EUROPE

Additives & Resins

FOR INDUSTRIAL COATINGS

MOMENTIVE®

SOLUTIONS FOR A SUSTAINABLE WORLD

CoatOSil™
BY MOMENTIVE

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

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CoatOSil MP 200 Silane

Aids adhesion and crosslinking of waterborne or solvent-based coatings, as well as dispersion of metallic pigments in waterborne systems.

e-free 1100 Silane Solution

Delivers the performance of an amino silane in a convenient pre-hydrolyzed form.

CoatOSil 7001LC Silicone Copolymer

Improves flow and leveling of solventborne and waterborne coatings.

CoatOSil P905 Silicone Emulsion

Enables high-temperature and corrosion-resistant waterborne coatings.

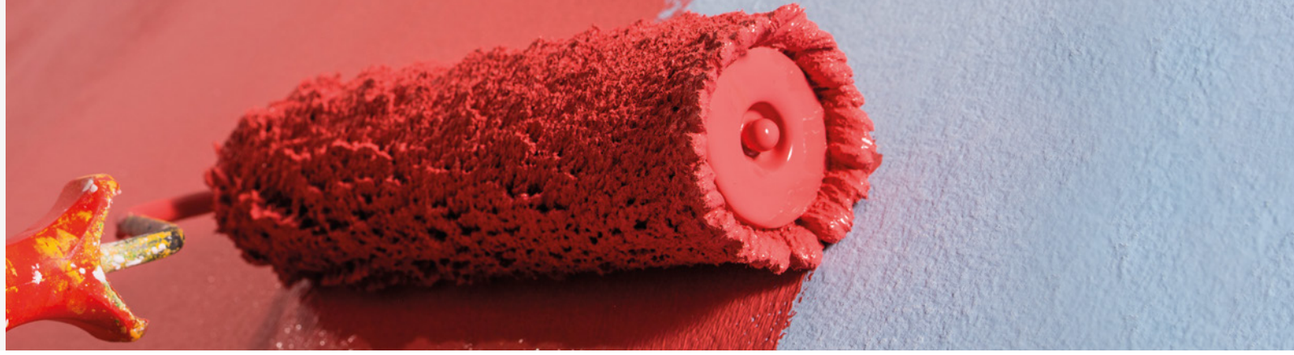
CoatOSil PROTEC Hybrid Resin

Improves bending flexibility, corrosion resistance, and durability of protective coatings.

CoatOSil SE 810/820 Silicones

Provide excellent stain/graffiti release properties and improve durability of solventborne and waterborne coatings.

CoatOSil MP 200 Silane



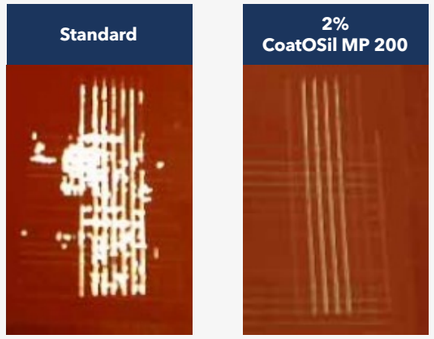
CoatOSil MP 200 is an epoxy functional silane oligomer that may be considered for use as adhesion promoter or crosslinker in waterborne and solventborne acrylic, epoxy, polyurethane, and polysulfide coatings, adhesives, and sealants.

CoatOSil MP 200 silane is a polyfunctional structure bearing gamma-glycidoxy groups and 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 and crosslinking of waterborne or solvent-based coatings, as well as dispersion of metallic pigments in waterborne systems.

KEY FEATURES & TYPICAL BENEFITS

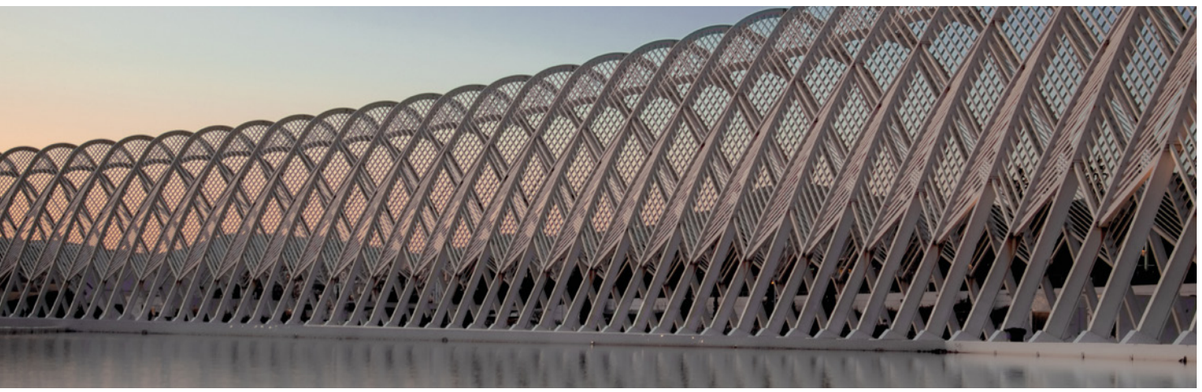
Feature	Benefit
More active silane	Lower loading level
Partially hydrolyzed and condensed silane	Lower alcohol liberation
Siloxane network	Water and UV resistance Higher hydrolytic stability
Poly-epoxy alkoxy silane structure	Faster grafting rate into polymers Faster curing rate

IMPROVED ADHESION

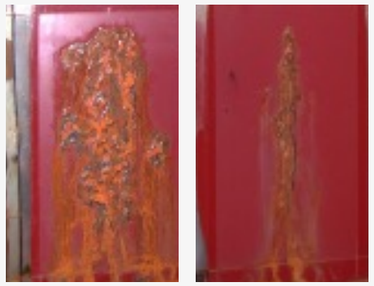


CoatOSil MP200 silane can help significantly increase adhesion performance of 2K high solids (HS) epoxy primer.

Test results. Actual results may vary.



ENHANCED CORROSION RESISTANCE



CoatOSil MP200 silane can help significantly increase corrosion resistance of 2K HS epoxy primer on CRS substrate.

Top image: after 96 hrs salt spray.

Bottom image: after 478 hrs salt spray.

Test results. Actual results may vary.

CoatOSil MP200 silane can lead to further increase in corrosion resistance in comparison to monomeric epoxy silane. Above results are in 2K waterborne epoxy primer on SS substrate after 240 hrs of salt spray testing.

e-free 1100 Silane Solution

e-free 1100 silane is a high purity amino silane solution in water that can deliver the performance of an aminoalkyl-silane 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 liberates virtually no ethanol, offering an essentially VOC-free version of Silquest A-1100 silane.

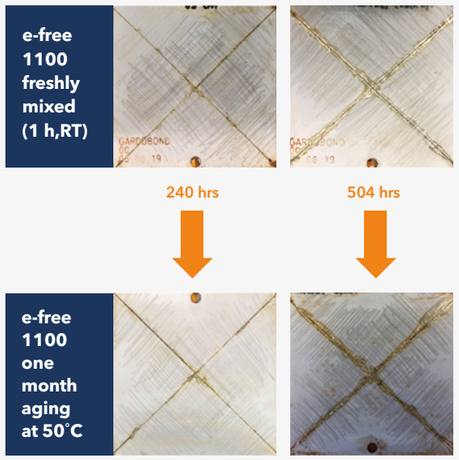
KEY FEATURES & TYPICAL BENEFITS

- 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
- Contains less than 2 percent by weight releasable ethanol

2K waterborne epoxy primer without silane delaminates from CRS panel after 240 hrs of NSST exposure.

Test results. Actual results may vary.

IMPROVED CORROSION RESISTANCE



2K waterborne epoxy primer with e-free 1100 silane solution demonstrates good corrosion resistance on CRS panel after 504 hrs of NSST exposure for both fresh and heat-aged formulations.

Test results. Actual results may vary.

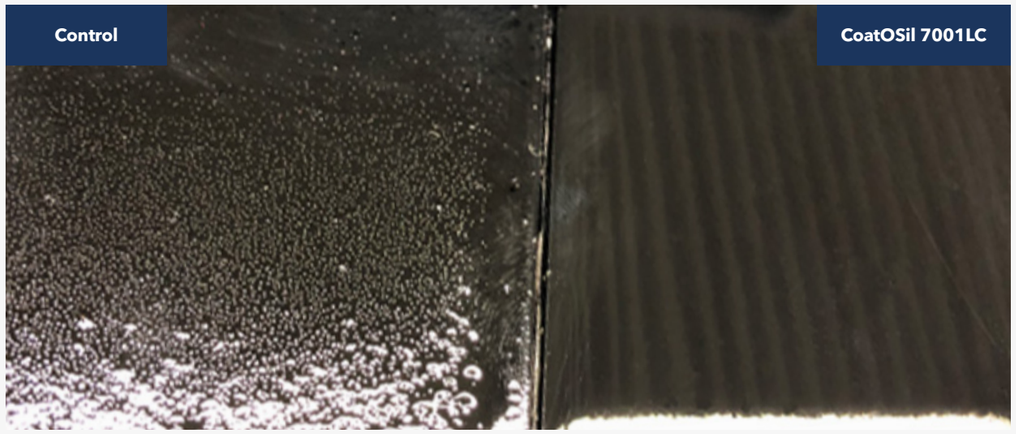
CoatOSil 7001LC Silicone Copolymer

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 solventborne 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
- Improved surface slip
- Improved block resistance

ELIMINATED SURFACE DEFECTS



2K low bake polyurethane clearcoat on water-based black basecoat with CoatOSil 7001LC silicone copolymer eliminates craters, pin holes, and fisheyes defects.

Test results. Actual results may vary.

CoatOSil P905 Silicone Emulsion

CoatOSil P905 is a phenyl-methyl silicone resin emulsion that can be used as sole or co-binder to formulate waterborne high-temperature resistant coatings. Coatings can be dried at room temperature but need thermal curing to achieve maximum performance benefits. Formulations using CoatOSil P905 silicone emulsion, along with suitable pigment and fillers (ex. black iron oxide, aluminum, ceramic) can achieve thermal resistance up to 600 ˚C.

KEY FEATURES & TYPICAL BENEFITS

- High thermal resistance
- Excellent adhesion
- Excellent corrosion resistance

HIGH THERMAL RESISTANCE

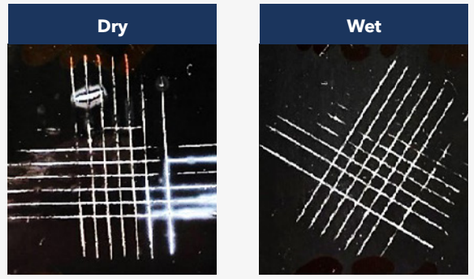
Performance Post Thermal Ageing

Corrosion (Salt Spray, 204 hrs)

Formulation with CoatOSil P905 silicone emulsion and aluminum powder demonstrates excellent thermal resistance at 400 to 600 ˚C without any degradation of appearance, corrosion resistance, or adhesion.

Test results. Actual results may vary.

EXCELLENT ADHESION



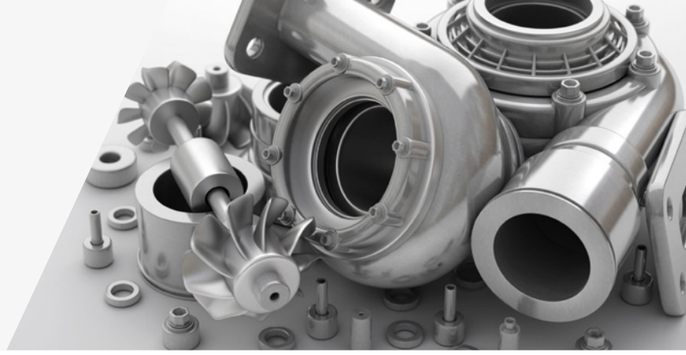
Formulation with CoatOSil P905 silicone emulsion and iron oxide pigment shows excellent dry and wet adhesion (240 hrs at 100% humidity) on aluminum substrate.

EXCELLENT CORROSION RESISTANCE

Formulation with CoatOSil P905 silicone emulsion and iron oxide pigment passes 3000 hrs of salt spray testing on aluminum substrate.

Test results. Actual results may vary.

CoatOSil PROTEC Hybrid Resin



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 hybrid resin may be robustly formulated with other compatible resins, additives, and pigments to enhance required coating properties. CoatOSil PROTEC hybrid resin may be applied with roll/brush/spray on multiple substrates like metal, concrete, wood, plastic, and glass. CoatOSil PROTEC hybrid resin can improve bending flexibility, corrosion resistance, and durability of protective coatings.

KEY FEATURES & TYPICAL BENEFITS

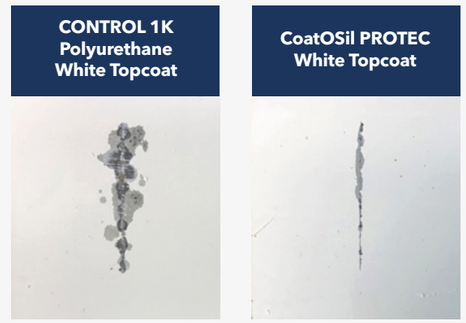
- Moisture curable technology formulated without NCO
- In-can paint stability
- Excellent flexibility and impact resistance
- Excellent chemical resistance
- Excellent adhesion (wet & dry)
- Suitable hardness values
- Excellent weathering resistance for gloss and color retention
- Excellent corrosion resistance

ENHANCED IMPACT RESISTANCE

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

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

IMPROVED CORROSION RESISTANCE



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

Excellent corrosion resistance at the scribe for the CoatOSil PROTEC hybrid resin technology.

Test results. Actual results may vary.

CoatOSil SE 810/SE 820 Silicones

CoatOSil SE 810 and SE 820 are 100% active, functional silicones that can be used as reactive additives/co-binders in 2K polyurethane solventborne and waterborne coatings, respectively. CoatOSil SE 810/SE 820 silicones can be added to the polyols part. They react with isocyanate to improve stain/graffiti release, adhesion, flexibility, hydrophobicity, and durability.

KEY FEATURES & TYPICAL BENEFITS

- Excellent compatibility with organic resins and pigments
- Excellent stain/graffiti release properties
- Improved durability and chemical resistance
- Improved flexible and impact resistance
- Improved dry/wet adhesion
- Enhanced hydrophobicity and reduced surface energy

IMPROVED STAIN/GRAFFITI RELEASE

Incorporation of CoatOSil SE 810/820 silicones in 2K polyurethane paints can enable easy release of graffiti paint applied over polyurethane paint films in tape-pull test and high-pressure water cleaning. Performance is maintained even after accelerated weathering for 1000 hrs using QUV-B and condensation cycles.

Control

5% CoatOSil SE 810

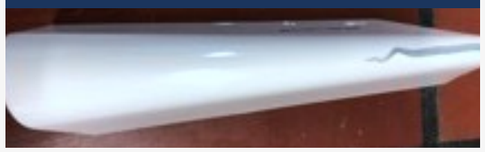
Images taken after graffiti application over white polyurethane paint and Karcher high-pressure cleaning (60-80 bar).

Test results. Actual results may vary.

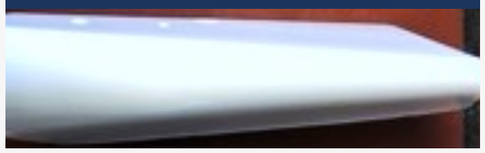
ENHANCED FLEXIBILITY AND IMPACT RESISTANCE

Incorporation of CoatOSil SE 810/820 silicones in 2K polyurethane paints can enhance flexibility based on conical mandrel bend and front/reverse impact testing.

Control



5% CoatOSil SE 820



Test results. Actual results may vary.

Product Selection & Usage Guide

Product Category	Product Name	Typical Benefits	Waterborne	Solventborne /Solventless /High solid	UV Coating
Surface Modifier Additives	**CoatOSil SE 810**	Enhances graffiti removal, hydrophobicity, flexibility, and UV stability.		•	
	CoatOSil SE 820	Enhances graffiti removal, hydrophobicity, flexibility, and UV stability.	•		
	CoatOSil 7602	Increases slip and stain resistance.	•		•
	CoatOSil 2812	Increases slip and stain resistance.	•		•
Binders/ Co-Binders	**CoatOSil PROTEC**	Excellent UV stability, flexibility, corrosion resistance, and adhesion to multiple substrates.		•	
	CoatOSil P905	Excellent thermal stability, adhesion, and corrosion resistance.	•		
	CoatOSil M120XB-S	Excellent thermal stability, adhesion, UV and corrosion resistance. Room temperature drying.		•	
	TSR-1452	Excellent thermal stability, adhesion, and corrosion resistance.		•	
Silane Adhesion Promoters/ Crosslinkers	CoatOSil MP 200	Epoxy silane oligomer, trimethoxy, for waterborne and solventborne systems.	•	•	
	CoatOSil 1871	Epoxy silane, triethoxy, for waterborne systems.	•		
	CoatOSil 2287	Epoxy silane, diethoxy, for waterborne systems.	•		
	CoatOSil 1770	Epoxy silane, triethoxy, for waterborne systems.	•		
	Silquest A-189	Mercapto silane for solventborne epoxy and polyurethane coating.		•	
	Silquest A-1524CF	Ureido silane for contaminated surface.		•	
	e-free 1100	Amino silane in water for primer and waterborne coatings.	•		
Flow/Leveling and Wetting Additives	CoatOSil 7001LC	Improves flow/leveling and surface uniformity.	•	•	
	CoatOSil 7604LC	Improves flow/leveling and surface uniformity.	•		
	CoatOSil 7600	Improves flow/leveling and surface uniformity.	•		
	CoatOSil 77	Enables wetting on difficult substrates. Suitable for formulations with pH 6.5-7.5.	•	•	
	CoatOSil 1211C	Enables wetting on difficult substrates. Suitable for formulations with pH 6-9.	•	•	
Defoamers	**CoatOSil DF 110**	High efficiency defoamer for pigmented coating.		•	
	CoatOSil 7210	Suitable for formulating defoamers.	•		
	CoatOSil 7510	Suitable for formulating defoamers.	•		

Test results. Actual results may vary.

Bold: Potential Candidate to Replace PFAS-based Additives and Resins Products.

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