Coatings and inks additive

Selection guide

DOW®



Seek Together™

DOWSIL™

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A little makes a big splash!

It takes only a little of an additive from Dow to make the significant performance difference your customers demand from your paint, ink and coating formulations. DOWSIL™ and XIAMETER™ brand additives provide problem-solving performance.

- Use in waterborne or solventborne formulations
- Compatible with most binder systems
- High efficiency at low concentration levels to help lower raw materials costs
- Suitable for use in low-VOC, sustainably formulated products
- Formulated for versatility and ease of use

Problem-solving performance

For more than half a century, Dow has led the way in silicon-based technology and is a global leader in the development of problem-solving, silicon-based technologies used in paints, inks and coatings. Many of our additives impart a combination of benefits, giving you a high benefit-to-cost ratio. Whether you need foam control; improved pigment dispersion, surface wetting, leveling or adhesion; water resistance, mar resistance, slip, gloss or texturization; or any combination of benefits, silicon-based technology from Dow can help you achieve it.

Global resources, local expertise and support

With global manufacturing facilities, sales offices, research and development laboratories, and Technical Information Centers all linked to a worldwide network of expert local distributors, Dow is able to provide you with an exceptional level of service, support and value. Dow is known for outstanding technical support. Our team of experts will work hand-in-hand with yours to ensure your success with the amazingly versatile materials.



How to use this guide

This guide will help you explore the properties and performance capabilities of our global line of additives for paints, inks and coatings. Table 1 groups the additives by their primary benefit and describes their physical makeup, features, secondary benefits and properties. Table 2 highlights products available in sample size via our Additive Sample Program.

About concentrations and blending

The amount of additive required to achieve a particular benefit depends on the type of formulation, the solvent it contains, the resin system and total system solids. Generally, our additives are effective at the concentrations noted in Table 1. Since advantages do not increase proportionally, avoid using excess amounts. Additives from Dow are usually added during grind or let-down, or they are post-added. However, some may be added during any processing stage. See Table 1 for additional information.

dow.com/coatings gives you access to:

- Product samples
- Product literature and technical datasheets
- Technical articles
- Customer service
- The name of a technically knowledgeable Dow distributor near you

Table 1: Features, typical use and properties of additives from Dow[1] (Products are listed under their primary benefit)

Product	Description	Features/benefits	Compatible binder systems	Point of addition	Typical concentration[2]	Suitable diluents[3]	Reactive groups	Solvent	Viscosity at 25°C (77°F), cSt	Food contact compliance[4]
Slip, mar resistance										
DOWSIL™ 11 Additive	Silicone polyether copolymer; 10% active	Increases mar resistance of solventborne coatings; also improves leveling and gloss and prevents pigment separation	Solventborne acrylic, alkyd, amide, epoxy, nitrocellulose, polyester, polyurethane, vinyl	Grind, let-down or post add	0.1-0.5%	Aromatics such as xylene or toluene; mineral spirits or ketones	Carbinol	Toluene	1.0-2.0	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 14 Additive	Silicone polyether copolymer; 10% active	Improves slip and mar resistance; provides leveling in waterborne and solventborne coatings	Acrylic, alkyd, epoxy, polyester, polyurethane	Grind, let-down or post add	0.1-0.5%	Water or alcohols	Carbinol	Isopropanol	< 10	
DOWSIL™ 18 Additive	Dispersion of high molecular weight polydimethylsiloxane and silicone surfactant; 100% active	Provides slip and mar resistance in waterborne and solventborne coatings; anti-blocking in waterborne coatings	Acrylic, polyester, polyurethane (waterborne and solventborne)	Let-down or post add	0.1-1.0%	Water	None	None	250,000-650,000	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 27 Additive	Non-reactive silicone glycol copolymer; 100% active	Effective at mar resistance and slip while maintaining gloss; reduced coefficient of friction	Water-based acrylic flexographic ink and U V overprint varnish	Let-down or post add	0.1-1.0%	Water and suitable solvents	None	None	275	FDA 176.210
DOWSIL™ 29 Additive	Silicone polyether copolymer	Imparts mar resistance to waterborne and solventborne coatings; also improves leveling and substrate wetting; provides anti-blocking	Acrylic, epoxy, polyurethane	Grind, let-down or post add	0.1-1.0%	Water or alcohols	Carbinol	None	200-500	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 51 Additive	Dispersion of high molecular weight polysiloxane and surfactants; 80% active	Imparts mar resistance and slip to waterborne coatings; may also provide room temperature anti-blocking	Waterborne acrylic, alkyd, epoxy, nitrocellulose, polyester, polyurethane, vinyl	Grind, let-down or post add	0.05-3.0%	Water	Silanol	Water	200,000-750,000	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 52 Additive	Dispersion of high molecular weight polysiloxane and surfactants; 64% active	Imparts mar resistance and slip to waterborne coatings; may also provide room temperature anti-blocking	Waterborne acrylic, polyurethane	Let-down or post add	0.01-3.5%	Water	Silanol	Water	3,000-5,000	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 54 Additive	Silicone polyether copolymer	Provides mar resistance, slip and leveling in waterborne and solventborne coatings; aids defoaming in some systems	Solventborne acrylic, alkyd, epoxy, polyester, polyurethane, vinyl; waterborne acrylic and polyester	Let-down or post add	0.05-1.0%	Aromatics such as xylene or toluene, mineral spirits	Carbinol	None	149-185	Swiss Ordinance RS 817.023.21 Annex 10 Part B, bfr 15-0002, bfr 36-0002
DOWSIL™ 55 Additive	Silicone polyether copolymer; 10% active	Increases slip and mar resistance in waterborne and solventborne coatings; improves leveling in solventborne coatings	Waterborne acrylic, alkyd, solventborne polyurethane	Post add	0.1-0.5%	Water or alcohols	Carbinol	2-butoxy-ethanol	6	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 205SL Additive	Silicone polyether copolymer; 50% active	Superior hand feel modifier for multiple delivery coating systems; lowers coefficient of friction (CoF); foam control; also effective in solventborne coatings	Waterborne acrylic, polyurethane, alkyd, polyester; solventborne polyurethane, polyester; UV acrylate	Let-down	0.1-1.0%	Alcohols, glycol ethers and aromatic solvents	Carbinol	Ethylene glycol isopropyl ether	25-60	Swiss Ordinance RS 817.023.21 Annex 10 Part B
DOWSIL™ 210S Additive	Ultra-high molecular weight silicone dispersion in water	Strong reduction in coefficient of friction, cost effective slip additive; very good mar and abrasion resistance; may also provide room temperature anti-blocking; good compatibility and low tendency to cause craters	Waterborne acrylic, polyurethane dispersion	Let-down or post add	0.1-0.3%	Water	Silanol	Water	200-1000	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 211S Additive	Ultra-high molecular weight silicone dispersion in water; 60% active	High compatiblity; Low tendency to cause craters even with high dosage; Slip enhancement; Mar resistance; Anti-blocking improvement	Water acrylic, polyurethane dispersion, waterborne epoxy.	Let-down or post add	0.1–1%	Water; ethanol; di(propylene glycol) methyl ether	Silanol	Water	1000-3000 cP (not a specification)	Not evaluated
DOWSIL™ 213S Additive	Dispersion of high molecular weight polysiloxane and surfactants; 88% active	Imparts mar resistance and slip to waterborne coatings; may also provide room temperature anti-blocking; BTX-free	Waterborne acrylic, alkyd, epoxy, nitrocellulose, polyester, polyurethane, vinyl	Grind, let-down or post add	0.05-3.0%	Water	Silanol	Water	200,000-750,000	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 214S Additive	Dispersion of high molecular weight polysiloxane and surfactants; 68% active	Imparts mar resistance and slip to waterborne coatings; may also provide room temperature anti-blocking; BTX-free	Waterborne acrylic, polyurethane	Let-down or post add	0.01-3.5%	Water	Silanol	Water	3,000-5,000	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B

Table 1: Features, typical use and properties of additives from Dow[1] (continued)

Product	Description	Features/benefits	Compatible binder systems	Point of addition	Typical concentration[2]	Suitable diluents[3]	Reactive groups	Solvent	Viscosity at 25°C (77°F), cSt	Food contact compliance[4]
Foam control										
Emulsions										
DOWSIL™ 62LV Additive	Silicone emulsion; 57% active	Provides foam control in waterborne inks and coatings; good compatibility and low tendency to cause defects	Waterborne acrylic, polyurethane	Grind, let-down or post add	0.05-.05%	Water	Silanol	Water	1,000-3,500	176.210 [5], Swiss Ordinance RS 817.023.21 Annex 10 Part A or B, bfr 14-0002
DOWSIL™ 68 Additive	Silicone emulsion; 50-55% active	Provides immediate and sustainable foam control in waterborne inks, wood coatings and paints	Acrylic, polyurethane	Post add	0.05-.05%	Water	Silanol	Water	1,000-3,000	
DOWSIL™ 106F Additive	Silicone emulsion type of anti-foam containing silica 42% activity content	Effective foam control for waterborne coating system at 0.1–0.5 wt%. Good compatibility, low tendency to cause craters. Anti-foam with long term effectiveness Micro-bubble defoaming ability Used for both grinding and let down stage.	Water acrylic, polyurethane dispersion, waterborne epoxy.	Let-down or post add	0.1–0.5%	Water	NA	Water	2700 MPa	Not evaluated
DOWSIL™ 108F Additive	Silicone emulsion; 22.5% active	Provides foam control in waterborne coatings including wood coatings, architectural and inks; good compatibility and low tendency to cause defects	Water-based systems	Let-down	0.1-1.0%	Water	None	Water	1,600	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
XIAMETER™ AFE-0700 Antifoam Emulsion	Silicone antifoam emulsion; 10% active	Good foam control and high persistency over a wide pH and temperature range	Water-based systems	Added directly or during the let-down stage	0.05-1.0%	Water	None	None	1,750	

[1] These values are not intended for use in preparing specifications.
[2] The typical concentrations are usage levels where the materials have performed successfully. Usage levels can vary depending on application and performance requirements. Please evaluate for optimum performance in each specific application.
[3] Review the Safety Data Sheet for each solvent prior to use. Safety Data Sheets can be obtained from your solvent supplier.
[4] Complainant at effective date of publication of this selection guide. Visit dow.com/customersupport to obtain food contact regulatory information, including FDA, EU, Swiss Ordinance and German BfR clearance. FDA Title 21 CFR - 175 (175.105, 175.300, 175.320) Indirect food additives: adhesives and components of coatings; 176 (176.130, 176.170, 176.180, 176.200, 176.210) Indirect food additives: paper and paper board components; 177 (177.1390, 177.2600, 177.1520(b)) Indirect food additives: polymers.
[5] Use level not to exceed 0.015%.

Table 1: Features, typical use and properties of additives from Dow[1] (continued)

Product	Description	Features/benefits	Compatible binder systems	Point of addition	Typical concentration[2]	Suitable diluents[3]	Reactive groups	Solvent	Viscosity at 25°C (77°F), cSt	Food contact compliance[4]
Foam control (continued)										
Self-dispersible compounds										
DOWSIL™ 71 Additive	Organo-modified silicone copolymer	Provides foam control in waterborne coatings, especially ink and clear wood coatings; balancing effective foam control and surface appearance	Waterborne acrylic	Let-down or post add	0.1-0.5%	Alcohols, glycol ethers and ester alcohol	None	None	350-900	FDA 176.170 [6], Swiss Ordinance RS 817.023.21 Annex 10 Part A or B, bfr 15-0002, bfr 36-0002
DOWSIL™ 74 Additive	Organo-modified silicone copolymer	Provides foam control in waterborne coatings, especially wood coatings; balancing effective foam control and surface appearance	Waterborne acrylic	Let-down or post add	0.1-0.5%	Alcohols and glycol ethers	Carbinol	None	350-1,400	FDA 176.210, Swiss Ordinance RS 817.023.21 Annex 10 Part B, bfr 15-0002, bfr 36-0002
DOWSIL™ 163 Additive	Silicone anti-foam compound; 100% active	Provides foam control in waterborne, solventborne and radiation-cured coatings and inks	Waterborne and solventborne acrylic, epoxy, polyester, polyurethane, vinyl; also radiation-cured	Let-down or post add	0.1-1.0%	Glycols	Silanol	None	750-1,550	FDA[7] 175.105, 175.300, 176.170, 176.180, 176.200, 176.210, Swiss Ordinance RS 817.023.21 Annex 10 Part A or B, CN 9685.2016
DOWSIL™ 107F Additive	Easily dispersible modified polysiloxane compound. Contains silica. 100% active content	Versatile defoamer for water based paints and coatings, effective at 0.1–1.0 wt% loading. Improved compatibility, low tendency to cause craters. Used for both grinding and let down stage. APEO free, low VOC.	Water acrylic, styrene acrylic, VAE architectural paints. Flexographic inks, acrylic OPV.	Let-down or post add	0.1–0.5%	Water	N/A	Water	300-500 MPa	FDA : not approved.
DOWSIL™ 8590 Additive	Silicone anti-foam compound with silica; 100% active	Top choice for architecture applications; highly efficient anti-foam at low dosage for waterborne coating and ink system; no impact on gloss; low viscosity for easy dispersibility	Waterborne acrylic styrene emulsion paint, flexographic inks, acrylic overprint varnish, acrylic urethane emulsions	Grind, let-down after thickeners or post add	0.05-1.0%	Can be added directly or pre-diluted with alcohols or polyglycols	None	None	784	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 8603 Additive	Silicone anti-foam compound with silica; 100% active	Effective foam control for waterborne coating and ink systems at low dosages; tendency toward low surface defects	Waterborne acrylic styrene emulsion paint, interior wall paint, flexo gravure inks, polyester acrylic, acrylic-modified alkyd	Grind, let-down or post add	0.05-1.0%	Can be added directly or pre-diluted with alcohols or polyglycols	None	None	900-3,600	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 8610 Additive	Silicone anti-foam compound with silica 100% activity content	Effective foam control for waterborne coating system at 0.1–0.5 wt% with long term effectiveness during grinding stage.	Water acrylic, polyurethane dispersion, waterborne epoxy.	Grinding stage	0.1–0.5%	Glycol ether	None	None	700 MPa	Not evaluated
DOWSIL™ 8628 Additive	100% organofunctional silicone	Effective foam control for waterborne coating systems	Waterborne UV-curable inks; waterborne wood stains, trims and varnishes	Added directly or during the let-down stage	0.05-1.0%	Glycol ether	None	None	4,000	
Release additives										
DOWSIL™ 1-9770 Release Additive	High viscosity, reactive silicone fluid	Provides release properties in clear or pigmented coatings; can be used in food contact applications	Polyester, silicones	Grind, let-down or post add	0.1-5.0%	Aromatic hydrocarbons, ketones, acetates and other suitable solvents	Silanol	None	11,000-14,000	FDA 175.105, 175.300, 176.170, 176.180, 176.200, 176.210, 177.2260, 177.2800, 178.3120, 178.3570, 178.3910, 181.28, bfr 15-0002

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[4] Complainant at effective date of publication of this selection guide. Visit dow.com/customersupport to obtain food contact regulatory information, including FDA, EU, Swiss Ordinance and German BfR clearance. FDA Title 21 CFR - 175 (175.105, 175.300, 175.320) Indirect food additives: adhesives and components of coatings; 176 (176.130, 176.170, 176.180, 176.200, 176.210) Indirect food additives: paper and paper board components; 177 (177.1390, 177.2600, 177.1520(b)) Indirect food additives: polymers.
[5] Chemically equivalent to DOWSIL™ Z-6032 Silane.
[6] Limitations may apply. Please contact Na.info@dow.com for more information.
[7] Use level not to exceed 0.025%.

Table 1: Features, typical use and properties of additives from Dow[1] (continued)

Product	Description	Features/benefits	Compatible binder systems	Point of addition	Typical concentration[2]	Suitable diluents[3]	Reactive groups	Solvent	Viscosity at 25°C (77°F), cSt	Food contact compliance[4]
Adhesion promotion and surface treatment (substrates, pigments)										
DOWSIL™ 3 Additive	Silanol-functional (Si-OH) additive; 10% active	Improves pigment dispersion and reduces separation and flotation in solventborne coatings; also provides leveling, flow-out and gloss	Solventborne acrylic, alkyd, polyester, epoxy, polyurethane	Grind, let-down or post add	0.1-0.5%	Aromatics such as xylene or toluene; mineral spirits or ketones	Silanol	Toluene	0.7-1.4	
DOWSIL™ 700P Additive	Alkoxy siloxane with organic group; 90% active	Titanium dioxide dispersant both for high-grade and low-grade TiO_2; provides stabilization of pigment dispersion and prevents pigment flooding and floating	Solventborne inorganic filler dispersant	Combine with resins before adding pigment for grinding	0.02-4.0%	Xylene and butyl acetate	Alkoxy	Methanol	5.5	
DOWSIL™ Z-6121 Silane	Aminoethylaminopropyltrialkoxysilane; 50% active	Improves adhesion of waterborne and solventborne coatings when bonded to glass or metal substrates; can be used as an additive or primer	Waterborne and solventborne acrylic, alkyd, epoxy, polyester	Grind for waterborne; let-down or post add for solventborne	Primer: dilute to 10% active Additive: 0.1-5.0%	Alcohols and water	Amino; alkoxy-silyl	n-Butanol	< 10	FDA 175.105
DOWSIL™ Z-6137 Silane	Aqueous solution of amino-functional silicone polymers; 22.5% active	Promotes adhesion of waterborne coatings to inorganic substrates	Waterborne polyester	Post add	0.1-5.0%	Water	Amino; silanol	Water	3-7	
XIAMETER™ OFS-6011 Silane	Aminopropyltriethoxysilane; 99% active	Adhesion promoter in waterborne and solventborne coatings and pigment treatment in waterborne coatings	Waterborne and solventborne acrylic; solventborne polyurethane; 2K acrylic epoxy for concrete and industrial maintenance	Grind or let-down	0.05-2.0%	Alcohols and water	Amino; ethoxy-silyl	None	< 10	FDA 175.105, Swiss Ordinance RS 817.023.21 Annex 10 Part A, CN 9685.2016
XIAMETER™ OFS-6020 Silane	Aminoethylaminopropyltrimethoxysilane; 99% active	Adhesion promoter and pigment treatment in waterborne and solventborne coatings	Waterborne and solventborne acrylic, alkyd, epoxy, polyurethane	Grind, let-down or post add	Primer: dilute to 10% active in isopropanol Additive: 0.5-2.0%	Alcohols and water	Amino; methoxy-silyl	None	< 10	FDA 175.105, 175.300
XIAMETER™ OFS-6030 Silane	3-methacryloxypropyltrimethoxysilane; 98% active	Improves adhesion of waterborne, solventborne and radiation-cured coatings to inorganic substrates when used as a primer or additive	Waterborne and solventborne acrylic, alkyd, epoxy, polyester, polyurethane, vinyl; radiation-cured acrylic	Let-down or post add	Primer: dilute to 0.1-0.5% active in acidified (pH~4.0) water Additive: 0.1-3.0%	Alcohols and water	Methacrylate; methoxy-silyl	None	2.3-2.7	FDA 177.2465[7]
XIAMETER™ OFS-6032 Silane[5]	Cationic vinylbenzyl and amino-functional methoxy-silane; 40% active	Adhesion promoter in waterborne and solventborne coatings; can be used as an additive or primer	Waterborne and solventborne acrylic, epoxy	Grind, let-down or post add	Primer: dilute with methanol or ethanol mixed with water 10:1 Additive: 0.05-3.0 wt%	Alcohols and water	Amino; vinylbenzyl; methoxy-silyl	Methanol	1-3	
XIAMETER™ OFS-6040 Silane	Glycidoxypropyltrimethoxysilane; 99% active	Adhesion promoter and pigment treatment in waterborne and solventborne coatings; can be used as an additive or primer	Waterborne and solventborne acrylic, alkyd, amine, epoxy, polyurethane, vinyl	Grind, let-down or post add	Primer: dilute to 10% active in isopropanol Additive: 0.05-3.0%	Alcohols and water	Epoxy; methoxy-silyl	None	2.95-3.20	FDA 177.1390, Swiss Ordinance RS 817.023.21 Annex 10 Part B[8]

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[4] Complainant at effective date of publication of this selection guide. Visit dow.com/customersupport to obtain food contact regulatory information, including FDA, EU, Swiss Ordinance and German BfR clearance. FDA Title 21 CFR - 175 (175.105, 175.300, 175.320) Indirect food additives: adhesives and components of coatings; 176 (176.130, 176.170, 176.180, 176.200, 176.210) Indirect food additives: paper and paper board components; 177 (177.1390, 177.2600, 177.1520(b)) Indirect food additives: polymers.
[5] Chemically equivalent to DOWSIL™ Z-6032 Silane.
[7] This product is an unreacted monomer. May be copolymerized as stipulated in 177.2465(a).
[8] May be used as an optional trimethoxysilane coupling agents in accordance with 177.1390 (c)(2)(iv)(a).

Table 1: Features, typical use and properties of additives from Dow[1] (continued)

Product	Description	Features/benefits	Compatible binder systems	Point of addition	Typical concentration[2]	Suitable diluents[3]	Reactive groups	Solvent	Viscosity at 25°C (77°F), cSt	Food contact compliance[4]
Water resistance										
DOWSIL™ 84 Additive	Low-viscosity emulsion of silicone elastomer precursors; 60% active	Provides water resistance for waterborne systems, particularly inks	Mainly acrylics	Let-down or post add	1.0-5.0%	Water	Silanol	Water	250-650	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 85 Additive	Medium-viscosity emulsion of silicone elastomer precursors; 60% active	Provides water resistance for waterborne systems, particularly inks	Mainly acrylics	Let-down or post add	1.0-5.0%	Water	Silanol	Water	34,000-46,000	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 87 Additive	Emulsion; 38-44% actives	Provides water repellency and water beading for waterborne systems with minimal effect on water vapor permeability; particularly for decorative paints	Acrylic, styrene-acrylics and vinyl acetate emulsions	Let-down or post add	1.0-5.0%	Water	Ethoxy-silanol	Water	6	
DOWSIL™ 88 Additive	Silane/siloxane blend; 98% actives	Provides water repellency with minimal effect on water vapor permeability; can be used in waterborne systems containing polar solvents and solventborne systems; particularly for decorative paints	Acrylic, styrene-acrylics	Let-down or post add	1.0-5.0%	Aliphatic and aromatic hydrocarbons and polar solvents	Alkoxy-silanol	None	35	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 901H Additive	Silicone emulsion; 60% active	General-purpose low-VOC hydrophobe to improve water resistance and water contact angle; may provide corrosion resistance for waterborne industrial metal coating	Water-based acrylic, styrene acrylic and VAE systems	Let-down or post add	0.5-5.0%	Water	Alkoxy; silanol	Water	Not available	
DOWSIL™ 902H Additive	Silicone-resin-based emulsion; 50% active	Co-binder for high-PVC siloxane paints; decreases water absorption through hydrophobization of pores; can be combined with a beading additive to additionally achieve high water-contact angle; may provide dirt pick up resistance	Water-based acrylic, styrene acrylic and VAE systems	Let-down or post add	8.0-10.0%	Water	Alkoxy	Water	300-2,000	
DOWSIL™ 904H Additive	Amino functional polydimethylsiloxane	Provides snail trail resistance in high PVC (dark) colored paints and provides improved surface hydrophobicity and water repellency	Acrylic and styrene acrylic high pigmented paint	Grind or let-down	1-5%	Typical coalescent used in architectural formulations	Amino	None	70	
DOWSIL™ 906H Additive	Low VOC emulsion of silicone elastomer; 50% actives	Provides water resistance for waterborne systems with little effect on water vapor permeability; can be used as a co-binder	Acrylic	Let-down or post add	1.0-10.0%	Water	Silanol	Water	550	
Leveling, gloss										
DOWSIL™ 56 Additive	Arylalkyl-modified silicone; 100% active	Aids deaeration without destabilizing the curtain in solventborne curtain coatings; improves leveling and gloss; aids pigment orientation; good thermostability	Water-based acrylic, styrene acrylic and VAE systems	Grind, let-down or post add	0.05-0.5%	Aromatics such as xylene, toluene, mineral spirits and esters such as butyl acetate	None	None	1,125-1,645	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 57LV Additive	Silicone polyether copolymer	Improves leveling, slip, mar resistance and gloss in waterborne and solventborne coatings; provides substrate wetting	(NOTE: Always check compatibility before usage)	Grind, let-down or post add	0.1-1.0%	Acetone, toluene, mineral spirits and isopropyl alcohol; dispersible in water	None	None	175-390	FDA 176.170, 175.300[1], Swiss Ordinance RS 817.023.21 Annex 10 Part B, bfr 15-0002, CN 9685.2016
DOWSIL™ 402LS Additive	Silicone polyether copolymer	Effective flow and leveling additive for waterborne and radiation curable systems; also lowers coefficient of friction, giving good slip; suitable in pigmented and clear coat formulations; also provides anti-blocking and applied hiding	(NOTE: Always check compatibility before usage)	Let-down	0.1-1.0%	Alcohols, glycol ethers and aromatic solvents	Carbinol	None	280-400	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 8526 Additive	Carbinol-functional silicone polyether;100% active	Provides leveling and slip with good compatibility in solventborne, waterborne and UV-curable coatings, inks and overprint varnishes	Solvent-based acrylic, epoxy, polyester and urethane systems; waterborne acrylic, polyester, epoxy and urethane systems; UV systems	Grind, let-down or post add	0.2-1.0%	Water, alcohols, toluene, xylene	Carbinol	None	1,552	

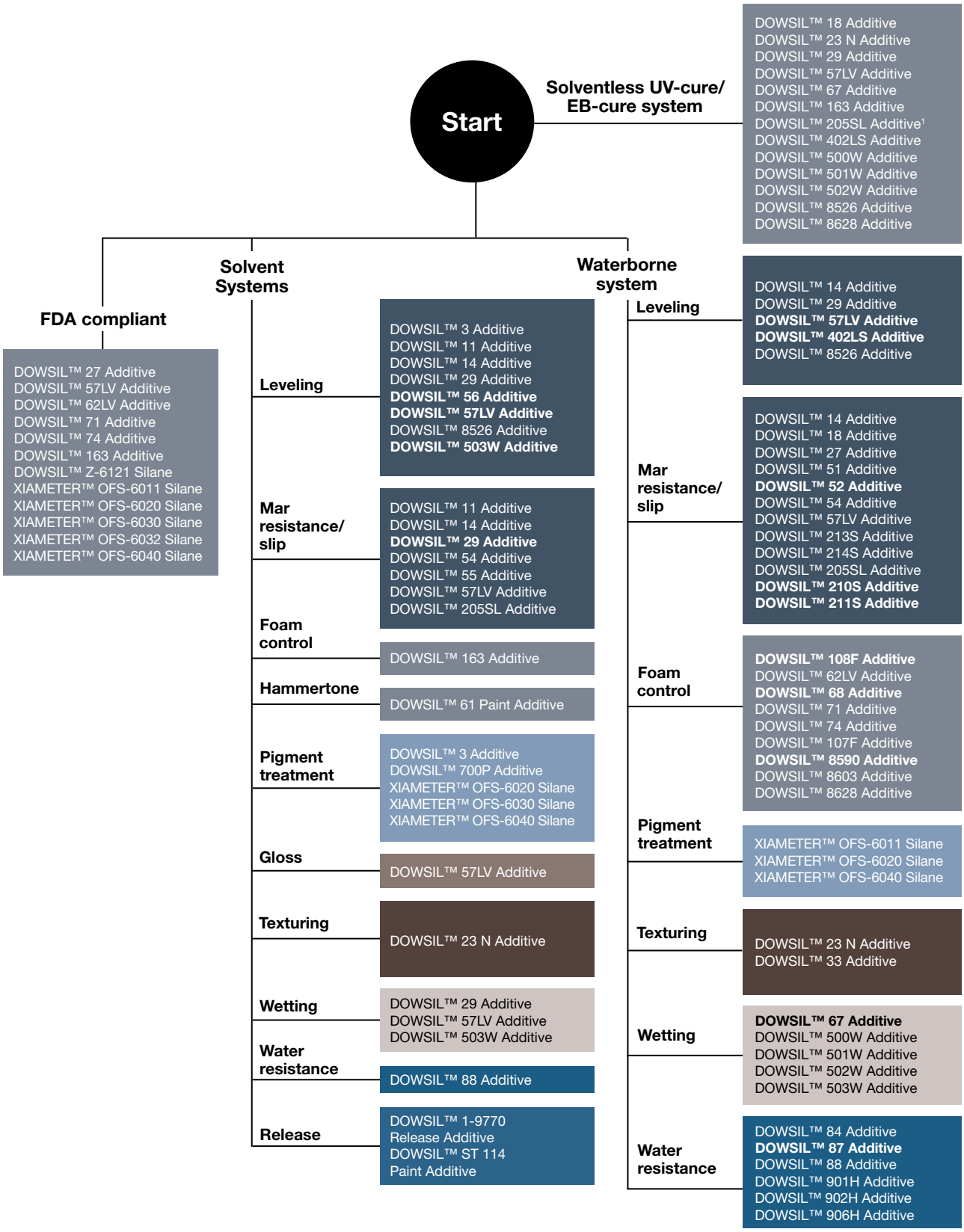
[1] Limitations may apply. Please contact www.dow.com/contactus for more information.

Table 1: Features, typical use and properties of additives from Dow[1] (Products are listed under their primary benefit)

Product	Description	Features/benefits	Compatible binder systems	Point of addition	Typical concentration[2]	Suitable diluents[3]	Reactive groups	Solvent	Viscosity at 25°C (77°F), cSt	Food contact compliance[4]
Wetting										
DOWSIL™ 67 Additive	Silicone polyether copolymer	Imparts spreading and wetting in waterborne and radiation-curable coatings on difficult substrates, e.g., low-energy substrates such as polyethylene, polypropylene, polyester; suitable in inks, decorative and industrial coatings for plastic, metal and wood	Waterborne acrylate, alkyd, polyester, polyurethane	Let-down or post add	0.1-0.4%	Isopropyl alcohol, acetone; dispersible in water	Carbinol	None	31-51	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 500W Additive	Silicone polyether copolymer	Imparts enhanced substrate wetting in waterborne and radiation curable systems; suitable across a wide range of substrates, including wood and plastics; stable at high pH	Waterborne acrylic and polyurethane; radiation-curable acrylate	Let-down	0.1-0.4%	Isopropyl alcohol, acetone and toluene; dispersible in water	None	None	25.5-29.5	
DOWSIL™ 501W Additive	Silicone polyether copolymer	Imparts enhanced substrate wetting in waterborne and radiation curable systems; suitable across a wide range of substrates, including wood and plastics	Waterborne acrylic and polyurethane; radiation-curable acrylate	Let-down	0.1-0.4%	Isopropyl alcohol, acetone and toluene; dispersible in water	None	None	10-30	Swiss Ordinance RS 817.023.21 Annex 10 Part B
DOWSIL™ 502W Additive	Silicone polyether copolymer	Imparts enhanced substrate wetting in waterborne and radiation curable systems; suitable across a wide range of substrates, including wood and plastics	Waterborne acrylic and polyurethane; radiation-curable acrylate	Let-down	0.1-0.4%	Isopropyl alcohol, acetone and toluene; dispersible in water	Carbinol	None	49-75	Swiss Ordinance RS 817.023.21 Annex 10 Part B
DOWSIL™ 503W Additive	Silicone glycol copolymer	Designed to provide wetting, prevent pinholing and improve film surface appearance in solventborne and waterborne inks, paints and coatings applications; reduced foam generation	Acrylic latexes, polyurethane dispersions	Let-down or post add	0.1-1%	Water and alcohols	None	None	1500-2000 cP	bfr 15-0002, bfr 36-0002
Texturing (matting and/or tactile effects)										
DOWSIL™ 23 N Additive	Powder consisting of transparent spherical silicone elastomer particles with epoxy functionality; average particle diameter of 1-3 microns	Imparts mar and abrasion resistance with a smooth, matte finish to waterborne and solventborne coatings	Waterborne and solventborne acrylic, polyurethane	Best added to a portion of the resin/solvent system under high shear conditions prior to blending into the final formulation	0.5-5.0%	Solvents such as glycols, glycol ethers, alcohols, water with cosolvents such as acetone	Epoxy	None	NA	Swiss Ordinance RS 817.023.21 Annex 10 Part A or B
DOWSIL™ 33 Additive	Waterborne suspension of spherical silicone elastomer particles with epoxy functionality; median particle diameter of 3-4 microns; 46% active	Imparts a silky, smooth, matte finish to waterborne coatings	Waterborne acrylic, polyurethane	Post add	2-10%	Water	Epoxy	Water	<150	
DOWSIL™ 61 Paint Additive	10% silicone in solvent	Imparts a hammertone finish to metal surfaces	Primarily solventborne; some waterborne	Final thinning stage or prior to let-down	0.05-0.5%	Aromatic solvents such as xylene or toluene, mineral spirits, or ketones	None	Ethylbenzene, xylene	120	

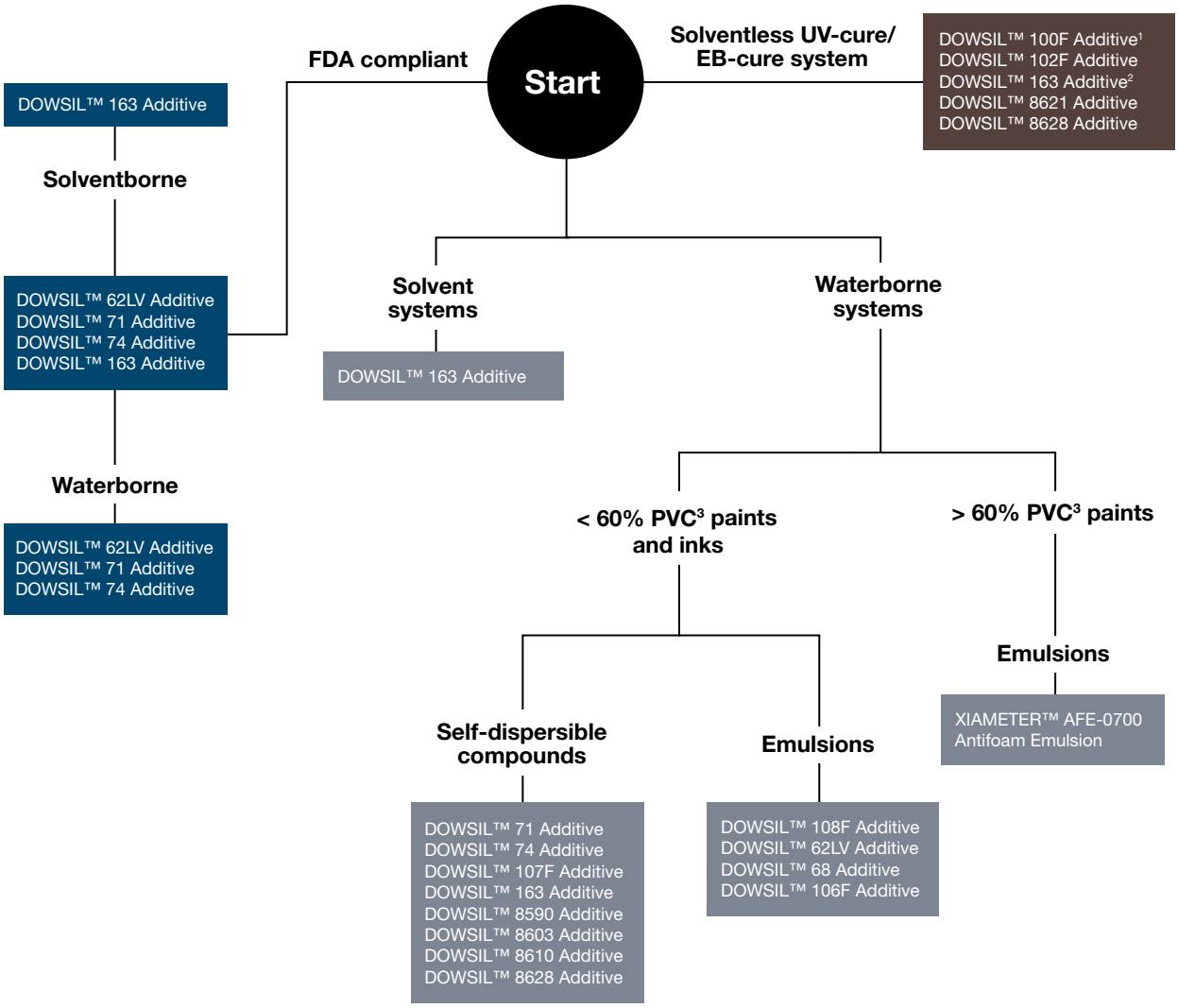
[1] These values are not intended for use in preparing specifications.
[2] The typical concentrations are usage levels where the materials have performed successfully. Usage levels can vary depending on application and performance requirements. Please evaluate for optimum performance in each specific application.
[3] Review the Safety Data Sheet for each solvent prior to use. Safety Data Sheets can be obtained from your solvent supplier.
[4] Complainant at effective date of publication of this selection guide. Visit dow.com/customersupport to obtain food contact regulatory information, including FDA, EU, Swiss Ordinance and German BfR clearance. FDA Title 21 CFR - 175 (175.105, 175.300, 175.320) Indirect food additives: adhesives and components of coatings; 176 (176.130, 176.170, 176.180, 176.200, 176.210) Indirect food additives: paper and paper board components; 177 (177.1390, 177.2600, 177.1520(b)) Indirect food additives: polymers.
NA = Not Applicable

Additive selection tree for coatings applications



[1] 50% active in ethylene glycol isopropyl ether.
Bold = Top product choices

Foam control additive selection tree for coatings applications



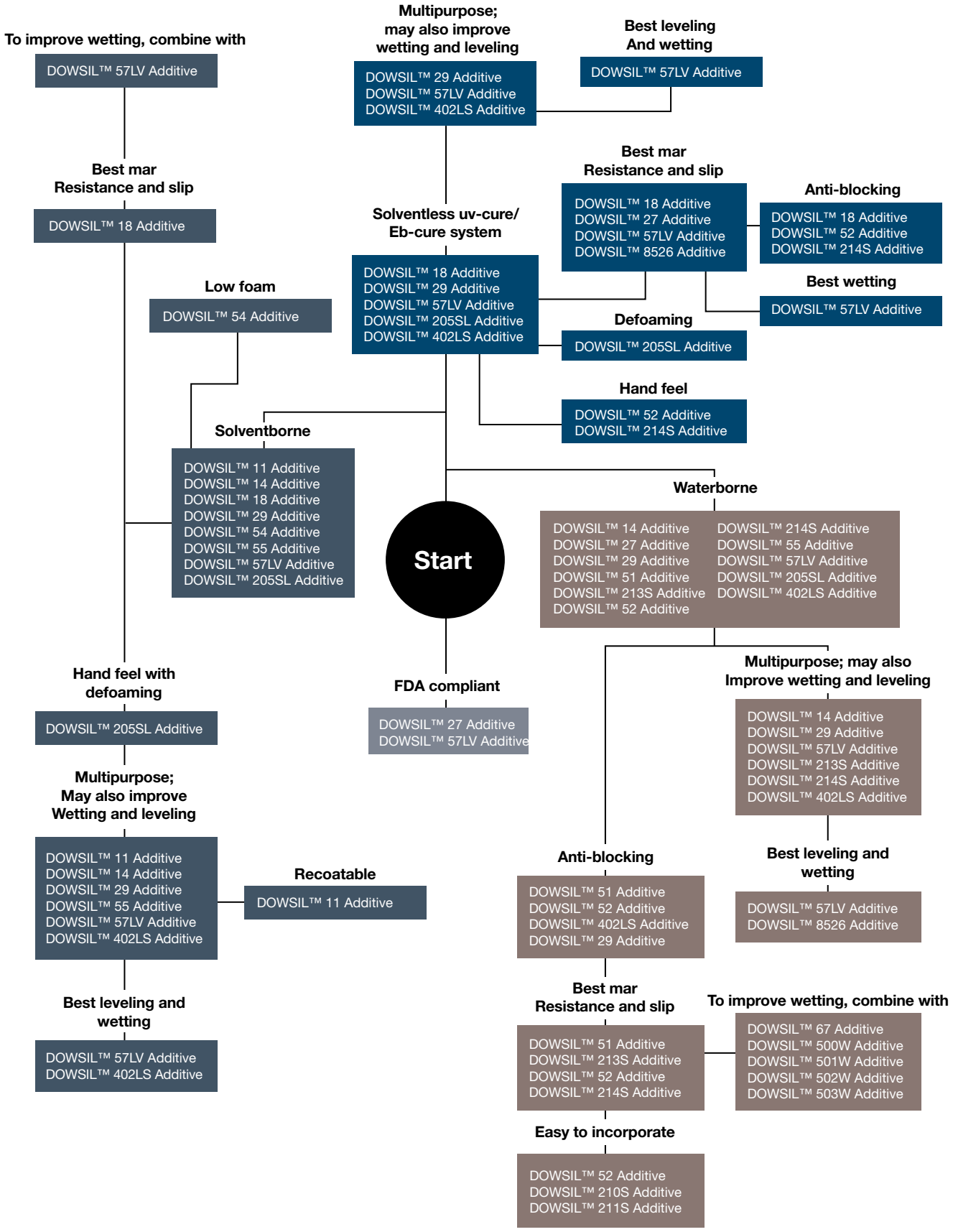
Industrial antifoam selection

	DOWSIL™ 71 Additive	DOWSIL™ 68 Additive	DOWSIL™ 8590 Additive	DOWSIL™ 8603 Additive
Recommended use level	0.1-0.5%	0.1-0.4%	0.05-0.2%	0.05-0.2%
Grind	•	••	•••	•••
Letdown	•••	•••	••	•
Pigmented coatings		Best performance		
Clear coatings	Best performance			

• Good •• Better ••• Best

[1]50% active in ethylene glycol isopropyl ether.
[2]1% active in diisobutyl ketone.
[3]Pigment volume concentration.

Mar-resistant/slip additive selection tree for coatings applications



Leveling and wetting additive selection tree for coatings and ink applications

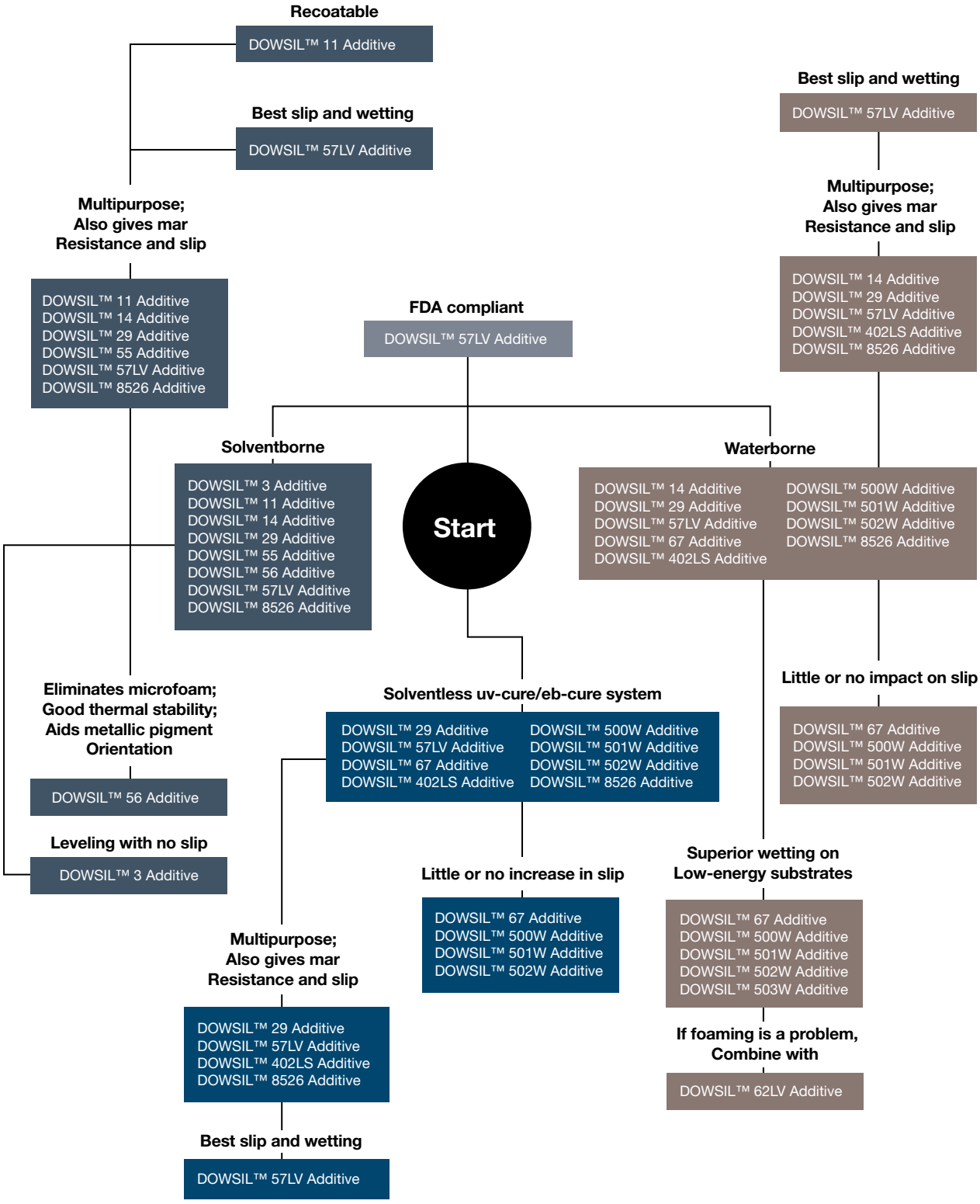


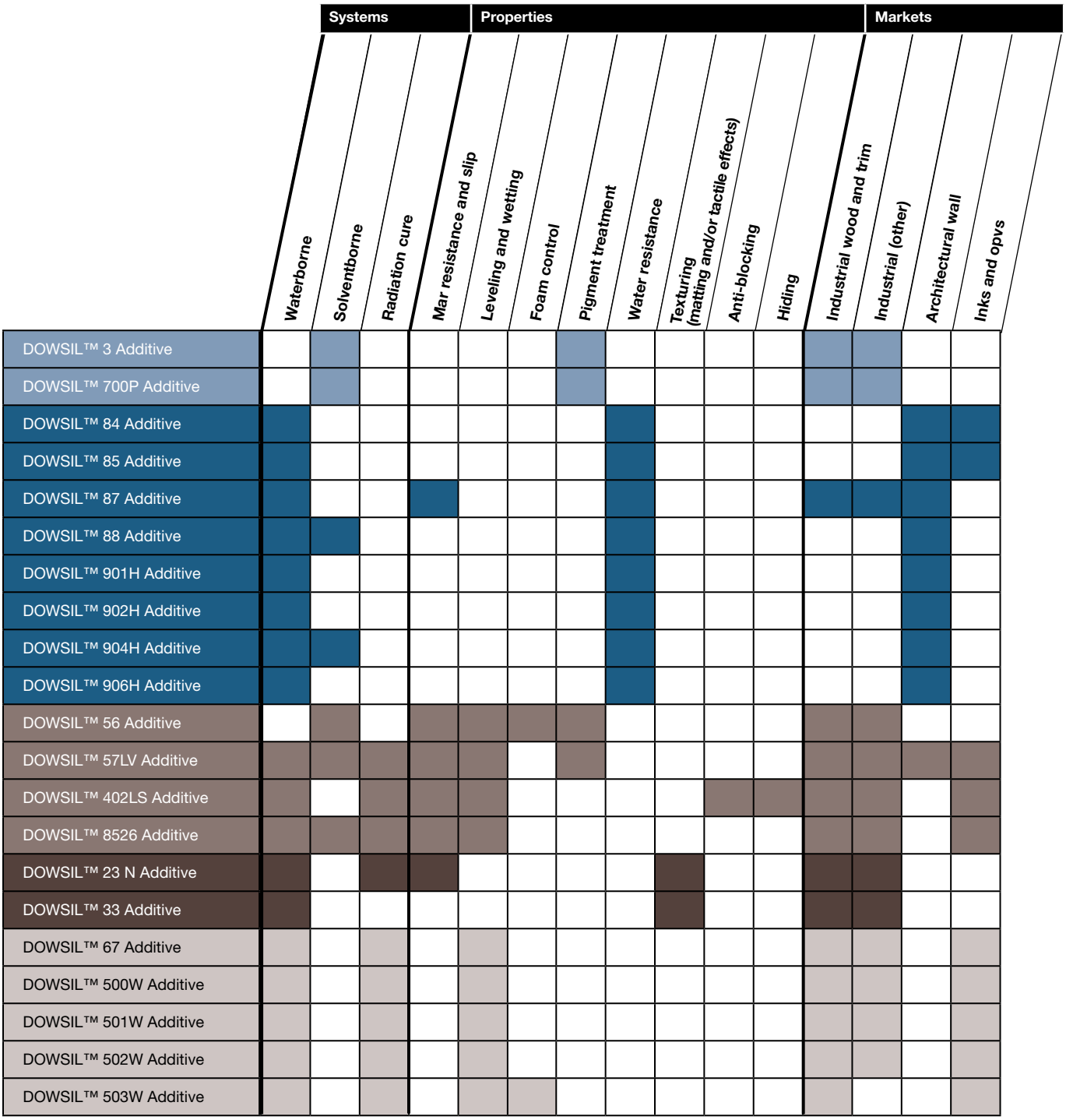
Table 2. Additive selection table

Use this chart to identify the additives that meet your performance requirements.

	Systems			Properties						Markets			
	Waterborne	Solventborne	Radiation cure	Mar resistance and slip	Leveling and wetting	Foam control	Anti-blocking	Release	Texturing (matting and/or tactile effects)	Industrial wood and trim	Industrial (other)	Architectural wall	Inks and opvs
DOWSIL™ 11 Additive		■		■	■					■	■		■
DOWSIL™ 14 Additive	■	■		■	■					■	■		
DOWSIL™ 18 Additive	■	■	■	■						■	■		■
DOWSIL™ 27 Additive	■		■	■									■
DOWSIL™ 29 Additive	■	■	■	■	■		■			■	■		■
DOWSIL™ 51 Additive	■	■		■						■	■		■
DOWSIL™ 213S Additive	■	■		■						■	■		■
DOWSIL™ 52 Additive	■			■						■	■	■	■
DOWSIL™ 214S Additive	■			■						■	■	■	■
DOWSIL™ 54 Additive	■			■	■	■					■		■
DOWSIL™ 55 Additive	■	■		■	■					■	■		■
DOWSIL™ 205SL Additive	■	■	■	■	■	■			■	■	■		■
DOWSIL™ 210S Additive	■			■						■	■	■	■
DOWSIL™ 211S Additive	■			■						■	■	■	■
DOWSIL™ 7 Additive[1]		■				■				■	■		■
DOWSIL™ 62LV Additive	■					■				■	■	■	■
DOWSIL™ 68 Additive	■					■				■	■	■	■
DOWSIL™ 71 Additive	■					■				■	■	■	■
DOWSIL™ 74 Additive	■					■				■	■	■	■
DOWSIL™ 106F Additive	■					■				■	■		■
DOWSIL™ 108F Additive	■					■				■	■	■	■
DOWSIL™ 163 Additive	■	■	■			■				■	■		■
DOWSIL™ 107F Additive	■					■				■	■	■	■
DOWSIL™ 8590 Additive	■					■				■	■	■	■
DOWSIL™ 8603 Additive	■					■				■	■	■	■
DOWSIL™ 8610 Additive	■					■				■	■		■
DOWSIL™ 8628 Additive	■		■			■				■	■	■	■
DOWSIL™ 1-9770 Release Additive		■						■			■		

[1]Availability may be limited by region

Table 2. Additive selection table (continued)





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