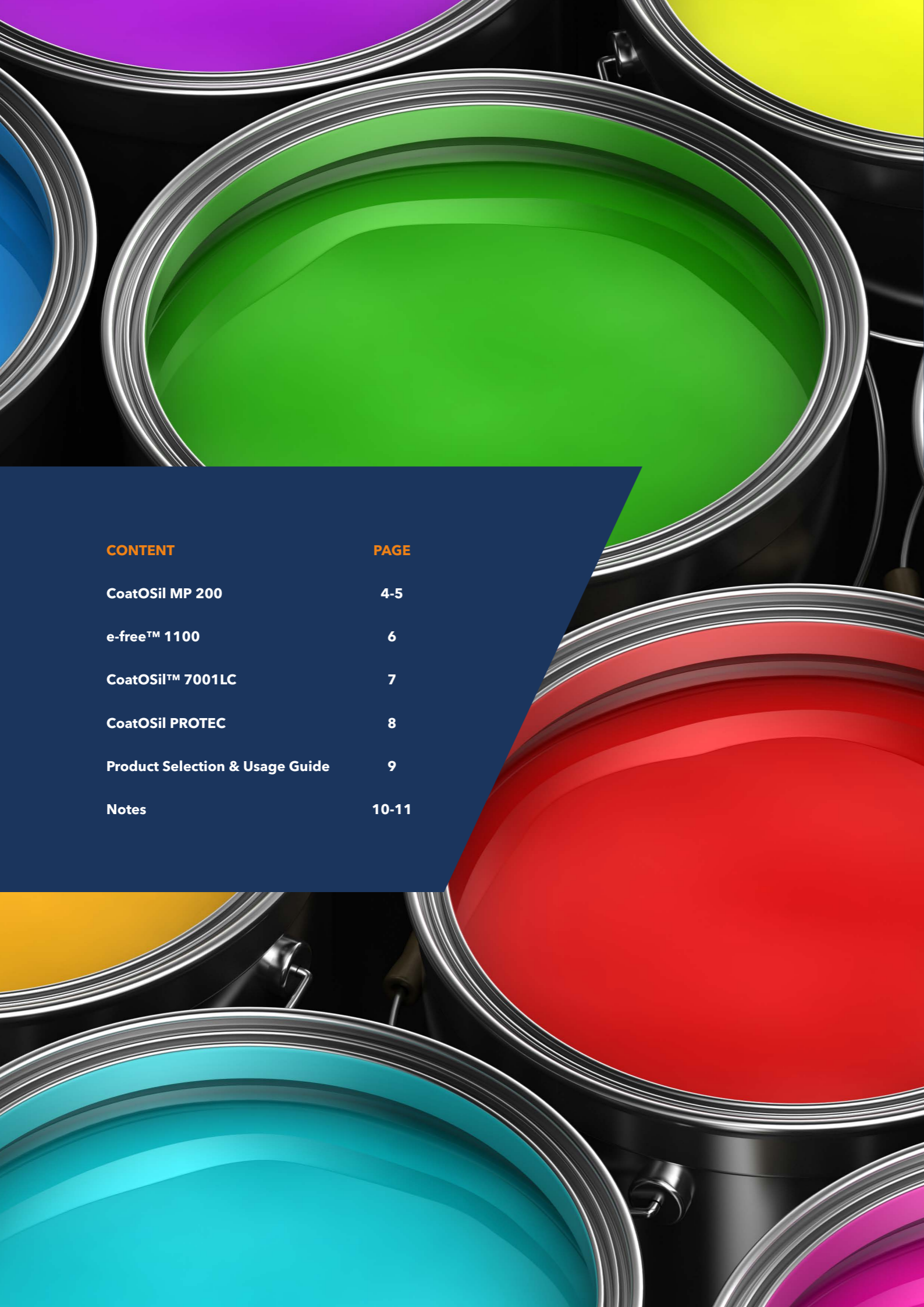




# Additives & Resins

FOR INDUSTRIAL COATINGS

**MOMENTIVE**<sup>®</sup>



Momentive Performance Materials offers additives and resins including both silicones and silanes that can help formulators develop high performance protective coatings for Industrial Coating applications.



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**CoatOSil MP 200 Silane**

Aids adhesion promotion and crosslinking of water borne or solvent based coatings as well as dispersion of metallic pigments in water borne systems.



**e-free 1100**

Delivers the performance of an aminoalkylsilane ester, in a convenient pre-hydrolyzed form.



**CoatOSil 7001LC**

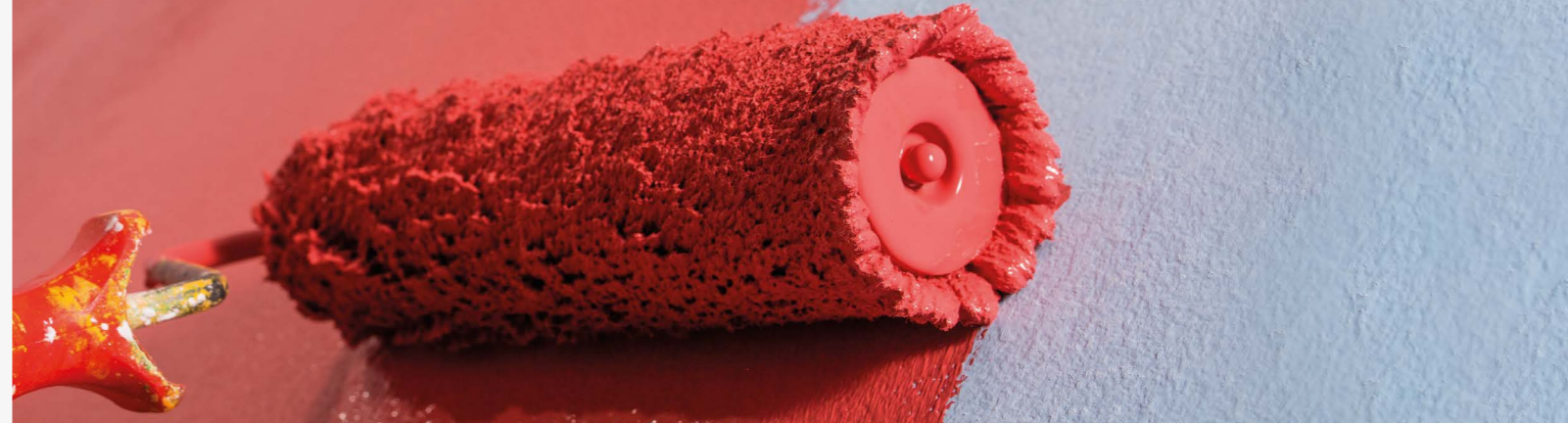
Improves flow and leveling of solventborne and waterborne coatings.



**CoatOSil PROTEC**

Improves bending flexibility and corrosion resistance of high durable protective coatings.

# CoatOSil™ MP 200

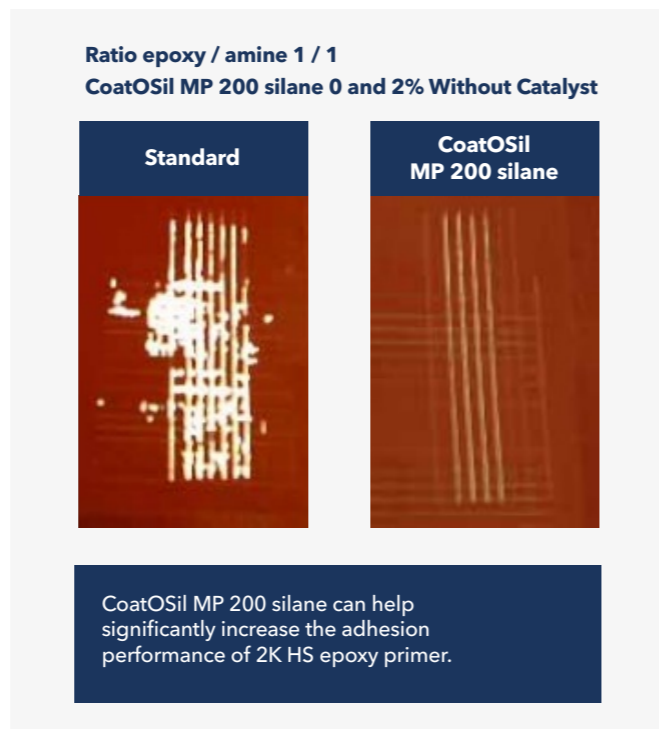
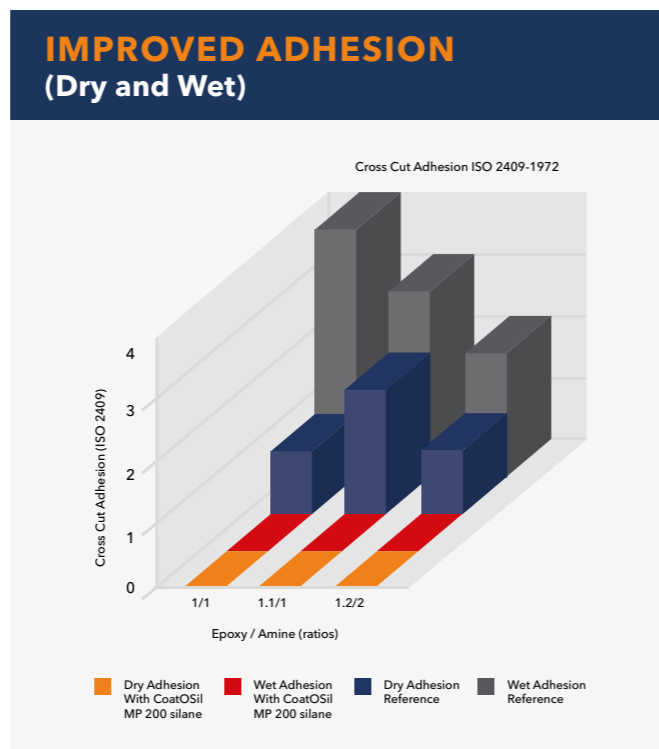


CoatOSil MP 200 silane is an epoxy functional silane oligomer that may be considered for use as an adhesion promoter or crosslinker in polysulfide, urethane, epoxy and acrylic caulks, sealants, adhesives and coatings.

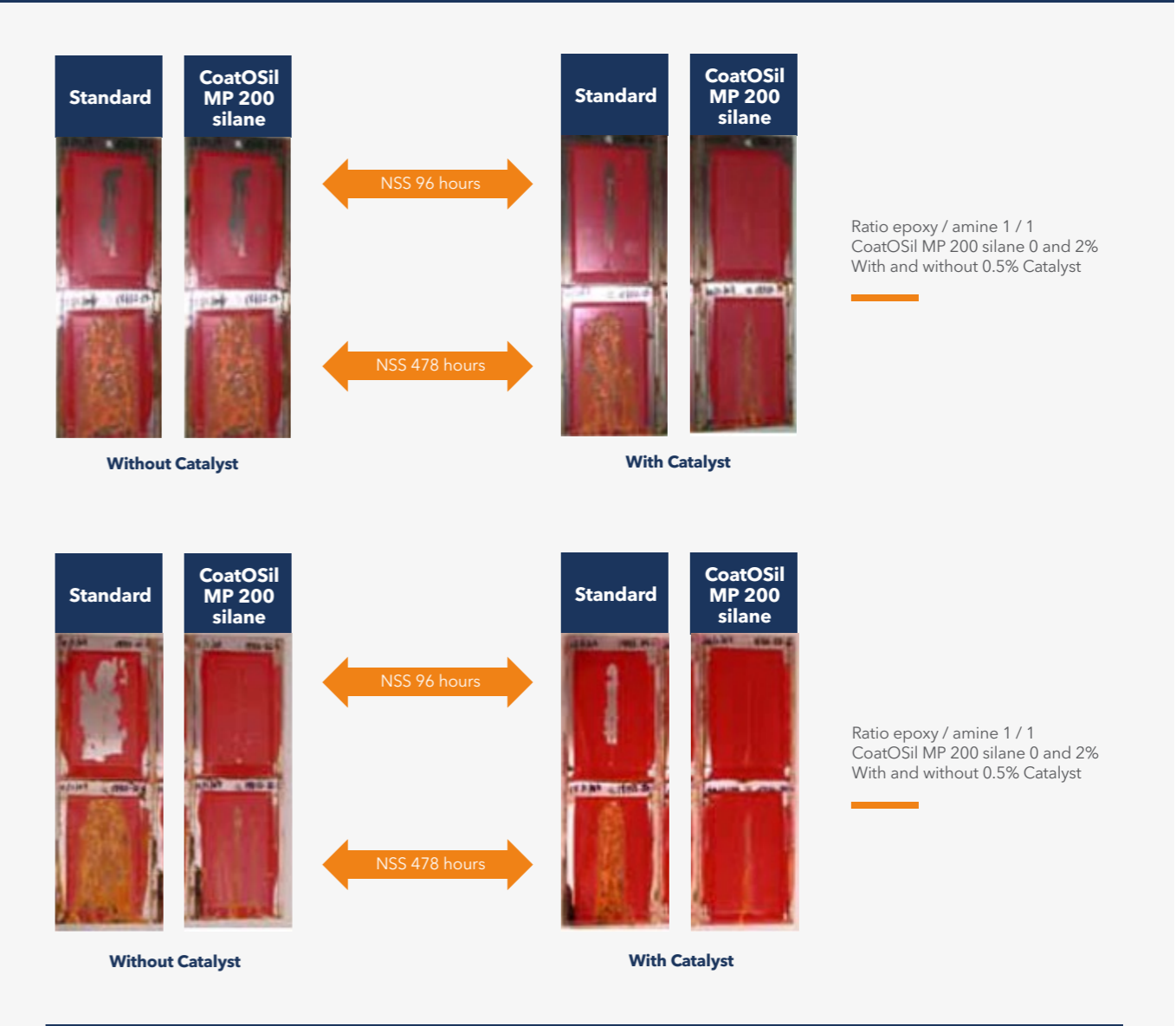
The product is a polyfunctional structure bearing gamma-glycidoxy groups, which is an excellent candidate to consider to reduce emissions of methanol upon hydrolysis of the material as compared with monomeric epoxy silanes. It typically aids adhesion promotion and crosslinking of water borne or solvent based coatings as well as dispersion of metallic pigments in water borne systems.

## KEY FEATURES & TYPICAL BENEFITS

Feature	Benefit
More active silane	Lower loading rate
Partially hydrolyzed and condensed silane	Lower alcohol liberation
Siloxane network	Water and UV resistance Higher hydrolytic stability
Poly-epoxy alkoxy silane structure	Faster grafting rate into polymers Faster curing rate



## CORROSION RESISTANCE Neutral Salt Spray



CoatOSil MP 200 silane can help significantly increase the corrosion resistance of 2K HS epoxy primer. It can lower the impact of epoxy/amine ratio and catalyst content.

## e-free™ 1100 Silane Water-Based Amino Silane Solution



### PRODUCT DESCRIPTION

e-free 1100 silane is a high purity, aminoalkyl-silane solution in water that can deliver the performance of an aminoalkylsilane ester, such as Silquest A-1100\* silane, in a convenient pre-hydrolyzed form.

Easily diluted with water, this one-to-one active content replacement for Silquest A-1100 silane liberate virtually no ethanol, offering an essentially VOC-free version of Silquest A-1100 silane.

### KEY FEATURES & TYPICAL BENEFITS

- Minimal alcohol generation when added to aqueous solutions
- Easy handling, ready to use
- Elimination of pre-hydrolyzing step
- Shelf-stable even in aqueous formulations
- Improved wet adhesion on metallic substrates
- Improved corrosion resistance on metallic substrates



2K WB Epoxy MIO primer control coating w/o silane adhesion promoter. After 240h of NSST exposure of CRS panel coated with the epoxy primer coating film delaminates from the metal substrate.

## CoatOSil™ 7001LC Silicone-Polyether Block Copolymer



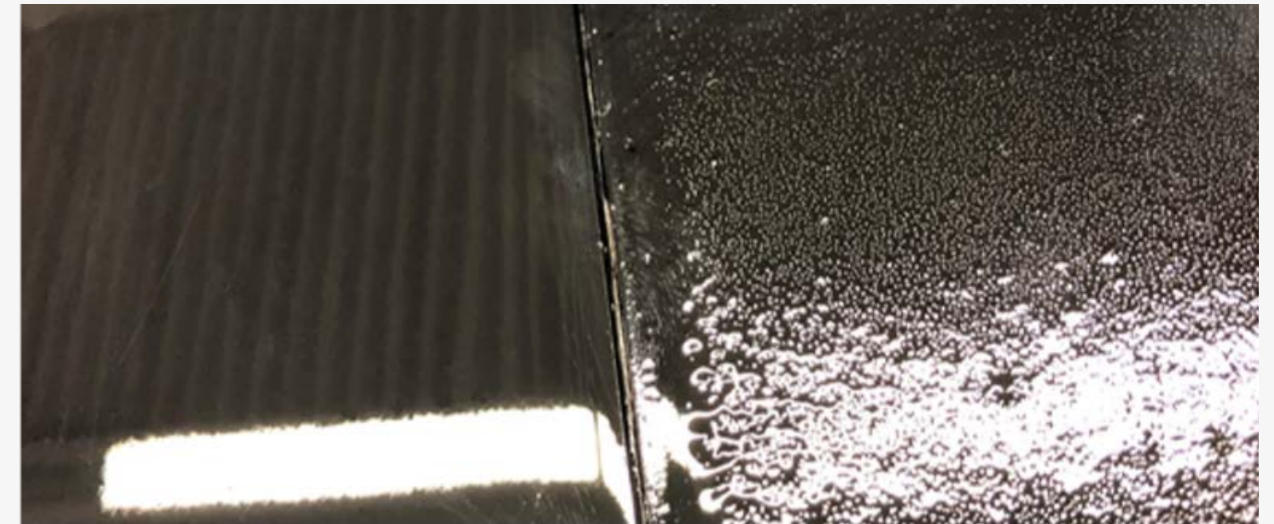
### PRODUCT DESCRIPTION

CoatOSil 7001LC silicone-polyether block copolymer is an environmentally friendly product with low cyclic siloxane content (below 0.1%). This additive can be used as wetting or flow and levelling agent in both solvent borne and waterborne coatings. It also enhances surface slip and improves block resistance.

### KEY FEATURES & TYPICAL BENEFITS

- Highly compatible
- Eliminates craters, orange peel, pin holes and fisheyes defects
- Aids wetting, flow and levelling characteristics of coatings
- Improves surface slip
- Improves block resistance

### CoatOSil 7001LC copolymer (left) and Control (right) w/o additive



2K low bake Polyurethane clearcoat on water based black basecoat with CoatOSil 7001LC eliminated craters, pin holes and fisheyes defects

2K WB low bake Epoxy MIO primer control coating with e free 1100 silane solution adhesion promoter on CRS . Test panels with e-free 1100 silane demonstrated improved corrosion resistance after 240 and 504 hrs neutral salt spray testing for both fresh and heat-aged formulations.

Test results. Actual results may vary

# CoatOSil PROTEC™

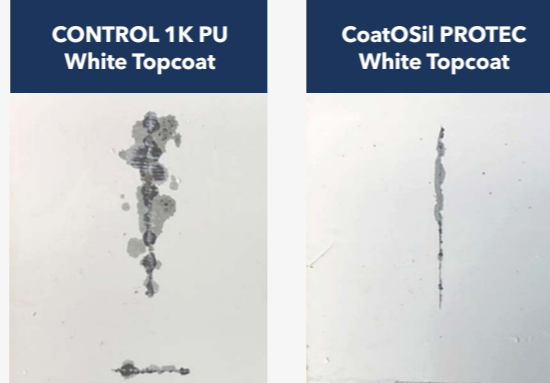


## PRODUCT DESCRIPTION

The 1K Moisture Curable Silylated Resin, CoatOSil™ PROTEC is free of unreacted isocyanate and has the ability to be used in multiple high-performance primer/topcoat coating applications. CoatOSil PROTEC may be robustly formulated with other compatible resins, additives, and pigments to enhance required coating properties. CoatOSil PROTEC may be applied with roll/brush/spray on multiple substrates like metal, concrete, wood, plastic, and glass. CoatOSil PROTEC demonstrated improved bending flexibility, surface aspect and corrosion resistance of high durable protective coatings.

## KEY FEATURES & TYPICAL BENEFITS

- Moisture curable technology formulated without NCO
- In-can paint stability
- Excellent flexibility and impact resistance
- Excellent chemical resistance
- Excellent Adhesion (Wet & Dry)
- Suitable Hardness Values
- Excellent weathering resistance for gloss and color retention
- Excellent corrosion resistance



Corrosion resistance of 1K PU control mono-coat and CoatOSil PROTEC-based white mono-coat on HDG panels pretreated with Cr-free conversion coating. Test panels after 500h of NSST exposure.

Excellent corrosion resistance at the scribe for the CoatOSil PROTEC technology



Impact resistance and cross-section adhesion after 2h immersion in boiling water.

Excellent film integrity, flexibility and wet adhesion with CoatOSil PROTEC technology.



# Product Selection & Usage Guide

Products	Description	Waterborne	Solvent borne/Solvent less /High solid	Active %	Main Function	Use level	Benefits
CoatOSil PROTEC	1k Moisture Curable Silylated resin	X	•	~80%	Binder, co binder	25-50% total formulation	Excellent corrosion resistance Formulated without NCO Suitable hardness values, high compatibility Excellent flexibility and chemical resistance Good weatherability (Gloss and Color retention)
CoatOSil M120XB-S	Methyl Silicone resin solution	X	•	50%	Binder	20-30% total formulation	RT curing Excellent weather stability Good corrosion protection
CoatOSil 1211C	Silicone-polyether	•	X	100%	Wetting additive	0.5-0.5% total formulation	Improved wetting on hard to wet substrates Enhanced coating uniformity Effective replacement for fluorine surfactant
CoatOSil 2812	Silicone-polyether	•	•	100%	Flow & levelling additive	0.1-0.5% total formulation	Enhance slip and mar resistance
CoatOSil 7001/7001LC	Silicone-polyether	X	•	100%	Wetting additive	0.05-0.2% total formulation	Improved substrate wetting
CoatOSil 7210	Silicone-polyether	•	X	100%	Defoamer	0.01-0.2% total formulation	Powerful surface tension reducing
CoatOSil 7600	Silicone-polyether	•	X	100%	Flow & levelling additive	0.05-0.1% total formulation	Improved flow and leveling Excellent compatibility Improve workability
CoatOSil 7604	Silicone-polyether	•	•	100%	Flow & levelling additive	0.05-0.1% total formulation	Excellent compatibility Excellent rinsing ability for e-coat
CoatOSil DF-110	Silicone-polyether	X	•	100%	Defoamer	0.1-0.3% total formulation	Persistent and durable antifoam performance
Silquest VS-142	Amino silane solution	•	X	~20%	Adhesion promoter; crosslinker	1.2-2.5% total formulation	Shelf-stable in waterborne formulations HAPS free additive Minimal VOC generation
e-free 1100	Amino silane solution	•	X	~50%	Adhesion promoter; crosslinker	0.5-1.5% total formulation	Shelf-stable in waterborne formulations Minimal VOC emission HAPS free additive
CoatOSil 1770 Silane	Epoxy silane	•	•	100%	Adhesion promoter	0.5-5% total resin solids	Superior wet and dry adhesion
Silquest A-1871 Silane	Epoxy silane	•	•	100%	Adhesion promoter, cross linker	0.5-2% total resin solids	Better hydrolytic stability Improved wet and dry adhesion HAPS free additive
CoatOSil 2287 Silane	Epoxy silane	•	•	100%	Adhesion promoter, cross linker	0.5-2% total resin solids	Enhanced water resistance Improved wet and dry adhesion Performance consistency with aging
CoatOSil MP-200 Silane	Epoxy functional silane oligomer	•	•	100%	Adhesion promoter, cross linker	0.1-2% total resin solids	Water absorption reduction Improved wet and dry adhesion Limited VOC contribution

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