SILICONE ADDITIVES FOR PAINTS, INKS AND COATINGS

Siltech Additives

Silicone additives have long been recognized for providing special properties to inks and coatings, including improved slip, mar resistance, leveling and foam control. Furthermore, because silicones are effective at very low concentrations, they are widely used to optimize both product properties and processes.

Siltech's additives now offer formulators of paints, inks and coatings a wide range of silicone products to eliminate manufacturing problems and to enhance the final product's performance. All Siltech products are manufactured to the highest standards to ensure that they meet our customers' needs. Siltech also offers the flexibility of providing many of these products in either an appropriate solvent or in neat form. These products are designed to meet the specific requirements of various coating systems such as solvent, water, solventless, powder or energy curing.

Siltech's additives cover the following functional classes: wetting agents; slip, mar, gloss, flow and leveling additives; and foam control.

This brochure is designed to enable formulators to select the right additives for their specific system needs. It is organized to provide user-friendly information, including key properties and benefits, typical applications, coatings systems and recommended dosage.

In addition to the products offered in this brochure, Siltech welcomes the opportunity to work with customers to develop unique silicones for specific applications.

About Siltech

Siltech develops, manufactures and markets a full line of organo-functional silicone compounds and related specialties for a wide range of industrial applications, using both our patented and proprietary technology. With more than 20 years of experience, we draw upon an expertise that includes organo-modified silicone surfactants and silicone polymers.

Siltech currently serves customers in inks and coatings, personal care, polyurethane foam, textile, automotive, pulp & paper, plastics, household and industrial cleaning markets.

Innovative Silicone Specialties SILTECH

PRODUCT	DESCRIPTION	SOLID %	SOLVENT	SPECIFIC GRAVITY (25°C)	VISCOSITY 25°C, CST	DILUENTS	DOSAGE %	SLIP	FOAM CONTROL	MAR RESISTANCE	LEVELING, WETTING FLOW	GLOSS	COMMENTS	SHELF LIFE IN MONTHS (from date of manufacture
Siltech C-441	Silicone polyether copolymer	100	None	1.00	1,500-3,000	Water, polar solvents, butyl glycol, butyl acetate	0.05-1.00	⊕⊕		⊕⊕	⊕		Used in solvent-based, water-based and energy-curing coatings and ink formulations to eliminate cratering and to improve slip, anti-blocking and flow. It also provides excellent mar resistance.	36
Siltech C-241	Silicone polyether copolymer	95	Diethylene glycol monobutyl ether	1.01	1,200-1,600	Polar solvents, butyl glycol, butyl acetate, aromatic solvents	0.10-1.00	⊕⊕		⊕⊕	⊕		Used in solvent-based, water-based and energy curing coatings and ink formulations to eliminate cratering, improve slip and flow. Also prevents pigment floatation and provides mar resistance.	36
Siltech C-608	Silicone polyether copolymer	100	None	1.04	500-1,000	Aromatic solvents, butyl cellosolve, polar solvents	0.05-0.50	⊕⊕	⊕	⊕⊕			A non-foaming slip and mar resistance additive for water-borne systems.	36
Silmer ACR Di-10 Silmer ACR Di-50	Silicone acrylate fluid	100	None	0.96 0.98	20-70 100-500	Aromatic and aliphatic solvents	0.05-1.00	⊕⊕		⊕⊕			Improves surface smoothness and scratch resistance in UV-curable systems. The acrylate functionality provides for permanent binding in the matrix of the coating.	24
Silmer ACR D208 Silmer ACR Di-1508 Silmer ACR Di-2510	Silicone acrylate polyether	100	None	1.07 1.04 1.02	300-1,000 100-500 100-500	Water and aromatic solvents	0.10-3.00	⊕⊕		⊕⊕			Can be reacted into acrylate polymers for coatings, plastics and resins to incorporate a silicone moiety into the polymer structure to give better slip, antiblocking, mar resistance, surface smoothness and flexibility. These same benefits can also be incorporated into UV and EB curing systems.	24
Siltech C-753	Carbinol functional siloxane	100	None	1.04	500-1,000	Aromatic solvents, esters, ketones and glycol ethers	0.50-3.00	⊕⊕		⊕⊕		⊕	Helps to impart marker resistance, anti-graffiti and anti-stain properties while also improving release. The hydroxyl functionality ensures that this product reacts into the polymer network and therefore produces permanent effects. Applications include two-pack coatings based on acrylic polyol/isocyanate, polyester polyol/isocyanate, melamine chemistry and acrylic-epoxy coatings.	36
Siltech C-468	Silicone polyether copolymer	100	None	1.02	400-800	Water, polar solvents, butyl glycol, butyl acetate	0.05-1.00	⊕⊕		⊕	⊕		Used in solvent-based, water-based, energy-curing coatings and inks to eliminate cratering and to improve slip, anti-blocking and flow. Also provides mar resistance and offers good re-coatability.	36
Siltech C-216	Silicone polyether copolymer	10	Toluene	0.89	2-5	Aromatic and aliphatic solvents	0.10-1.50	⊕⊕		⊕	⊕		Improves slip, mar resistance, pigment treatment and leveling. For solvent-borne systems.	36
Siltech C-442	Silicone polyether copolymer	100	None	1.01	1,500-3,500	Polar solvents, butyl glycol, butyl acetate, xylene.	0.05-1.00	⊕⊕		⊕⊕	⊕	⊕	Used in solvent-based, water-based and energy curing coatings and ink formulations to eliminate cratering, improve slip, gloss and flow. Also prevents pigment floating and provides mar resistance.	36
Siltech C-39	Silicone polyether copolymer	100	None	1.07	600-1,500	Ketones, polar solvents, aromatic solvents, methylene chloride	0.10-1.50	⊕⊕	⊕	⊕⊕			Provides slip and mar resistance in solvent, UV and EB cured coatings.	36
Siltech C-816	Silicone alkyl polyether	100	None	1.07	1,200-1,700	Water, polar solvents	0.05-1.50	⊕⊕		⊕			Provides stain resistance to water-borne coatings.	36
Siltech C-42	Silicone polyether copolymer	100	None	1.05	300-600	Water (dispersible), polar solvents, acetone, toluene	0.05-2.00	⊕⊕		⊕	⊕⊕	⊕	Improves leveling, gloss, flow-out, wetting. Prevents pigment separation and improves mar resistance.	36
Siltech C-4400	Dispersion of very high molecular weight silicone in water	80	Water	0.98	400,000-700,000	Water, polar solvents	0.05-3.00	⊕⊕		⊕⊕			Used in water-based coatings to improve mar and abrasion resistance and slip.	36
Siltech C-4800 Siltech C-4830 Siltech C-4900 Siltech C-4930	Emulsion of foam destroying silicones and silica	65 40 65 40	Water	1.00	2,000-6,000 1,000-3,000 8,000-14,000 2,000-5,000	Water, polar solvents	0.10-1.00 0.20-1.00 0.10-1.00 0.20-1.00		⊕⊕				Defoamer for water-based systems.	36
Siltech C-22	Silicone polyether copolymer	100	None	1.01	300-600	Polar solvents, aromatic solvents, methylene chloride	0.05-1.00	⊕	⊕⊕	⊕			Used in solvent-based, water-based and energy curing coatings and ink formulations to improve anti blocking and mar resistance. It also acts as a defoamer in water-based systems.	36
Siltech C-754	Organo-modified silicone polyether	100	None	0.97	2,000-3,000	Aromatic solvents, esters, ketones and glycol ethers	0.50-3.00	⊕		⊕⊕			Used for solvent-borne cross-linkable top coats where it imparts marker resistance, anti-graffiti and anti-stain properties while also improving release. The product's reactive functionality ensures a permanent effect to the painted surface. Applications include two-pack coatings based on acrylic polyol/isocyanate, polyester polyol/isocyanate, melamine chemistry and acrylic-epoxy coatings.	36
Siltech C-265	Silicone polyether copolymer	52	Isobutanol	0.90	20-50	Isobutanol, polar solvents	0.10-0.30	⊕		⊕⊕	⊕⊕		Improves leveling, wetting, mar and abrasion resistance in solvent-based systems. It also prevents pigment floating and cratering.	36
Siltech C-176	Silicone polyether copolymer	13	Xylene & monophenol glycol ether	0.93	2-5	Aromatic solvents	0.10-0.50	⊕		⊕	⊕⊕	⊕	For solvent-based systems to give wetting, slip, anti-blocking and improved gloss.	24
Siltech C-7014	Silanol-functional	100	None	1.00	13-15	Aromatic, aliphatic and chlorinated solvents	0.10-1.00	⊕		⊕	⊕⊕	⊕	Improves leveling and anti-cratering and reduces orange peel. Prevents pigment floating and provides mar resistance in solvent-based systems.	36
Siltech C-428	Silicone alkyl polyether	100	None	0.95	300-800	Aromatic solvents, polar solvents, butyl cellosolve	0.05-0.25	⊕	⊕	⊕	⊕⊕		Leveling additive for solvent-borne systems. Defoaming properties. Prevents formation of Bernard cells. Increases surface slip and scratch and mar resistance.	36
Siltech C-228	Siltech C-428 in ethylene glycol monobutyl ether	50	Ethylene glycol monobutyl ether	0.90	200-500	Aromatic solvents, polar solvents, butyl cellosolve	0.10-0.50	⊕	⊕	⊕	⊕⊕		Leveling additive for solvent-borne and water-borne systems. Defoaming properties. Increases surface slip and scratch and mar resistance. Prevents formation of Bernard cells.	36
Siltech C-404	Silicone polyether copolymer	100	None	1.04	75-200	Dipropylene glycol monomethylether	0.05-0.50				⊕⊕		Re-coatable additive for wetting and leveling in water-borne systems.	36
Siltech C-204	Siltech C-404 in dipropylene glycol monomethylether	52	Dipropylene glycol monomethylether	0.99	10-50	Dipropylene glycol monomethylether	0.10-1.00				⊕⊕		Re-coatable additive for wetting and leveling in water-borne systems.	36
Siltech C-172	Silicone polyether copolymer	100	None	0.96	500-1,500	Xylene, isobutanol, butyl glycol, polar solvents	0.10-0.50	⊕		⊕	⊕⊕	⊕	Increases surface slip and improves leveling and gloss. Improves wetting and provides anti-blocking benefits. Prevents formation of Bernard cells.	36
Siltech C-173	Siltech C-172 in butyl cellosolve	52	Butyl cellosolve	0.91	25-100	Xylene, isobutanol, butyl glycol	0.20-1.00	⊕		⊕	⊕⊕	⊕	Increases surface slip and improves leveling and gloss. Improves wetting and provides anti-blocking benefits. Prevents formation of Bernard cells.	36
Siltech C-174	Siltech C-172 in xylene and isobutanol	52	Xylene and isobutanol	0.91	10-40	Xylene, isobutanol, butyl glycol	0.20-1.00	⊕		⊕	⊕⊕	⊕	Increases surface slip and improves leveling and gloss. Improves wetting and provides anti-blocking benefits. Prevents formation of Bernard cells.	36
Siltech C-32	Silicone alkyl aryl fluid	100	None	1.02	800-1,500	Aromatic solvents, mineral spirits, chlorinated hydrocarbons	0.05-1.00	⊕	⊕	⊕	⊕⊕	⊕	Additive for solvent, solventless and powder systems. Provides leveling, de-aeration, mar resistance and pigment-treatment benefits. Good re-coatability and heat stability.	36
Siltech C-101	Silicone polyether copolymer	100	None	1.04	200-500	Water, polar solvents, aromatic solvents	0.10-1.50	⊕		⊕	⊕⊕	⊕	Reduces surface tension and improves flow-out, leveling, wetting and gloss.	36
Siltech C-400	Silicone polyether copolymer	100	None	1.05	80-120	Water, polar solvents, butyl glycol, butyl acetate	0.05-1.00				⊕⊕		Used in solvent-based, water-based and solventless coatings and inks. Provides strong substrate wetting, flow and leveling.	36
Siltech C-261	Silicone polyether copolymer	15	Butyl acetate	0.90	2-5	Butyl acetate	0.10-1.00	⊕		⊕	⊕⊕		Used in solvent-based coatings to improve leveling, substrate wetting and mar and abrasion resistance. It also prevents floating and cratering.	36
Siltech C-259	Silicone polyether copolymer	100	None	1.04	700-1,100	Water, polar solvents, xylene	0.10-1.50	⊕		⊕	⊕⊕	⊕	Designed to reduce surface tension, improve wetting and compatibility in mostly solvent based systems.	36
Silsurf A004-UP Silsurf A008-UP	Silicone polyether copolymer	100	None	1.03	20-50 50-100	Polar solvents, aromatic solvents, butyl cellosolve	0.10-0.50				⊕⊕		Superior wetting and spreading properties for all coating systems.	36

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SYSTEM	SLIP	FOAM CONTROL	MAR RESISTANCE	LEVELING, WETTING, FLOW	GLOSS	PREVENTION OF BERNARD CELLS
Water Borne	**Siltech C-42** **Siltech C-241** **Siltech C-441** **Siltech C-442** **Siltech C-468** **Siltech C-608** **Siltech C-816** **Siltech C-4400** Siltech C-101 Siltech C-228	**Siltech C-4800** **Siltech C-4830** **Siltech C-4900** **Siltech C-4930** Siltech C-22 Siltech C-39 Siltech C-228	**Siltech C-241** **Siltech C-441** **Siltech C-608** **Siltech C-816** **Siltech C-4400** Siltech C-22 Siltech C-42 Siltech C-101 Siltech C-228 Siltech C-241 Siltech C-259 Siltech C-468	**Silsurf A004-UP** **Silsurf A008-UP** **Siltech C-42** **Siltech C-101** **Siltech C-204** **Siltech C-400** **Siltech C-404** Siltech C-241 Siltech C-441 Siltech C-468	**Siltech C-42** **Siltech C-101** Siltech C-442	**Siltech C-228** **Siltech C-241** **Siltech C-441** **Siltech C-442**
Solvent Borne	**Siltech C-39** **Siltech C-173** **Siltech C-174** **Siltech C-216** **Siltech C-241** **Siltech C-441** **Siltech C-442** **Siltech C-468** **Siltech C-753** **Siltech C-816** Siltech C-22 Siltech C-32 Siltech C-42 Siltech C-101 Siltech C-228 Siltech C-259 Siltech C-261 Siltech C-428 Siltech C-754	Siltech C-22 Siltech C-32 Siltech C-39 Siltech C-228 Siltech C-428	**Siltech C-22** **Siltech C-39** **Siltech C-216** **Siltech C-241** **Siltech C-441** **Siltech C-442** **Siltech C-754** **Siltech C-816** Siltech C-32 Siltech C-42 Siltech C-101 Siltech C-176 Siltech C-259 Siltech C-261 Siltech C-265 Siltech C-428 Siltech C-468 Siltech C-7014	**Siltech C-32** **Siltech C-42** **Siltech C-101** **Siltech C-173** **Siltech C-174** **Siltech C-176** **Siltech C-228** **Siltech C-259** **Siltech C-261** **Siltech C-265** **Siltech C-400** **Siltech C-428** **Siltech C-7014** Siltech C-216 Siltech C-241 Siltech C-441 Siltech C-468	**Siltech C-32** **Siltech C-42** **Siltech C-101** **Siltech C-173** **Siltech C-174** Siltech C-176 Siltech C-216 Siltech C-259 Siltech C-442 Siltech C-753 Siltech C-7014	**Siltech C-172** **Siltech C-173** **Siltech C-174** **Siltech C-228** **Siltech C-241** **Siltech C-428** **Siltech C-441** **Siltech C-442**
Solvent Free	**Siltech C-442** **Siltech C-816** Siltech C-22 Siltech C-32 Siltech C-42 Siltech C-101 Siltech C-172 Siltech C-7014	Siltech C-32	**Siltech C-442** **Siltech C-816** Siltech C-22 Siltech C-32 Siltech C-42 Siltech C-101 Siltech C-259 Siltech C-7014	**Siltech C-32** **Siltech C-42** **Siltech C-101** **Siltech C-172** **Siltech C-7014** Siltech C-442	**Siltech C-32** **Siltech C-42** **Siltech C-101** **Siltech C-7014** Siltech C-172	**Siltech C-172**
Radiation Cure	**Siltech C-38** **Siltech C-42** **Siltech C-241** **Siltech C-441** **Siltech C-442** **Siltech C-468** **Siltech C-816** **Silmer ACR Di-10** **Silmer ACR Di-50** **Silmer ACR D208** **Silmer ACR Di-1508** **Silmer ACR Di-2510** Siltech C-22 Siltech C-101 Siltech C-259 Siltech C-7014	Siltech C-22 Siltech C-32 Siltech C-608 Silmer ACR Di-10 Silmer ACR Di-50	**Siltech C-22** **Siltech C-38** **Siltech C-42** **Siltech C-241** **Siltech C-441** **Siltech C-816** **Silmer ACR Di-10** **Silmer ACR Di-50** **Silmer ACR D208** **Silmer ACR Di-1508** **Silmer ACR Di-2510** Siltech C-101 Siltech C-216 Siltech C-259 Siltech C-442 Siltech C-7014	**Siltech C-42** **Siltech C-101** **Siltech C-259** **Siltech C-7014** Siltech C-241 Siltech C-441 Siltech C-442 Siltech C-468	**Siltech C-42** **Siltech C-101** **Siltech C-7014** Siltech C-259 Siltech C-442	

Primary Function, Secondary Function

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