



High-Temperature Resistant Silicone Resins7

Adhesion Promoters

CoatOSil™ and Silquest™ silanes are versatile products that can react with a wide variety of organic and inorganic materials. These products can be considered for use as coupling agents, crosslinking agents, and surface modifiers in applications such as paints, coatings, adhesives, and sealants.



Key	Product	Compatible Re	sin Chemistry	
Products	Chemistry	Solvent Based	Water Based	Applications
CoatOSil MP 200 silane oligomer	Oligomeric epoxy silane	 Acrylic Polyurethane (1K and 2K systems) Epoxy Polysulfide 	AcrylicStyrene acrylicPolyurethane dispersion and epoxy	 Architectural coatings Wood coatings General Industrial coatings Protective coatings Automotive coatings
CoatOSil 2287 silane	Glycidoxypropyl dialkoxy silane	Not applicable	AcrylicStyrene acrylicPolyurethane dispersion and epoxy	Architectural coatingsWood coatingsGeneral Industrial coatings
CoatOSil 1770 silane	Cycloaliphatic epoxy silane	Not applicable	AcrylicStyrene acrylicPolyurethane dispersion and epoxy	Architectural coatingsWood coatingsGeneral Industrial coatingsAutomotive coatings
Silquest A-1871 silane	Glycidoxypropyl trialkoxysilane	Not applicable	AcrylicStyrene acrylicPolyurethane dispersion and epoxy	 Architectural coatings Wood coatings General Industrial coatings Automotive coatings Protective Coatings
Silquest A-Link™ 600 silane	Low-yellowing amino silane	 Polyurethane (1K systems) Epoxy Silylated polyurethane Polyether adhesives and coatings Silicone sealants 	Not applicable	 Moisture curable adhesives and sealants Polyurethane sealants SPUR+™ prepolymer adhesives and sealants Automotive and performance coatings
Silquest A-Link 25 and 35 silane	Isocyanate functional silane	Polyurethane (1K systems)Silylated polyurethaneSilylated polyaspartics	 Acrylic (2K systems) Polyurethane dispersion (1K and 2K systems) Epoxy (2K systems) 	 Moisture curable urethane adhesives, sealants and coatings Adhesion promoter for all systems where active hydrogen species are available
Silquest A-Link 235 silane	Aminofunctional silane siloxane	 Hybrid, polyurethane RTV silicone sealants and adhesives Filled and unfilled oxime silicone sealants 	Not applicable	 Moisture curable urethane adhesives, sealants and coatings Adhesion promoter for all systems requiring adhesion on difficult substrates: plastics, aluminum, wet concrete
e free 1100 waterbased amino silane solution	Amino-functional silane- silsesquioxane	Not applicable for solventbased systems	 2K waterbased epoxy coatings Zn, ZnAl-metal primers Sol-gel coating systems 	 Adhesion promoter and anti-corrosion additive for two-pack epoxy coating systems; Crosslinker for waterbased epoxy coatings and composites; Adhesion promoter additive for inorganic sol-gel coatings;

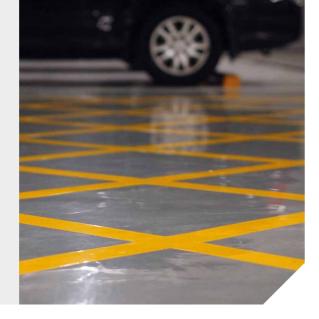
Key Features & Typical Benefits:

- Improved scrub resistance
- Enhanced dry and wet adhesion on multiple substrates
- Increased corrosion and chemical resistance
- Expanded hardness and mechanical strength

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Wetting, Leveling & Slip Additives & Defoamers

CoatOSil silicone-polyether additives are used in wide variety of applications including waterborne and solventborne coatings, high solids, powder, and UV coatings and inks.

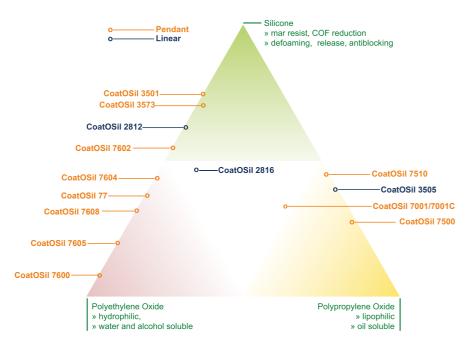


	Waterborne			Solventborne & High solids				Radiation cure UV/EB				
Products	Wetting	F/L*	Slip	Defoaming	Wetting	F/L	Slip	Defoaming	Wetting	F/L	Slip	Defoaming
CoatOSil 1211C**	•	•							•	•		
CoatOSil 2812***			•				•				•	
CoatOSil 2816		•	•			•	•			•	•	
CoatOSil 3501**		•	•		•	•		•**		•	•	•**
CoatOSil 3505			•	•			•	•			•	•
CoatOSil 3573							•	•			•	•
CoatOSil 7001/7001LC	•	•			•	•			•	•		
CoatOSil 7500				•	•	•				•		
CoatOSil 7510				•		•		•				•
CoatOSil 7600		•				•						
CoatOSil 7602		•	•				•			•	•	
CoatOSil 7604	•	•				•				•		
CoatOSil 7605	•	•				•				•		
CoatOSil 7608	•	•			•	•				•		
CoatOSil 77	•	•			•	•			•	•		

^{*}F/L: Flow and Leveling **Low Foaming ***CoatOSil 2812 is reactive

Key Features & Typical Benefits:

- Enhanced flow and leveling (eliminate defects like craters, orange peel, etc.)
- Improved slip (reduced coefficient of friction)
- Increased mar resistance
- Control of foam and enhanced air release
- Improved substrate wetting
- Increased gloss
- Anti-blocking (release)



Hybrid Prepolymers

Silane-terminated polyurethanes have become increasingly attractive to manufacturers of adhesives, sealants, and coatings. This high-performance hybrid technology is a result of the synergy between the silane-curing mechanism and polyurethane backbone properties.

Formulations based on SPUR+™ prepolymer offer fast room-temperature cure and good durability, as the sealants or adhesives are free of unreacted isocyanate. Typical benefits also include freedom from bubbling during cure and a broadening of the formulation latitude compared to conventional polyurethane technologies.



Key Products	Typical Viscosity at 25 °C (mPas)	Typical Characteristics	Construction	Transportation	Wood Flooring	Roof Coating
SPUR+ 1015 Prepolymer	50,000	Low modulus	•			
SPUR+ 1020 Prepolymer	50,000	Low modulusLow yellowing and color stability	•			
SPUR+ 1050 Prepolymer	35,000	Medium modulus	•	•	•	
SPUR+ 1070 Prepolymer	15,000	Medium modulus & low viscosity Low yellowing and color stability	•	•	•	
SPUR+ 3030* Prepolymer	2,500	Low viscosityHigh hydrophobicity		•		•
SPUR+ 3040 Prepolymer	~7,000	Low viscosityHigh strengthVersatileEasy to formulate				

^{*}Might not be available in your region, please contact your Momentive representative

Key Features & Typical Benefits:

- Moisture cure at room temperature
- Primerless adhesion to many substrates
- Excellent water and chemical resistance and weatherability
- Excellent elongation and elastic recovery
- Isocyanate free formulation
- Minimal shrinkage
- Formulation flexibility with 1K and 2K systems
- Easy application characteristics



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Waterborne Silicones

In the coatings market, silicones are known for their durability, water repellency, lower VOC, and resistance to other environmental elements. Momentive's waterborne silicones can help create longer-lasting, protective coatings that maintain aesthetics in interior and exterior architectural applications.



Key Products	Description	Active content %	Interior	Exterior	Concrete Sealer	Wood	Cement admixtures	Typical Benefits
CoatOSil DRI Waterborne Resin	Film-forming waterborne silicone emulsion	45%	•	•	•			 Improved UV resistance Improved water resistance Compatible with wide variety of waterborne coating systems
CoatOSil CLEAN Silicone	Functional silicone emulsion	45%						 Improved scuff resistance Improved stain resistance Reduced surfactant leaching Improved water resistance
CoatOSil F Emulsion	Waterborne, solvent free polysiloxane emulsion	60%		•	•			Long term durability Outstanding water resistance after weathering Improved color retention and reduced chalking after weathering Excellent alkali and efflorescence resistance Low VOC Excellent scuff resistance in interior application
CoatOSil PRIM-2 Emulsion	Silane/ siloxane emulsion	64%						 Excellent water beading and efflorescence resistance Reduced capillary water absorption Low cyclic content Anti-blocking
Silblock™ WMS Masonry Water Repellent	Silane/ siloxane emulsion	40%						 Excellent water resistance as an admixture and/or penetrating sealer Deep penetration and excellent water vapor permeability

Key Features & Typical Benefits:

- Improved scuff/mar resistance
- Enhanced water resistance
- Improved UV resistance
- Increased efflorescence resistance
- Reduced surfactant leaching



High-Temperature Performance Silicone Resin



Silicone resins are key technologies in high-temperature performance coatings, corrosion protection coatings, weather-resistant coatings, and electrical insulating varnishes.

They offer a variety of typical benefits such as high heat resistance, UV and oxidation resistance, gloss and color retention and good adhesion to aluminum or steel. Methyl silicone resins are excellent candidates to consider for applications requiring long-term heat resistance at 200 °C, whereas methyl-phenyl resins can be considered for applications requiring heat resistance up to 250 °C. For higher heat resistance performance, the use of inorganic color pigments such as titanium dioxide can enable heat resistance to 350 °C, while the use of aluminum and micaceous iron oxides has been shown to enable heat resistance up to 600 °C.

Key Products	Active Substance Content (%)	Solvent(s)	Viscosity at 23 °C, DIN 53 015 & at 25 °C, DIN 52 015	Hardness	Phenyl Containing
CoatOSil M120 XB-S	50%	Xylene/ Butanol	40-90mPas	Hard	No
CoatOSil P 501 resin	50%	Xylene/ Cyclohexanone	220-300mPas	Medium hard	Yes
TSR117 resin	50%	Xylene	150mPas	Medium	Yes
CoatOSil P576 resin	75%	Xylene/ Butanol	600-1300mPas	Medium hard	Yes
TSR1452 resin	60%	Xylene	40mPas	Medium hard	Yes
CoatOSil P851 resin	50%	Xylene/ Cyclohexanone	60-100mPas	Soft	Yes

Key Features & Typical Benefits:

- Heat resistance up to 600 °C in certain formulations
- Electrical insulation
- Anti-corrosiveness
- Thermal shock resistance

Potential Applications:

- High temperature performance paints for industrial use
- High temperature performance paints for consumer use
- Electrical insulating varnishes
- Weather-resistant coatings
- Thermo-set molded parts

Innovative Moisture Curable Silylated Resin High Performance



The 1K Moisture Curable Silylated Resin, CoatOSil™ PROTEC is free of unreacted isocyanate has the ability to be used in multiple high-performance primer/topcoat coating applications where 1-component curing is preferred or required. 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 Products	Active Substance Content (%)	Solvent	Viscosity at 25 °C	VOC (EPA method 24)	
CoatOSil PROTEC	80%	n Butyl Acetate	12000mPas	210g/l	

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

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