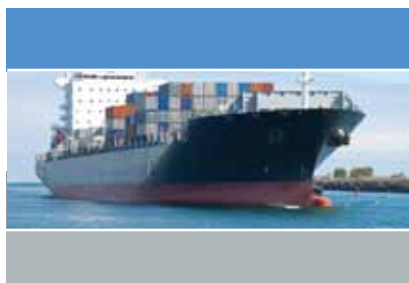


COATOSIL* FLX

coating modifier

SILANES - COATINGS ADDITIVES



Polysiloxane Resin Modifier for silane/polysiloxane containing coatings, including hybrids.

Key Features and Typical Benefits

- Improves coating flexibility
- Improves gloss retention under harsh weathering conditions
- Improves corrosion performance in neutral salt spray testing
- Compatible with many organic resin systems and pigments
- Low viscosity, reactive diluent in coating formulation

Typical Physical Properties of CoatOSil FLX Coating Modifier	
Property	Value
Density (gm/cm ³) at 25 °C	1.06
Viscosity at 25 °C (mPas)	~105
Refractive Index at 25 °C	~1.4680
Surface Tension at 25 °C (dyne/cm)	~23.0

Solvent Solubility at 25 °C (50%wt/wt concentrations)	Value
Aromatic Solvents: Toluene, Xylene, Aromatic 100	Soluble
Cyclic Aliphatic Solvent: Cyclohexane	Soluble
Alcohols: Methanol, Ethanol, 1-Propanol, 1-Pentanol	Soluble
Ketones: Acetone, MEK, MIBK, m-pyrol	Soluble
Acetates: Ethyl Acetate, n-Butyl Acetate, t-Butyl Acetate, PM Acetate	Soluble
Others: Water Ethylene Glycol	Not Soluble

Typical properties are average data and are not to be used as or to develop specifications.

COATOSIL* FLX coating modifier

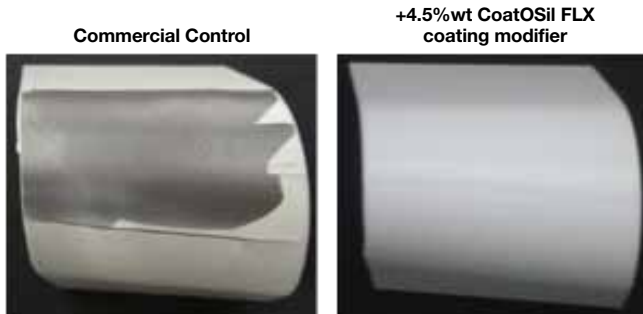
General Considerations for Use:

- CoatOSil FLX coating modifier can be used as a “drop-in” replacement resin either in the grind paste or in the let down portion of a coating formulation.
- Typical recommended dosage levels are between 0.1% wt to 10% wt in existing formulations on a total formulation basis.

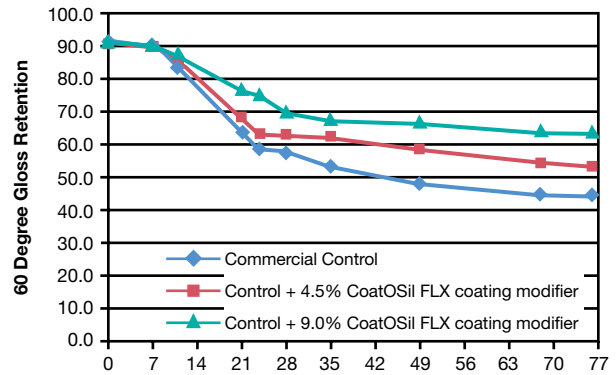
Example 1: Commercial Epoxy/PolySiloxane Coating with added CoatOSil FLX coating modifier in “PART A”.

Test	Control	+4.5%wt CoatOSil FLX coating modifier	+9.0%wt CoatOSil FLX coating modifier
Flexibility ⁽¹⁾	Failed	Pass	Pass
Gloss after Weathering ⁽²⁾	~45	~55	~65
NSST Corrosion Testing ⁽³⁾	Failed – 2 weeks	n/a	Passed – 12 weeks +

Flexibility⁽¹⁾ Testing



QUV-B Gloss Retention vs. Time



Neutral Salt Spray Corrosion Testing⁽³⁾



Note: Test results. Actual results may vary.

Example 2: Silylated Acrylic-Polyol /Isocyanate Cure using 7.0%wt CoatOSil FLX coating modifier on “Part A” resin solids vs. Commercial Refinish Clearcoat

Test	Silylated Acrylic	Silylated Acrylic + 7.0%wt CoatOSil FLX coating modifier	Commercial Refinish Clearcoat
Flexibility ⁽¹⁾	Failed	Pass	Pass
Surface Hardness ⁽⁴⁾	102	137	71
Acid Etch Testing ⁽⁵⁾	50 °C	55 °C	40 °C

In Example #2, CoatOSil FLX coating modifier increased both coating flexibility and surface hardness simultaneously.

- Panels conditioned 1 week ambient cure, ~60 hrs @ 80 °C. 1 3/8" conical madrel panel bend midpoint.
- QUV-B weathering conducted under 24 hour continuous UV-B illumination for 11 weeks.
- Neutral salt spray testing using ZnRich/Epoxy/Amine Primer applied at ~7.5 mils, topcoat applied at ~5.5 mils. Conditioned 1 week ambient cure prior to corrosion testing.
- Konig pendulum hardness measured oscillations at 12° starting angle. Measurement taken after 14 days ambient cure.
- 10%wt H₂SO₄ aqueous solution. Panels placed in oven for 20 minutes, then inspected for etching. Reported temperature passed etch test with no etch marking.

Note: Test results. Actual results may vary.

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COATOSIL* FLX coating modifier

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Customer Service Centers

Email

4information@momentive.com

Telephone

Americas

+1 888 443 9466
+1 614 986 2497

Europe, Middle East, Africa and India

+00 800 836 43581
+40 212 534754

Asia Pacific

China
+800 820 0202

Japan

+81 276 20 6182

All Other Countries

+60 3 9206 1543

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260 Hudson River Road
Waterford, NY 12188 USA
momentive.com