.37
Water	60.9	7.30
TOTAL	1200.7	99.85

Typical Physical Properties*

Pigment Volume Concentration (PVC), %	60.0
Total Solids, %	
by weight	36.0
by volume	55.6
VOC, g/L	45.2

Typical Paint Properties*

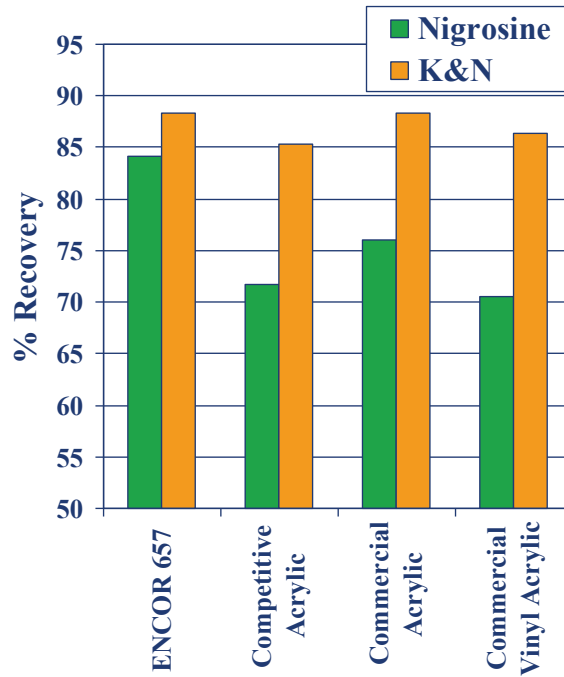
Stormer Viscosity, KU	85.0-95.0
IC, poise	0.7
Gloss, 60°, max	2.4
Sheen, 85°, max	3.0
Opacity, 3-mil drawdown	97.6
Washability	Excellent
Nigrosine Stain Recovery, %	85.8
K&N Ink Stain Recovery, %	94.5

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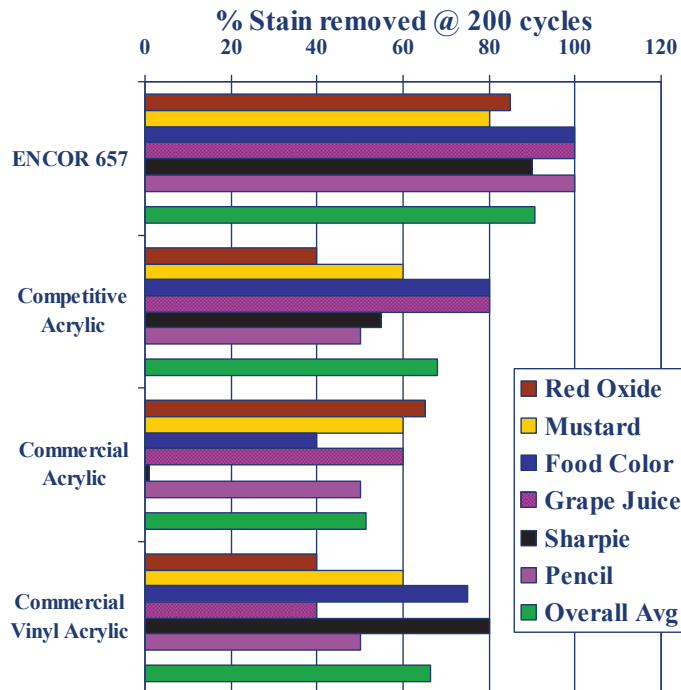
Stain Resistance Performance

- Nigrosine and K&N testing ink stain resistance better than controls.
- 70PVC 33 volume solids paint system at 8.5% IBT [coalescent <50 g/l]



Stain Resistance/Washability

- Washability/ household stain resistance better than controls.
- 45PVC 34 volume solids paint system at 7% IBT [coalescent <50 g/l]

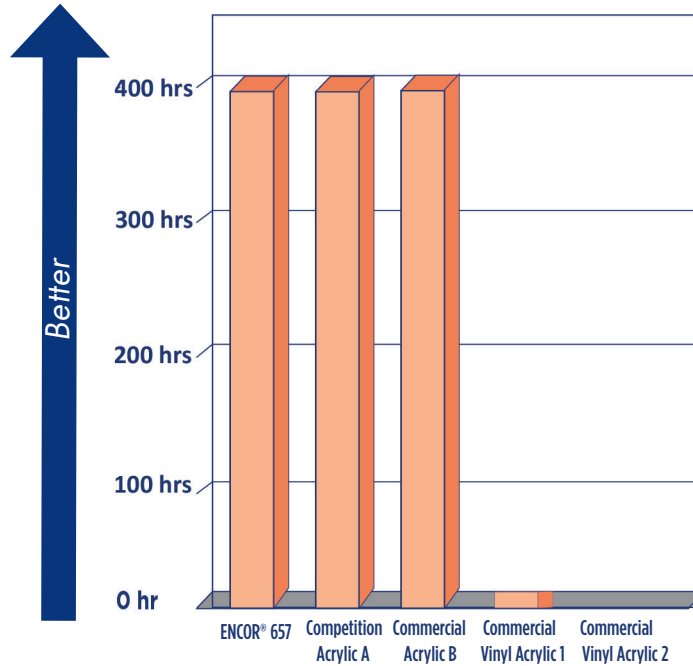


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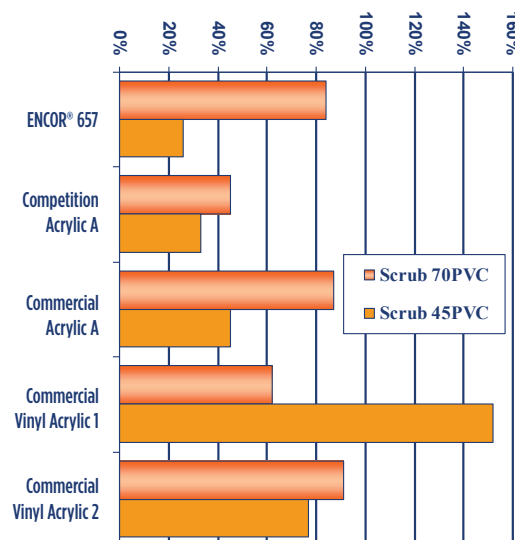
Alkali Resistance

- 45PVC formulation at 7% IBT [coalescent <50 g/l].
- Binders replaced at equal volume solids.
- ENCOR® 657 is comparable to exterior acrylics for alkali resistance



Scrub Resistance

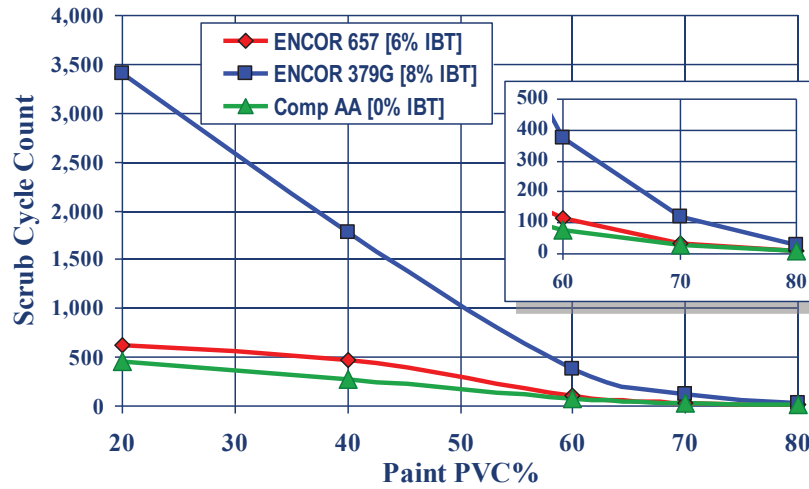
- Binders replaced at equal volume solids.
- ENCOR® 657 is comparable to other acrylics for scrub resistance
- 70PVC 34 volume solids [8.5% IBT] and a 45PVC 32 volume solids [7.0% IBT] paint systems



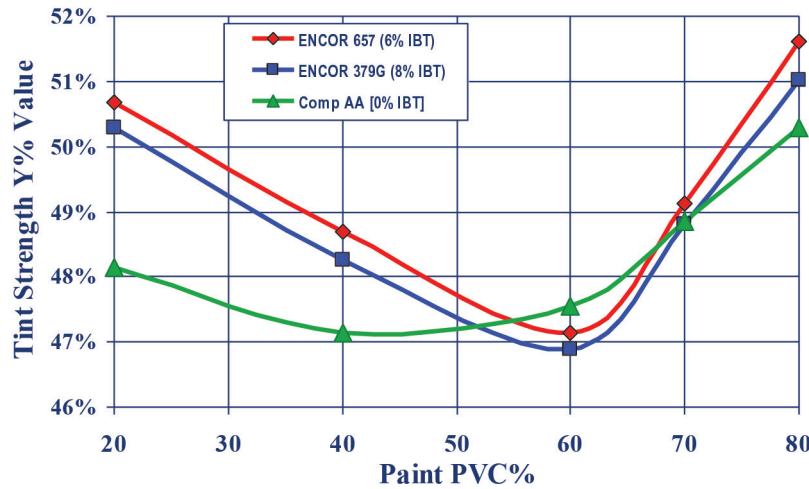
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Scrub Resistance Across PVC



Tint Strength Across PVC



*Rub-ups are visually equal to tint strengths

Exterior Exposure Studies from 2006 on BlockAid®



ENCOR® 657 demonstrates excellent alkali and efflorescence resistance.

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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.

Arkema Coating Resins requests that the customer read, understand, and comply with the information contained in this publication and the current MSDS(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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