

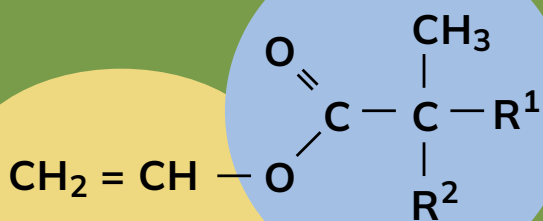
Veova™ 10

Vinyl Ester for Durable Exterior Wood Coatings

Protect What Matters

Protect your product and the planet

Performance and sustainability are essential requirements for modern wood coatings. Our advanced monomer technologies are engineered to do both: deliver coatings that protect the beauty and integrity of wood, while minimizing environmental impact. Our waterborne formulations provide application process benefits without compromising on durability or aesthetics. Whether you're seeking long-lasting protection against moisture and UV exposure, or coatings that maintain vibrant finishes over time, Hexion's monomers are built to protect what matters – your product and the planet.



Vinyl Ester of Versatic™ acid 10

$\text{R}^1 + \text{R}^2 =$
7 carbon atoms

Product Details

Veova 10 vinyl ester is a hydrophobic, branched monomer that transforms acrylic-based emulsions into high-performance binders ideal for demanding exterior wood applications. It enhances water resistance, UV durability, and adhesion – extending coating lifetime and preserving wood aesthetics.

KEY BENEFITS



Built-in hydrophobicity = long-lasting moisture resistance



High gloss and color retention over time



Excellent flexibility and adhesion to wood



VOC-compliant, formaldehyde-free, low residual monomers



Reduced leaching of biocides and surfactants

Proven Performance

Elevate Exterior Wood Protection with VeoVa 10 Vinyl Ester

Hydrophobic Protection

VeoVa 10 vinyl ester delivers long lasting water repellency by raising the polymer's contact angle to approximately 79° – a notable improvement over standard acrylics (~54°) and even 2-EHAc (~67°). Unlike temporary additives such as waxes or silicones, this hydrophobic effect is built into the polymer backbone, creating a durable, water-beading surface that won't wash away over time.

COATINGS TESTED:

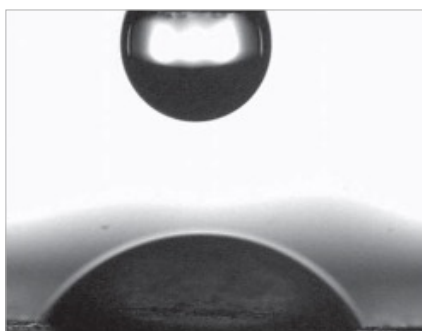
	Label	Systems	SB/WB	Formulation
	30% VeoVa 10	Acrylic with 30% VeoVa	WB	Formulated emulsion
	30% 2-EHAc	Acrylic with 30% 2-ethylhexyl acrylate	WB	Formulated emulsion
	Acrylic BM1	All Acrylic Benchmark 1	WB	Formulated emulsion
	Acrylic BM2	All Acrylic Benchmark 2	WB	Formulated emulsion
	WB Acrylic comm	All Acrylic	WB	Commercial formulation
	SB Alkyd comm	Solvent borne Alkyd	SB	Commercial formulation

Typical Polymer Properties				
Property	30% VeoVa	30% 2-EHAc	Acrylic BM1	Acrylic BM2
MFFT initial	< 0 °C	9 °C	15 °C	7 °C
Particle size	110 nm	110 nm	100 nm	75 nm
Water contact angle	79°	67°	54°	74°

Core/shell Veocryls exhibit a long lasting and superior water repellency



Water contact angle
30% VeoVa



Water contact angle
30% 2-EHAc



Lasting Protection: Superior UV and Weathering Resistance

Hexion's monomer technologies are designed to enhance weather resistance, helping coatings stand up to the harshest outdoor conditions. Coatings formulated with VeoVa/acrylic binders demonstrate superior gloss and color retention. After 2,000 hours of accelerated weathering (EN 927-6), VeoVa-based coatings outperformed acrylic and alkyd based coatings in ΔE (color change) and gloss retention. These results were further validated by five years of natural outdoor weathering, confirming the long-term durability of the formulation

Natural Weathering

FIG 1: Panel photos (middle section) from 1–5 years exposure

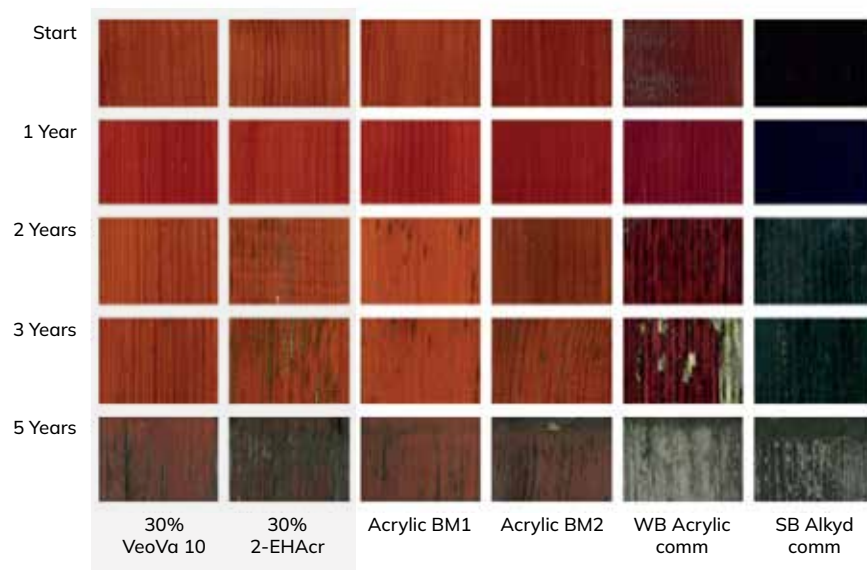


FIG 2: Visual rating after 3 and 5 years

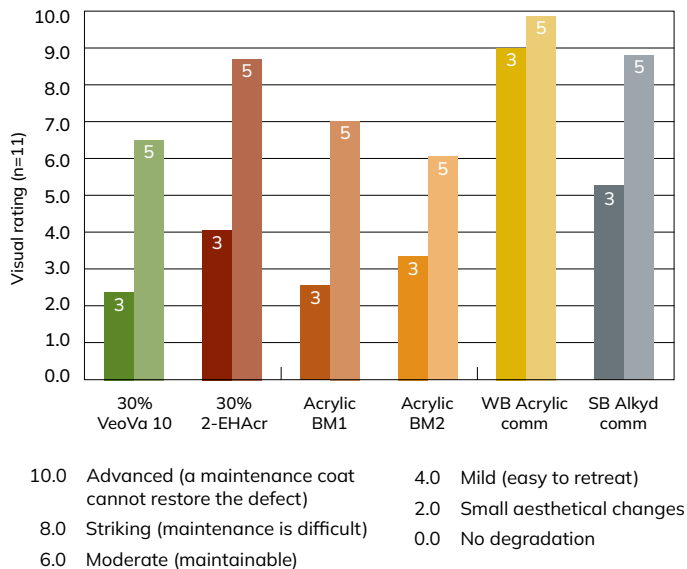
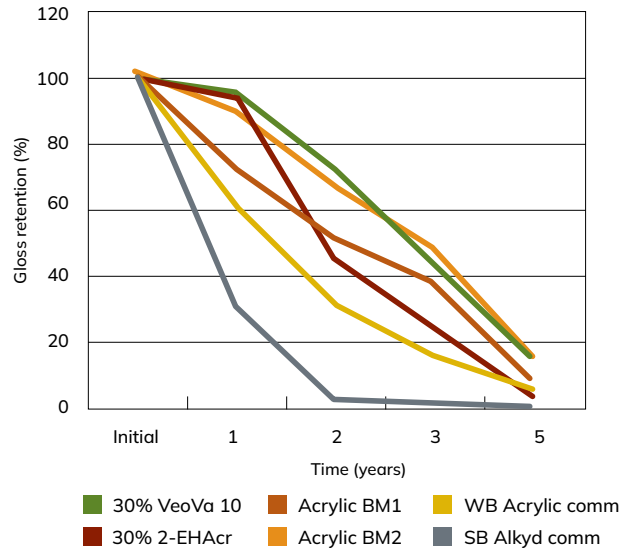
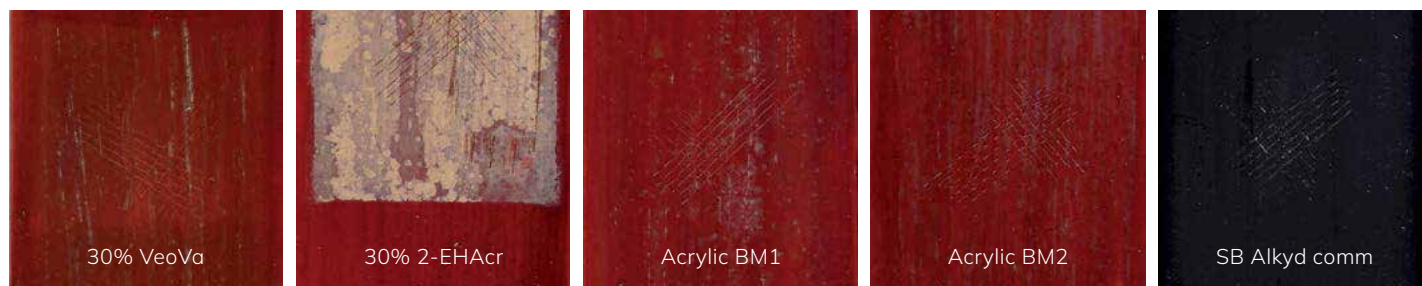


FIG 3: Gloss retention after 1, 2, 3, and 5 years



Accelerated Weathering

The different wood stains were evaluated in accelerated weathering for 2000 h according to EN 927-6 by an independent leading testing and certification institute for wood coatings (CATAS).



CATAS® test protocol # 16.110
www.catas.com

FIG 4: Colour changes (2000 h EN927-6)

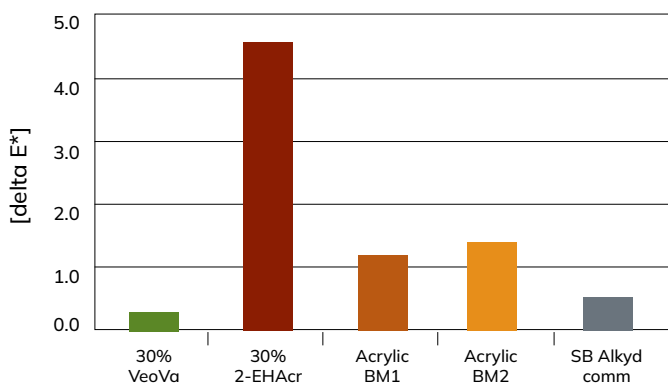
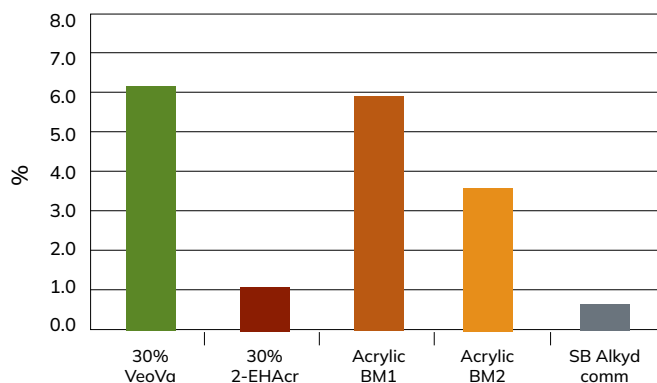


FIG 5: Gloss retention (2000 h EN927-6)



VOC Compliance Without Compromise

VeoVa-modified core/shell binders are a sustainable choice for coating formulations. Selecting the right shell monomers helps produce emulsions that form tough polymer films at temperatures as low as 0 °C. Wood coatings based on these polymers can be formulated with minimal co-solvent and still deliver high-quality films.

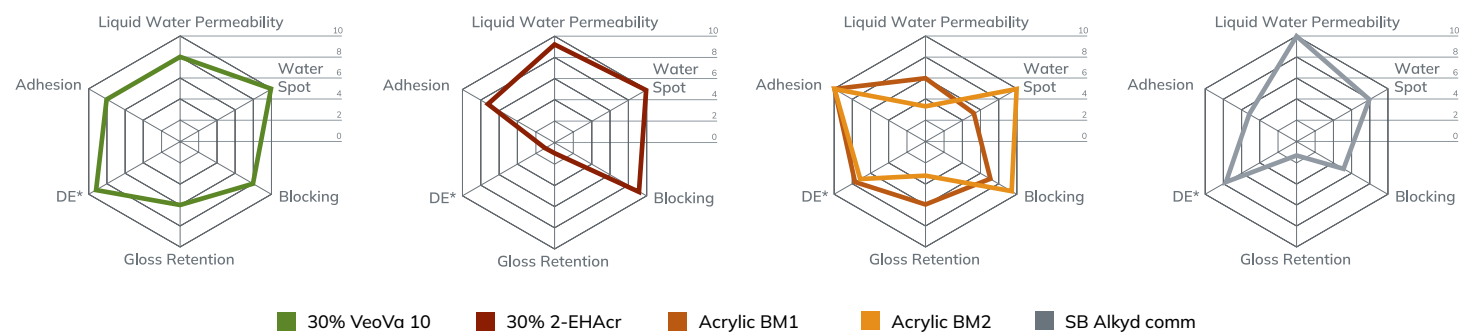
Balance of Flexibility and Block Resistance

VeoVa-based core/shell polymers are engineered for balance – pairing a hard core that boosts blocking resistance with a soft, hydrophobic shell that enhances flexibility and water resistance. This structure delivers long lasting durability without brittleness, making it ideal for the natural movement and demands of exterior flexible wood.

Performance Validated in the Lab, and Real World

Key comparative results from independent and internal testing validate the benefits of VeoVa 10-based wood coatings across multiple critical parameters, including water contact angle, blocking resistance, gloss retention, and more.

FIG 6: Performance comparison of coating systems

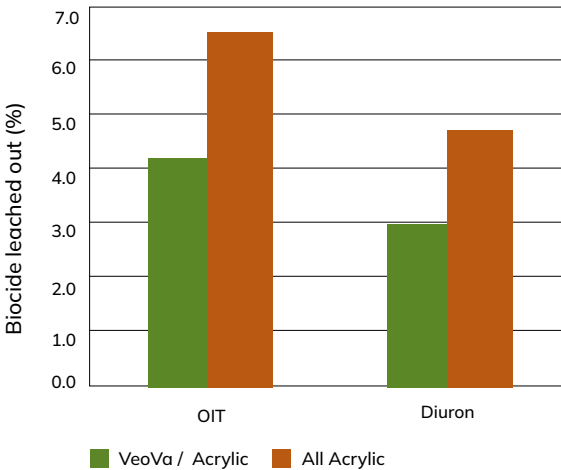


Test Parameter	30% VeoVa	30% 2-EHAc	Acrylic BM1	Acrylic BM2
Water contact angle (°)	79	67	54	74
Early water spot resistance (1h)	9/10	8/10	5/10	8/10
Blocking resistance	8–9	9	7	9
Adhesion on aged alkyd	No detachment	1–5% detachment	No detachment	No detachment
Liquid water permeability (g/m² after 72h)	175	140	225	375
Vapor permeability (g/m²/24h)	60	50	50	~79

Extended Protection with Less Biocide Loss

Paints formulated with VeoVa-based binders offer enhanced long-term protection thanks to their superior water barrier properties. By minimizing water permeability, these formulations help retain more in-film fungicides and algacides – critical for preserving surface integrity in demanding outdoor environments. In 96-hour leach-out tests, VeoVa/acrylic binders demonstrated significantly lower release rates of Diuron and OIT compared to all-acrylic systems. The result is stronger, longer-lasting dry film protection that extends service life, minimizes release to the environment, and maintains the coating's appearance.

FIG. 7:
Leaching rate of biocides after 96 hours immersion in water





Veova 10 vinyl ester is the performance and sustainability upgrade for exterior wood coatings.

-  Longer-lasting beauty and protection
-  Superior water defense – from day one through the years
-  Low VOC, formaldehyde-free, minimal biocide loss
-  Real-world performance – proven in 5-year natural exposure data

For high-performance emulsions that elevate wood protection, Veova 10 vinyl ester is the difference-maker.



Ask us how Veova 10 vinyl ester can enhance your emulsion binders for next-generation wood coatings. Reach our Global Customer Service network at service@hexion.com or visit us at hexion.com

**We're Hexion.
Anything is possible,
when you **imagine**
everything.**

Hexion is a global leader in performance materials and specialty chemicals, delivering innovative solutions that enhance strength, safety, sustainability, and efficiency across industries including construction, agriculture, energy, automotive, and infrastructure protection. With over a century of experience, Hexion is committed to advancing sustainable solutions that preserve natural resources and address the challenges of a changing climate, with a strong focus on AI solutions and sustainable building materials.

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