COATINGS

INDORAMA VENTURES

OXITIVE®
8000 SERIES

Dispersing agents for waterborne pigment concentrates

COATINGS

A broad range of dispersing agents designed to maximize pigment load and tinting strength of waterborne pigment concentrates, ensuring compatibility with different paint systems, performance and stability under different temperatures.

BENEFITS

- Reduces viscosity, maximizes pigment load and tinting strength
- Enhances stability and reduces rub-out
- Enables the formulation of low to zero-VOC pigment concentrates
- Available grades for different types of pigments
- Compatibility with different waterborne and alkyd solvent-borne decorative systems
- Available grades for Universal pigment concentrates

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FEATURES

- Package: Sample, Drum, Bulk

PRODUCT	APPEARANCE @25°C	SOLIDS (wt %)	HLB	CMC (g/L)	SURFACE TENSION, 0.1% @25°C (mN/m)
OXITIVE® 8201	Paste	~100	13.5	0.02	43.1
OXITIVE® 8216	Liquid	~100	12.7	0.01	40.8
OXITIVE® 8225	Solid	~100	14.5	0.03	45.9
OXITIVE® 8254	Solid	~100	17.0	0.66	44.6
OXITIVE® 8122	Liquid	~98	-	0.03	43.9
OXITIVE® 8123	Liquid	~98	-	0.04	43.7
OXITIVE® 8125	Liquid	~45	-	0.06	43.3
OXITIVE® 8184	Liquid	~100	-	0.07	47.4

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FEATURES

- Package: Sample, Drum, Bulk

PRODUCT	FUNCTION			PIGMENTS				APPLICATION		PERFORMANCE[1]			
	Dispersing agent	Wetting agent	Compatibilizing agent	Carbon Black	Organic	Inorganic	Titanium Dioxide	Waterborne systems	Alkyd solvent-borne	Dispersant demand[2]	Viscosity reduction[3]	Tinting strength[4]	Reduced rub-out[5]
OXITIVE® 8201	✓	✓	✓	✓	✓			✓	✓	◑	●	●	●
OXITIVE® 8216	✓	✓	✓	✓	✓			✓	✓	◑	●	◑	◑
OXITIVE® 8225	✓			✓	✓			✓		○	◑	○	○
OXITIVE® 8254	✓			✓	✓			✓		○	○	○	○
OXITIVE® 8122	✓	✓	✓	✓	✓	✓	✓	✓	✓	●	○	●	●
OXITIVE® 8123	✓			✓	✓	✓	✓	✓	✓	●	◑	○	○
OXITIVE® 8125	✓			✓	✓			✓		○	◑	○	○
OXITIVE® 8184	✓			✓	✓			✓	✓	○	○	○	○

✓ recommended use | ○ standard performance | ◑ good performance | ● excellent performance

[1]For the comparative evaluation among the products, the tests were performed with a carbon black pigment – Monarch® 430, CABOT.

[2]Solids dispersant demand for dispersing the same amount of pigment on weight.

[3]Viscosity measurements after 24 hours of pigment concentrates preparation – Brookfield DV2TLVTJ10.

[4]Tinting strength was evaluated dosing 2.0% (wt) of pigment concentrates on a matte acrylic paint. OXITIVE® 8201 was adopted as the standard.

[5]Collor difference (ΔE) between an unrubbed and rubbed area.

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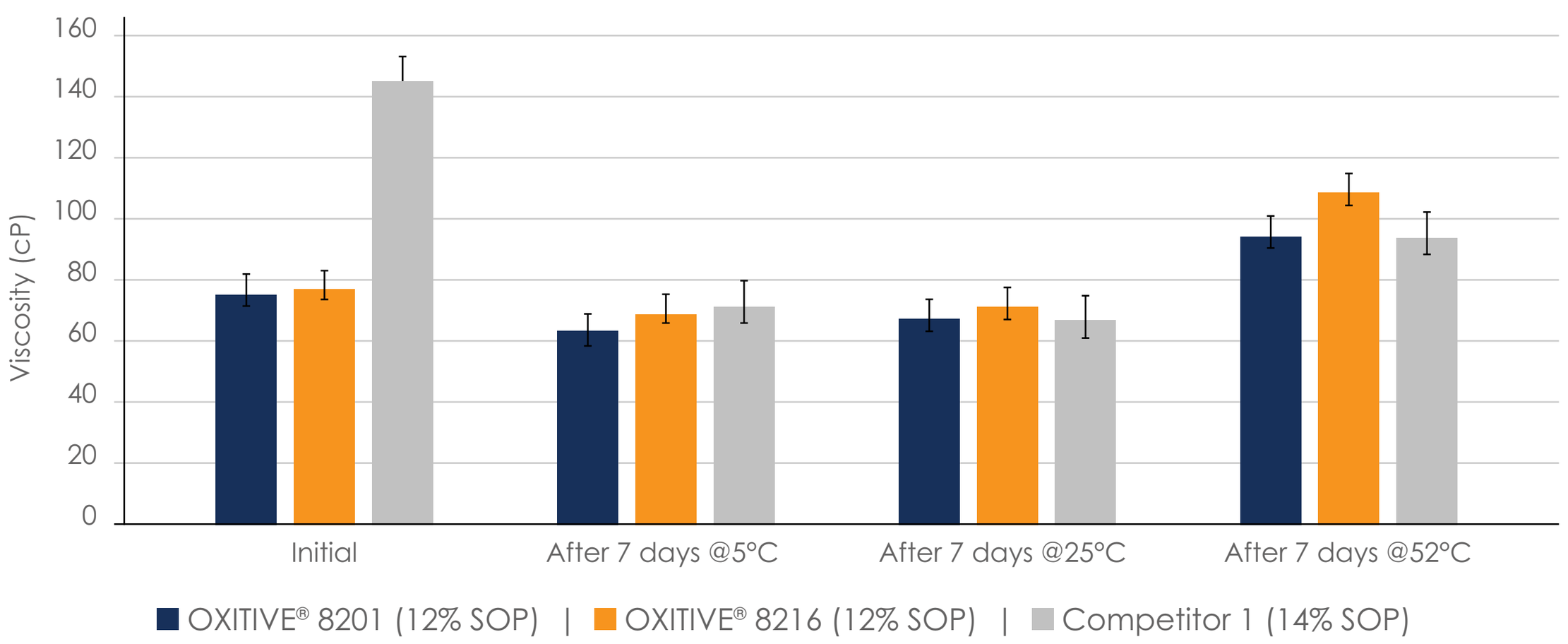
PERFORMANCE TESTS

Dispersant dosage, viscosity and thermal stability



Competitor 1 is an aromatic modified polyethyleglycol ether in aqueous solution, 90% solids.
SOP = Surfactant on Pigment concentration (wt/wt)

Using lower dosages, **OXITIVE® 8000** dispersing agents improve viscosity reduction.

Pigment concentrates prepared with **OXITIVE® 8000** dispersing agents present excellent viscosity stability under different temperatures.

Pigment Concentrate Formulation

COMPONENT	% (WEIGHT)
Water	54.4 – 55.3
Dispersing agent*	5.1 – 6.0
Defoamer	0.3
Biocide	0.2
Pigment – Monarch® 430	40.0

*The dispersing agent dosage was adjusted for each evaluated product considering the optimum SOP dosage determined on a viscosity curve and the solids content.

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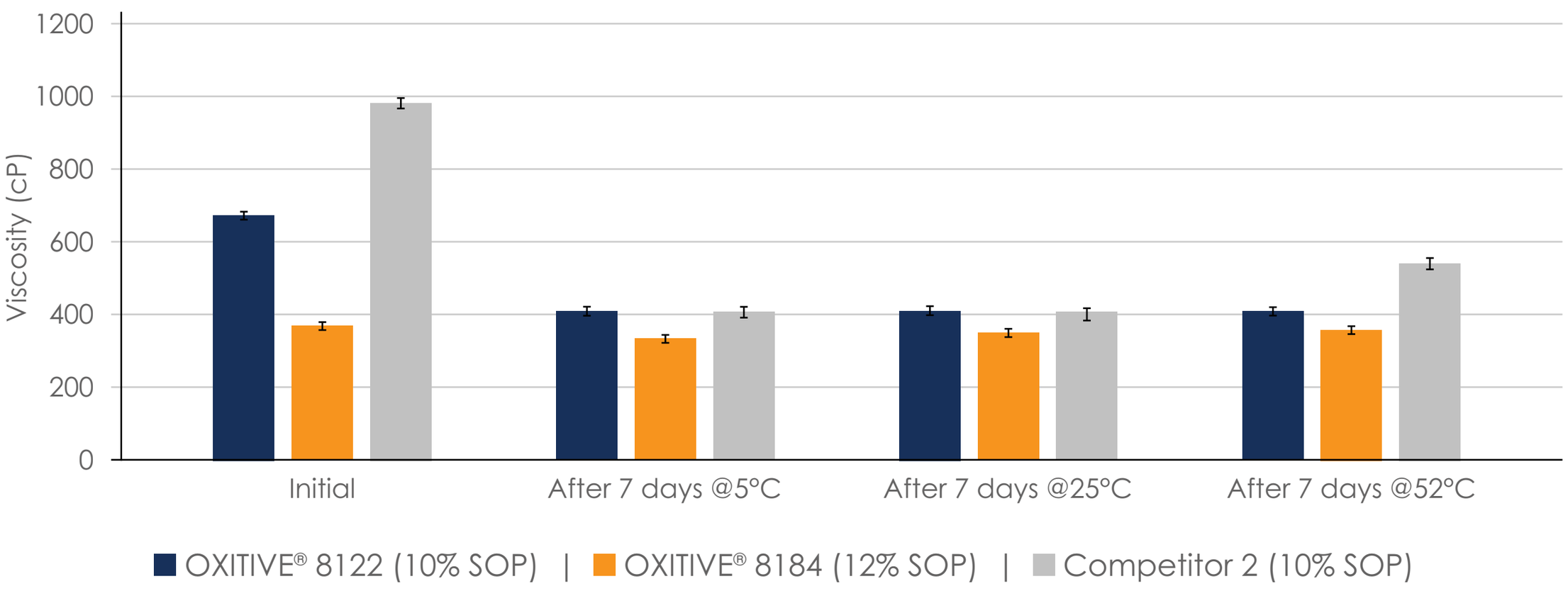
PERFORMANCE TESTS

Dispersant dosage, viscosity and thermal stability



Competitor 2 is a tristyryl phenol-polyethylene glycol-phosphoric acid ester, triethanolammonium salt, 98% solids

OXITIVE® 8000 ionic dispersing agents improve viscosity reduction at low dosages.

Pigment concentrates prepared with **OXITIVE® 8000** ionic dispersing agents present excellent viscosity stability under different temperatures.

Pigment Concentrate Formulation

COMPONENT	% (WEIGHT)
Water	55.5 - 56.1
Dispersing agent*	4.0 – 4.6
Defoamer	0.3
Biocide	0.2
Pigment – Monarch® 430	40.0

*The dispersing agent dosage was adjusted for each evaluated product considering the optimum SOP dosage determined on a viscosity curve and the solids content.

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PERFORMANCE TESTS

Broad compatibility with different pigments

	Dispersant demand (%)			Rub-out on a deep tint base		
	PBK 7	**PB 15:1**	**PR 101**	**PBK 7**	**PB 15:1**	**PR 101**
OXITIVE® 8123	10.0	10.0	10.0	0.82	1.58	0.62
Competitor 3	15.0	10.0	20.0	0.78	2.93	0.87

Competitor 3 is a solution of modified styrene maleic acid copolymer diluted in water at 40%

OXITIVE® 8000 dispersing agents present affinic groups which improves the compatibility with different types of pigments – carbon black, organic and inorganic pigments.

Using lower dosages, **OXITIVE® 8000** dispersing agents provide equivalent performance in terms of color development and compatibility in relation to polymeric dispersing agents.

Test conditions

- PBk7: Printex® G, supplied by Orion Engineered Carbons; PB 15:1: Phtalocyanine Blue (PB) 1511C, supplied by Terra Firma; PR 101: Nubifer R-5520, supplied by Ferro Corporation
- The dispersant demand was determined for each dispersing agent considering active content and was based on viscosity curve for each pigment. Pigment concentrations were 20.0% for PBk7, 35.0% for PB 15:1 and 60.0% for PR 101
- Pigment concentrates were incorporated at 50g per liter on a standard deep tint base for rub-out evaluation

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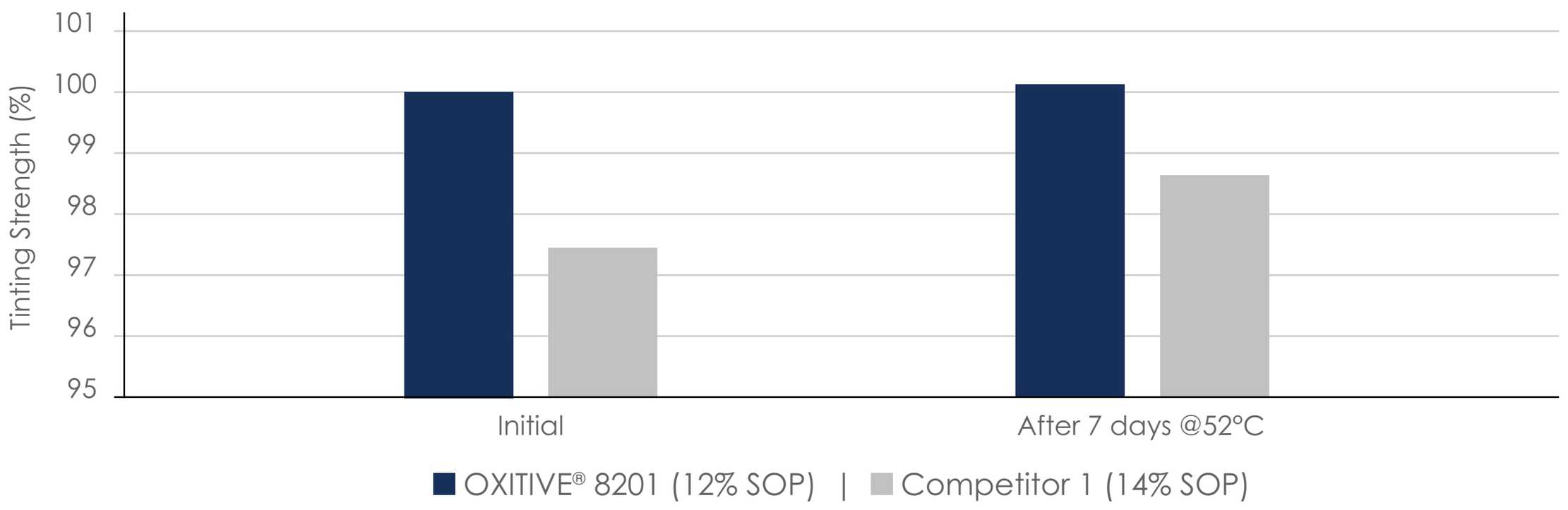
PERFORMANCE TESTS

Performance and stability

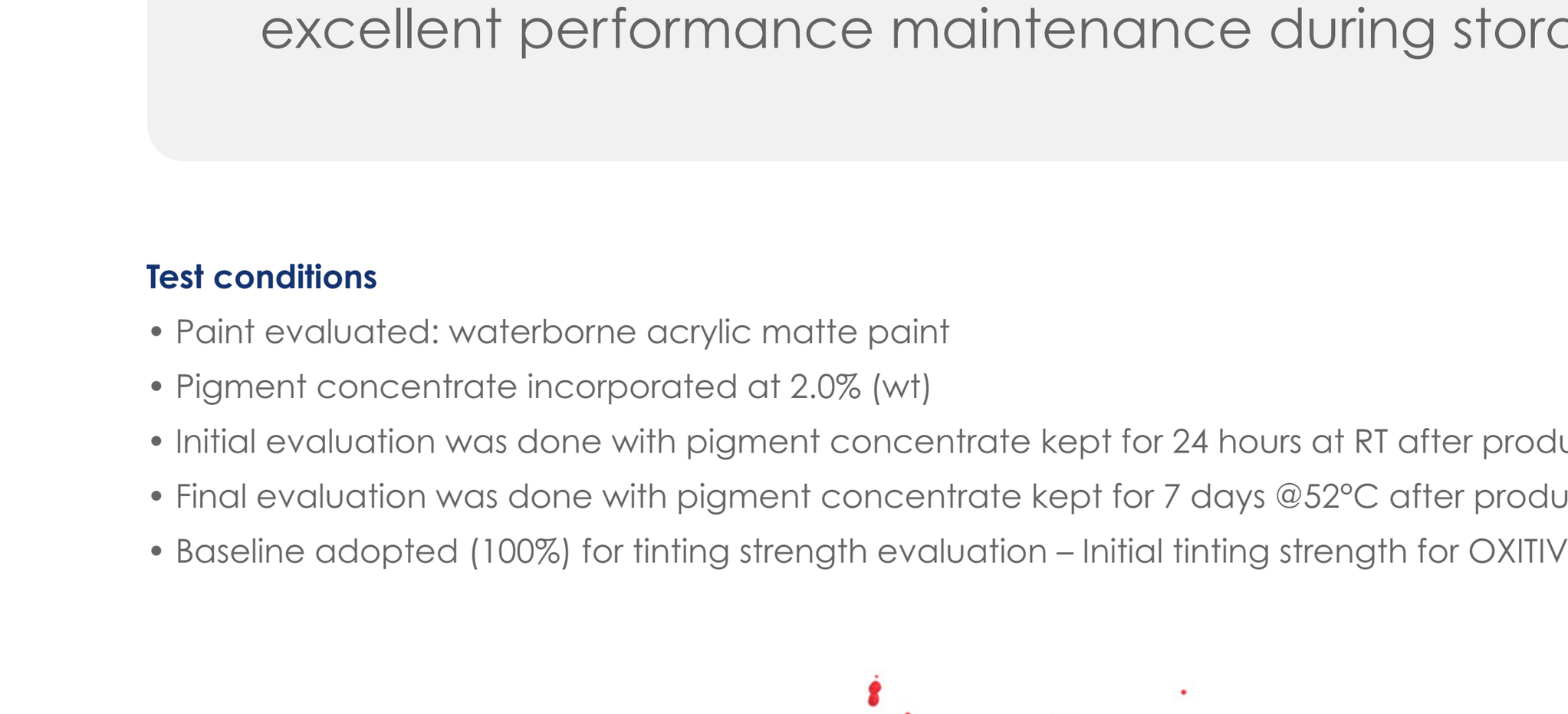


Competitor 1 is an aromatic modified polyethyleglycol ether in aqueous solution, 90% solids.

Pigment concentrates prepared with **OXITIVE® 8000** dispersing agents present higher tinting strength and excellent performance maintenance during storage.

Test conditions

- Paint evaluated: waterborne acrylic matte paint
- Pigment concentrate incorporated at 2.0% (wt)
- Initial evaluation was done with pigment concentrate kept for 24 hours at RT after production
- Final evaluation was done with pigment concentrate kept for 7 days @52°C after production
- Baseline adopted (100%) for tinting strength evaluation – Initial tinting strength for OXITIVE® 8201



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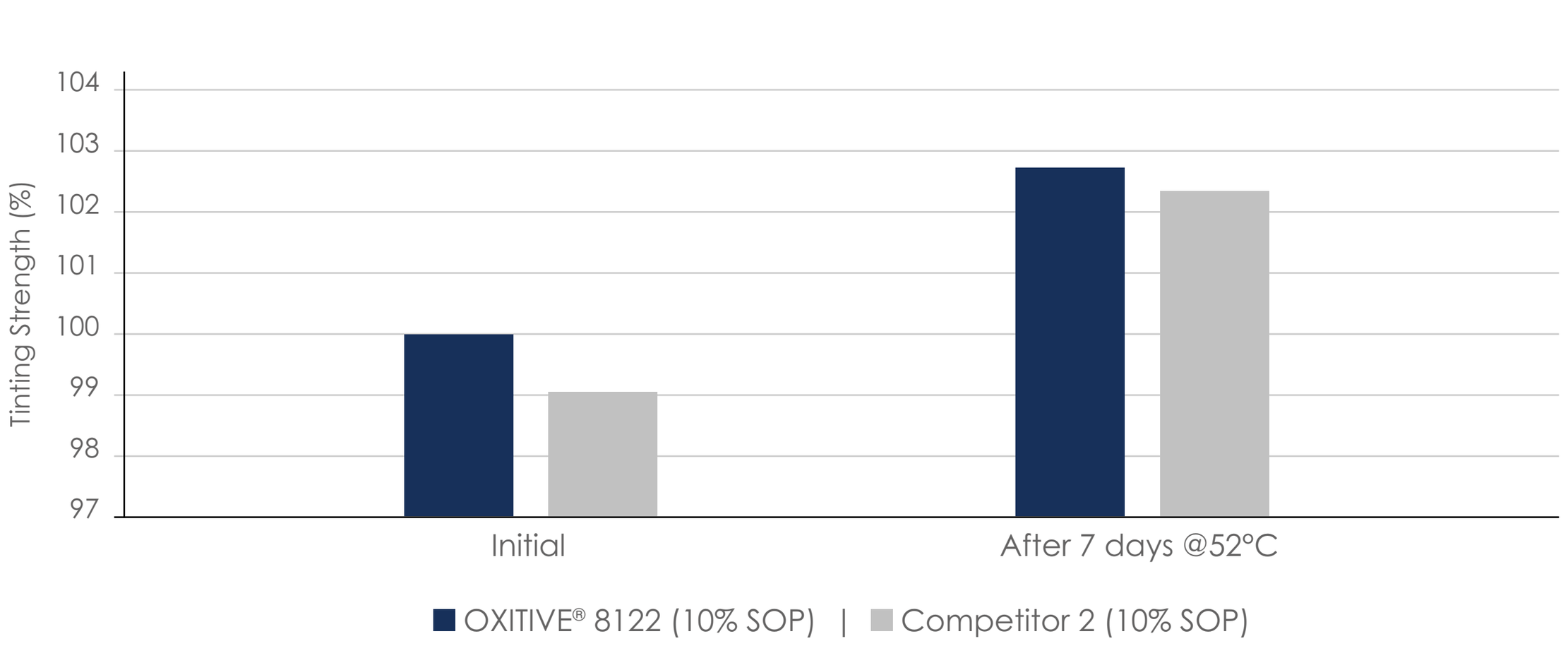
PERFORMANCE TESTS

Performance and stability



Competitor 2 is a tristyryl phenol-polyethylene glycol-phosphoric acid ester, triethanol ammonium salt, 98% solids

Pigment concentrates prepared with **OXITIVE® 8000** ionic dispersing agents present higher tinting strength and good performance maintenance during storage.

Test conditions

- Paint evaluated: waterborne acrylic matte paint
- Pigment concentrate incorporated at 2.0% (wt)
- Initial evaluation was done with pigment concentrate kept for 24 hours at RT after production
- Final evaluation was done with pigment concentrate kept for 7 days @52°C after production
- Standard adopted (100%) for tinting strength evaluation – Initial tinting strength for OXITIVE® 8122

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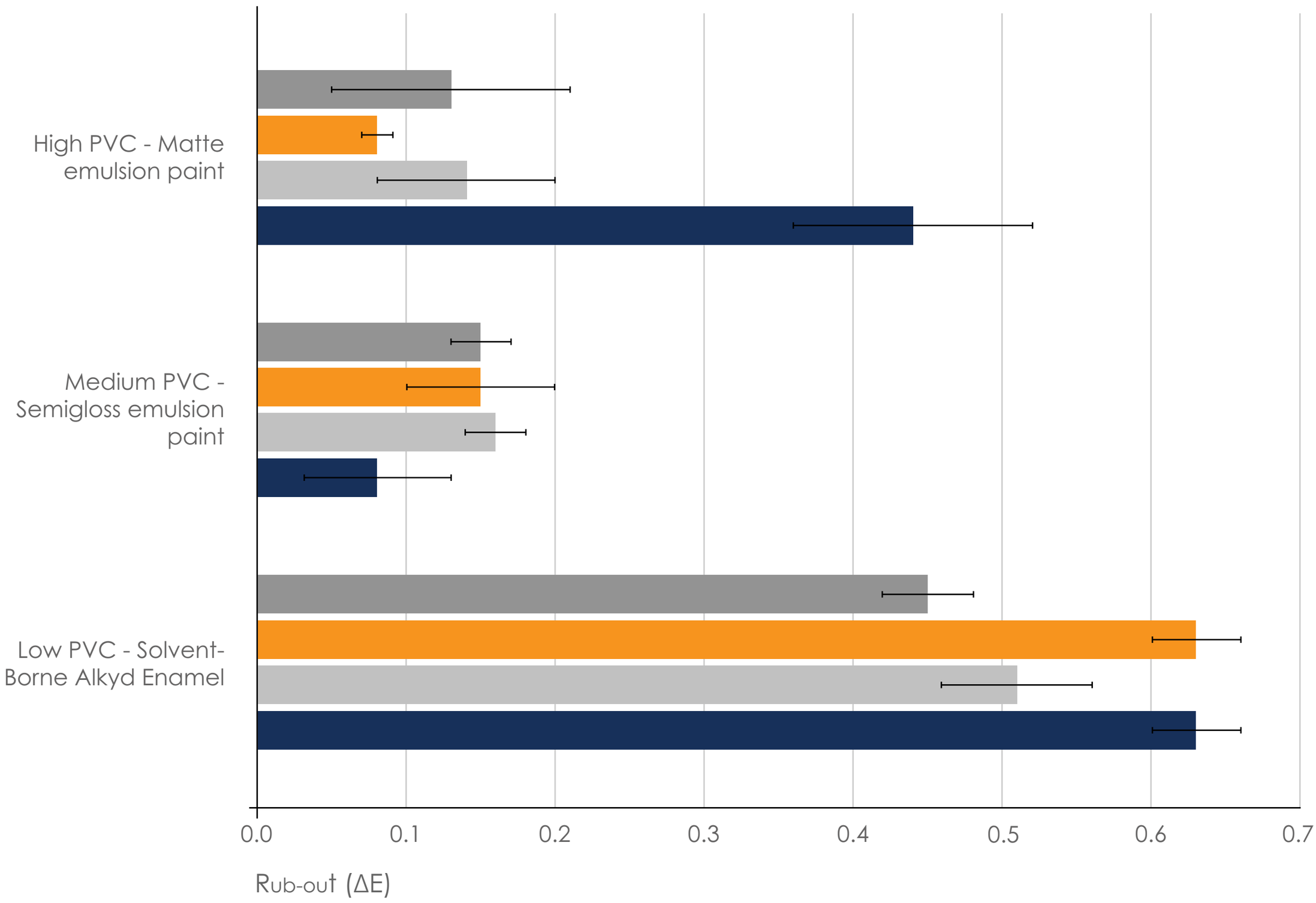
PERFORMANCE TESTS

Compatibility with different systems



Pigment concentrates prepared with **OXITIVE® 8000** dispersing agents present good compatibility with different systems, including alkyd solvent-borne systems and epoxy and polyurethane water-borne systems.

Test conditions

- Pigment concentrate incorporated at 2.0% (wt) on different systems
- The evaluation was done after pigment incorporation on the paints
- Competitor 1 is an aromatic modified polyethyleglycol ether in aqueous solution, 90% solids
- Competitor 2 is a tristyryl phenol-polyethylene glycol-phosphoric acid ester, triethanol ammonium salt, 98% solids

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PERFORMANCE TESTS

ALKYD SOLVENT-BORNE ENAMEL
Adherence evaluation according to ASTM D3359 – Method A

WATERBORNE ACRYLIC SEMIGLOSS PAINT
Leaching evaluation according to ASTM D7190

White base

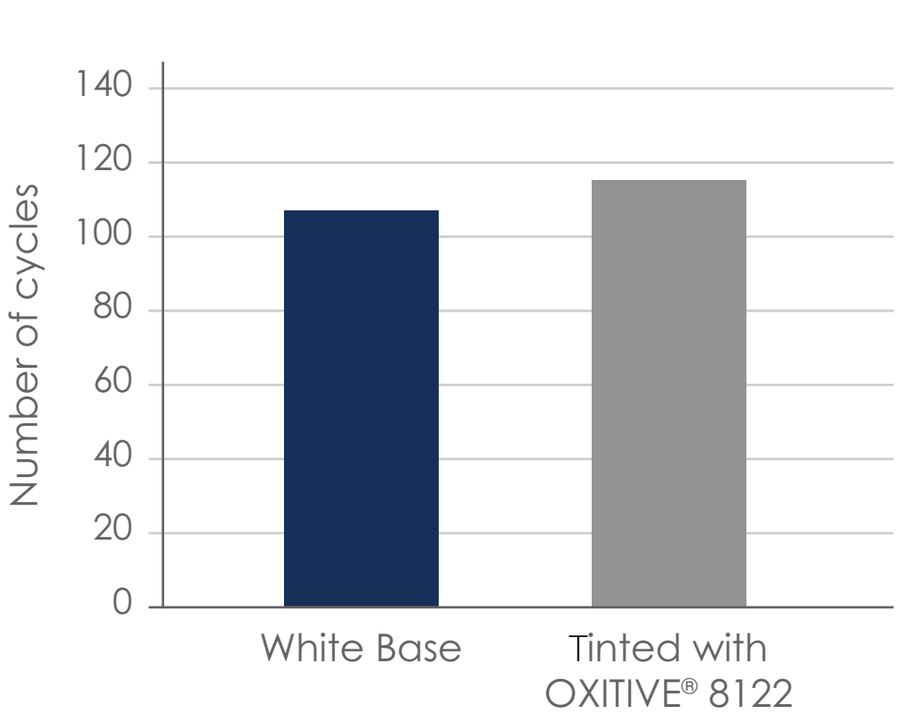
Tinted with OXITIVE® 8201

White base

Tinted with OXITIVE® 8216

Water-based acrylic matte paint

Scrub resistance evaluation according to ASTM Method A D2486



Pigment concentrates prepared with **OXITIVE® 8000** dispersing agents present low impact on final coatings properties.

If you are looking for dispersing agents for waterborne pigment concentrates, **OXITIVE® 8000 SERIES** is what you need!
Contact us and request a sample.

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