MOMENTIVE™

Technical Data Sheet

CoatOSil* FLX Coating Modifier

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Description

Polysiloxane Resin Modifier for Silane/Polysiloxane containing coatings, including hybrids.

Key Features and 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

Property	Value
Density (gm/cm^3) at 25ºC	1.06
Viscosity at 25ºC (mPas)	~105
Refractive Index at 25ºC	~1.4680
Surface Tension at 25ºC (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

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Others: Water Ethylene Glycol	NOT SOLUBLE

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

General Considerations for Use:

- 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+

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	Silyated Acrylic + 7.0%wt CoatOSil* FLX	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.

[1] - Panels conditioned one week ambient cure, 60 hours at 80ºC. 1 3/8" Conical Madrel Panel Bend MidPoint

[2] - QUV-B weathering conducted under 24 hour continuous UV-B illumination for 11 weeks

[3] - Neutral salt spray testing using ZnRich/Epoxy/Amine Primer applied at 7.5mils, Topcoat Applied at 5.5mils. Conditioned one week ambient cure prior to corrosion testing

[4] - Konig Pendulum Hardness measured oscillations at 12º starting angle. Measurement taken after 14 days ambient cure.

[5] - 10%wt H_2SO_4 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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