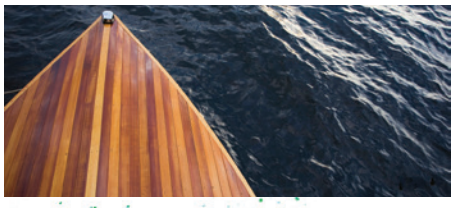
borchers™
A MILLIKEN BRAND

Additives, Driers, Accelerators & Catalysts

For Coatings, Paints, Composites, Printing Inks & Adhesives



Milliken™

HIGH-PERFORMANCE CATALYSTS

Borchi® OXY-Coat, Borchi® Dragon, and Borchi® Phoenix are lines of cobalt-free curing additives for all types of oxidatively drying resin systems. Benefits include improved drying and non-yellowing performance compared to conventional driers. Borchi® high-performance catalysts and accelerators extend the coatings season window by providing consistent curing performance in all weather conditions (hot or cold, dry or humid) for short, medium and long oil alkyd systems. Borchi® OXY-Coat, Borchi® Dragon, and Borchi® Phoenix products meet stringent regulatory requirements as cobalt-free solutions.

Borchers Additive	System*	Chemistry	Description
Borchi® OXY-Coat	W/S	Organo metallic complex	• Improves drying activity (in standard and adverse conditions), color performance, gloss and haze compared to cobalt-based driers in water- and solvent-based systems • Based on a unique, highly active complex • Supplied in 1,2 propylene glycol
Borchi® OXY-Coat 1101	W	Organo metallic complex	• VOC-free; improves drying activity (in standard and adverse conditions), color performance, gloss and haze compared to cobalt-based driers • Based on a unique, highly active complex • Supplied in water
Borchi® OXY-Coat 1310	S	Organo metallic complex	• Recommended for thixotropic solvent-based systems • Improves drying activity (in standard and adverse conditions), color performance, gloss and haze compared to cobalt-based driers • Supplied in glycol mixture
Borchi® Dragon	W/S	Organo metallic complex	• Improves drying activity (in standard and adverse conditions), color performance, gloss and haze compared to cobalt-based driers • Provides wrinkle-free drying and excellent film hardness in high solids systems
Borchi® Dragon Low VOC	W/S	Organo metallic complex	• Improves drying activity (in standard and adverse conditions), color performance, gloss and haze compared to cobalt-based driers • Provides wrinkle-free drying and excellent film hardness in high solids systems • Contains only 2% VOC content (ASTM D2369) • Low odor
Borchi® Phoenix	W/S	Accelerator molecule	• Accelerator that improves drying activity, color performance, gloss and haze compared to cobalt-based driers • Provides wrinkle-free drying and excellent film hardness in high solids systems • For every 10g of Borchi® Phoenix, add 1g of 8% Manganese Ten-Cem®

ANTI-SKINNING AGENTS

Borchi® Guard (oxime-free), Ascinin® (oxime-free / amino compound), Borchi® Nox (cyclohexanone oxime) and Borchi® Shield (amino / oxime compound) products offer formulators a choice in anti-skinning additives. Benefits include flexibility in meeting regulatory requirements for in-can skin prevention in alkyd coatings.

Borchers Additive	System*	Chemistry	Description
Borchi® Guard A	S	Proprietary blend of antioxidants	• Oxime-free; controls surface dry retardation and keeps the film open longer, allowing oxygen to reach deeper film layers. This promotes through-drying and improves flow and leveling properties • Efficient at low dosages; recommended to be used with Borchi® OXY-Coat and Borchi® Dragon cobalt replacement additives
Borchi® Guard T	S	Proprietary blend of antioxidants	• Oxime-free; controls surface-dry retardation and keeps the film open longer, allowing deeper oxygen penetration into lower film layers. This promotes thorough drying and improves flow and leveling properties • Efficient at low dosages, achieves excellent dry times across a variety of primary driers and maintains excellent storage stability with minimal loss of dry • Recommended to be used with Borchi® OXY-Coat and Borchi® Dragon cobalt replacement additives

ANTI-SKINNING AGENTS (continued)

Borchi® Guard (oxime-free), Ascinin® (oxime-free / amino compound), Borchi® Nox (cyclohexanone oxime) and Borchi® Shield (amino / oxime compound) products offer formulators a choice in anti-skinning additives. Benefits include flexibility in meeting regulatory requirements for in-can skin prevention in alkyd coatings.

Borchers Additive	System*	Chemistry	Description
Ascinin® Anti Skin 0445	W/S	Amino compound dissolved in 1,2-propanediol	• Phenol- and MEKO-free; recommended to be used with Borchi® OXY-Coat cobalt replacement additives • Controls surface dry retardation and keeps the film open longer to ensure deeper penetration of oxygen to lower film layers which promotes through dry and improves flow properties
Ascinin® Anti Skin 0444	S	Amino compound dissolved in fatty acid ester	• Phenol- and MEKO-free; recommended to be used with Borchi® OXY-Coat cobalt replacement additives • Controls surface dry retardation and keeps the film open longer to ensure deeper penetration of oxygen to lower film layers which promotes through dry and improves flow properties
Borchi® Nox C3	S	Cyclohexanone oxime	• Anti-skinning agent especially for printing inks
Ascinin® Anti Skin 1240	S	Amino compound dissolved in fatty acid ester	• Phenol- and MEKO-free; recommended to be used with Borchi® OXY-Coat cobalt replacement additives • Specially designed for oxidatively drying coatings systems and pastes with reduced VOC content
Borchi® Nox 1640	S	Cyclohexanone oxime	• MEKO-free • Does not cause discoloration or adversely affect the drying time of the paint system
Borchi® Shield	S	Amino / oxime compound dissolved in fatty acid ester	• MEKO-free • Works to provide slower surface drying in high solids alkyds, allowing for proper oxidative through cure even with thicker films

CALCIUM DRIERS

Calcium is an auxiliary drier that is used solely in combination with primary and secondary driers. It can also be used as a pigment-wetting agent to prevent loss of surface dry by preferentially being absorbed by pigments.

Family	System*	Chemistry	Concentrations Available
Hex-Cem®	S	Octoate	5%
Cem-All®	S	Blend of Synthetic Acids	6%, 8%, 10%

IRON DRIERS

Iron is a primary drier that provides oxidative surface curing in coatings. It is efficient only in elevated curing systems such as baking enamels. Use in dark colors only.

Family	System*	Chemistry	Concentrations Available
Hex-Cem®	S	Octoate	6%

COBALT DRIERS

Cobalt is the most important metal drier for curing coatings based on drying oils and alkyd resins. It is required to shorten the surface drying of coatings, varnishes, stains and inks and, in combination with a secondary drier such as zirconium, aluminum or zinc, will result in uniform drying of the film.

Family	System*	Chemistry	Concentrations Available
Hydro-Cure®	W/S	Neodecanoate / Octoate	5% (II), 10% (IV)
Ten-Cem®	S	Neodecanoate	12%
Hex-Cem®	S	Octoate	6%, 12%
Nap-All®	S	Naphthenate	6%
For Inks			
Lin-All® PI	S	Tallate	6%

MANGANESE DRIERS

Manganese is the second most effective metal after cobalt in making metal carboxylate driers for surface dry in oxidatively-cured systems. It also promotes through dry but can be used with cobalt and secondary driers like zirconium, aluminum or zinc for complete drying of the film.

Family	System*	Chemistry	Concentrations Available
Hydro-Cure®	W/S	Neodecanoate	5%
Borchers® Dry 0410 US	S	Enhanced Neodecanoate	7%
Borchers® Dry 0411HS US	S	Enhanced Neodecanoate	7%
Ten-Cem®	S	Neodecanoate	8%

ZIRCONIUM DRIERS

Zirconium is a highly efficient secondary drier. Zirconium driers are the most common secondary driers, improving through dry in oxidatively-cured coatings primarily by the formation of coordination bonds when hydroxyl and carboxyl groups are present.

Family	System*	Chemistry	Concentrations Available
Hex-Cem®	S	Octoate	12%, 18%, 24%
Borchers® Dry 4012 aqua US	W/S	Octoate	12%

ZINC DRIERS

Zinc is a secondary drier that improves the through drying and hardness of the paint film. It can also be used to wet out pigments. Zinc is always used in combination with primary driers (cobalt, manganese, Borchi® OXY-Coat and vanadium compounds).

Family	System*	Chemistry	Concentrations Available
Ten-Cem®	S	Neodecanoate	18%
Hex-Cem®	S	Octoate	8%, 18%, 22%

SPECIALTY DRIERS

Specialty driers fulfill a number of applications to support the cure of oil and alkyd-based binder systems.

Family	System*	Chemistry	Concentrations Available	Description
Oxidative				
Cerium Hex-Cem®	S	Octoate	12%	• Efficient through drier in low temperature applications • Promotes oxidative curing
Through Dry				
AOC E	S	Aluminum	7%	• Fast through dry for high solids/thick film applications • Reduces yellowing
Rare Earth Hex-Cem®	S	Octoate	8%	• Improves low temperature and high humidity cure
Auxiliary				
Potassium Hex-Cem®	S	Octoate	15%, 15% Water White	• Used in curing unsaturated polyester resins
Lithium Ten-Cem® WS	W/S	Neodecanoate	2%	• Recommended as a trans esterification or alcoholysis catalyst for the production of alkyd and epoxy esters
Drier Accelerator				
Dri-Rx® HF	W/S	2,2 bipyridyl	30%	• Quicker return-to-service times • Chelating agent for primary driers for improved efficiency • Improves thick film curing
Prevent Loss of Dry				
Cobalt Hydroxy Ten-Cem®	S	Neodecanoate	21%	• Oxidative dry stabilizer for coatings • Slowly releases cobalt drier over time

DRIER RECOMMENDATIONS

Drier Package Recommendations - % Metal based on Vehicle Resin Solids.

Product	Borchi® OXY-Coat 1310	Cobalt Ten-Cem®	Zirconium Hex-Cem®	Calcium Cem-All®	7% AOC E	Potassium Hex-Cem®	Dri-Rx® HF
Solvent-Based Binder							
Long - High Solids		0.04			0.3		0.1
Cobalt-Free	0.5-3.0		0.2	0.15			
Long		0.06	0.15	0.25			0.2
Cobalt-Free	0.5-3.0			0.2		0.1-0.2	
Medium		0.04	0.15	0.05			0.1
Cobalt-Free	0.5-1.0		0.2	0.15			
Short		0.05	0.1	0.05			
Cobalt-Free	0.5-1.0						
Silicone Modified		0.04	0.03				0.2
Cobalt-Free	0.5-1.0		0.2	0.15			
Urethane Modified		0.04	0.1				0.2
Cobalt-Free	0.5-1.5						
Chain Stopped		0.08	0.4	0.1			
Cobalt-Free	0.5-2.0			0.2			
Drying Oils		0.02		0.05			
Cobalt-Free	0.5-2.0		0.3	0.1			
Epoxy Ester		0.04					0.02
Cobalt-Free	1.0-2.0			0.1			

DRIER RECOMMENDATIONS (continued)

Drier Package Recommendations - % Metal based on Vehicle Resin Solids.

Product	Borchi® OXY-Coat 1101	Cobalt Hydro-Cure® IV	Borchers® Dry 4012 aqua US	Calcium Hex-Cem®	Dri-Rx® HF
Water-Based Binder					
Water Dispersible Alkyd		0.05	0.7	0.03	0.1
Cobalt-Free	0.3-1.0		0.3	0.15	0.1
Alkyd Emulsions					
Long		0.07	0.2	0.15	0.1
Cobalt-Free	0.5-3.0		0.2	0.2	
Medium		0.05	0.2	0.2	
Cobalt-Free	0.5-1.0				
Short		0.04		0.1	
Cobalt-Free	0.5-1.0				
Urethane Modified		0.05	0.2		
Cobalt-Free	0.5-2.0				
Chain Stopped		0.04		0.2	
Cobalt-Free	0.5-3.0				
Drying Oils		0.04	0.3	0.15	
Cobalt-Free	0.5-2.0		0.1		

WETTING & DISPERSING ADDITIVES

Borchi® Gen dispersants are high-performance additives designed to disperse organic and inorganic pigments. Benefits include better pigment wetting resulting in lower grind times, improved color strength and improved transparency.

Borchers Additive	System*	Chemistry	% Active	Description
Borchi® Gen 0311	S	Polyurethane	45% in BA/ Xylene/ MPA	• Streamlines dispersions by enabling co-grinding in industrial coating applications • Designed to be compatible with various pigment types
Borchi® Gen 0851	W	Polyurethane	50% in water	• VOC- and APEO-free; specially designed for dispersing difficult organic pigments and carbon black in water-based systems • Provides low viscosity dispersions, high transparency with organic pigments, high jetness with carbon black and long-term dispersion stability
Borchi® Gen SN 95	W	Polyurethane	25% in water	• Specially designed for dispersing difficult organic pigments and carbon black in water-based systems • Provides low viscosity dispersions, high transparency with organic pigments, high jetness with carbon black and long-term dispersion stability
Borchi® Gen WNS	W	Low molecular weight polyether modified compounds	90% in water	• VOC- and APEO-free; recommended for water- or glycol-based universal tinting pastes • Provides strong color development with organic pigments and improved storage stability
Borchi® Gen 5113	S	High molecular block polyurethane	45% in BA/Xylene	• Broad pigment and resin compatibility; can increase the pigment loading while keeping low viscosity, good flow and long-term storage stability • Efficient with difficult-to-disperse organic and carbon black pigments
Borchi® Gen 5115	S	Polymeric phosphoric acid ester-based	50% in butyl acetate	• Prevents color float and sedimentation effects; recommended to add in the grinding stage; dispersing performance can also be improved by post addition • Excellent inorganic pigment dispersions with long-term stability
Borchi® Gen SPE	W/S	Low molecular weight polyether modified compounds	100%	• VOC- and APEO-free; for use in a wide range of organic pigments and base chemistries • Improves particle size, viscosity, gloss, and color
Borchi® Gen 12	W/S	Low molecular weight polyether modified compounds	100%	• VOC- and APEO-free; recommended for systems based on CAB and nitrocellulose • Improves pigment wetting and dispersion time and has OH functionality that can be covalently bonded in cross-linked or two-component water- and solvent-based coatings systems
Borchi® Gen 0650	W/S	Amine neutralized phosphoric acid ester	100%	• VOC- and APEO-free; specially designed for stabilizing fillers and pigments with polar surfaces like titanium dioxide, iron oxides and hydrophilic organic pigments in water- and solvent-based systems • Provides low viscosity dispersions; can extend pot life in 2K polyurethane coatings
Borchi® Gen 0451	W/S	Polyurethane	100%	• VOC- and APEO-free; specially designed for dispersing difficult to disperse organic pigments and carbon black in water- and solvent-based systems • Provides low viscosity dispersions, high transparency with organic pigments and long-term dispersion stability
Borchi® Gen 1252	W/S	Acrylic ester copolymer	100%	• VOC- and APEO-free; recommended for titanium dioxide, iron oxide and other inorganic pigments and fillers in water- and solvent-based coatings systems • Provides high tint strength and contrast ratios, as well as stable dispersion with excellent color development for iron oxide pigments
Borchi® Gen 0755	S	Polyurethane	100%	• VOC- and APEO-free; recommended for dispersing difficult organic pigments and carbon black in solvent-based systems; good compatibility with hydro-carbon, alkyd, and nitrocellulose resins • Provides low viscosity dispersions, high transparency with organic pigments, high jetness with carbon black and long-term dispersion stability

WETTING & DISPERSING ADDITIVES (continued)

Borchi® Gen dispersants are high-performance additives designed to disperse organic and inorganic pigments. Benefits include better pigment wetting resulting in lower grind times, improved color strength and improved transparency.

Borchers Additive	System*	Chemistry	% Active	Description
Borchi® Gen 911	S	Modified polyester	70% in white spirits	• Recommended for alkyd solvent-based coatings, as well as nitrocellulose-based systems; excellent with inorganic pigments in non-polar paints • Provides improved pigment wetting, shorter dispersion time of organic and inorganic pigments and good storage stability of the finished paint
Borchi® Gen 1251	S	Polyurethane	85% in MPA	• Provides excellent pigment wetting, color development and high gloss, as well as low viscosity dispersions and long-term dispersion stability • Recommended for organic pigments and carbon black in solvent-based systems
Borchi® Gen 1750	W	Polyurethane	40% in water	• VOC-free, multi-functional dispersant for various pigments and binders; minimized impact on corrosion protection; improved transparency with transparent iron oxide pigments • Low viscosity grinds allow for up to 40% pigment loading with transparent iron oxide pigments and over 60% with opaque iron oxides
Spurso®	S	Modified alkyd resin	70% in mineral spirits	• Provides strong color development with organic pigments and improved storage stability • Provides improved pigment stability and gloss, as well as reductions in dispersion times, discoloration in white enamels and pigment flooding and floating

COLOR BOOST

Borchi® Boost additives improve color acceptance for ready made dispersions and tinting systems. Benefits include stronger tints with the convenience of a post add solution in a wide range of base paints. VOC- and APEO-free.

Borchers Additive	System*	% Active	Description
Borchi® Boost 510W	W	50% in water	• Improves color acceptance in medium to low polarity systems • Provides stronger tints with organic pigment dispersions and carbon blacks
Borchi® Boost 570WS	W/S	100%	• Improves color acceptance in medium to low polarity systems • Provides stronger tints with organic pigment dispersions and carbon blacks
Borchi® Boost 540WS	W/S	100%	• Improves color acceptance in medium to high polarity systems • Provides stronger tints with organic pigment dispersions and carbon blacks

COMPATIBILIZERS

Borchi® Add products enhance the compatibility of colorants into many base chemistries, including universal water-based colorants into solvent-based alkyd bases and resin-containing colorants into different base chemistries. Benefits include improved color acceptance and reduced pigment flooding and floating as a post add solution. VOC- and APEO-free.

Borchers Additive	System*	% Active	Description
Borchi® Add 406WS	W/S	90% in water	• Reduces or eliminates rub-out of universal water-based concentrates in solvent-based alkyd bases • Improves compatibility
Borchi® Add 409WS	W/S	100%	• Reduces or eliminates rub-out of universal water-based concentrates in solvent-based alkyd bases • Improves compatibility

RHEOLOGY MODIFIERS

Borchi® Gel additives are associative and non-associative rheology modifiers for water-based coatings that have a significant influence on the storage stability and application properties of the coatings system. Benefits include a full range of low to high shear polyurethane, acrylic and zirconium complex thickeners to ensure optimal flow and leveling combined with anti-sag performance.

Borchers Additive	System*	Functionality	% Active	Description
Polyurethane (PU) Based Associative Thickeners				
Borchi® Gel 0620	W	Low shear/ very strongly pseudoplastic	40% in water/ butyl glycol (40% PU)	• Tin- and APEO-free; develops viscosity stability and improves rheological properties mainly in the lower shear range for water-based systems • Enables the application of thick layers on vertical surfaces, effectively prevents sagging and does not yellow or cause chalking in the cured film
Borchi® Gel 0620 DFP	W	Low shear/ very strongly pseudoplastic	20% in water/ 2-Butoxyethanol	• Tin- and APEO-free; easy incorporation into coating • Enables application of thick surfaces on vertical layers and effectively prevents sagging
Borchi® Gel 0621	W	Low shear/ very strongly pseudoplastic	30% in water (20% PU)	• Tin-, VOC- and APEO-free; develops viscosity stability and improves rheological properties mainly in the low shear range for water-based systems • Enables application of thick layers on vertical surfaces, effectively prevents sagging and does not yellow or cause chalking in the cured film
Borchi® Gel 0630	W	Low shear/ very strongly pseudoplastic	25% in (2-methoxy-methylethoxy) propanol + 1.2 Propanediol	• Tin-, APEO- and butyl glycol-free; easy incorporation into coating • Enables application of thick layers on vertical surfaces, effectively prevents sagging and does not yellow or cause chalking in the cured film
Borchi® Gel PW 25	W	Low shear/ strongly pseudoplastic	25% in water/ 1,2 Propanediol (25% PU)	• Emulsifier-free; exceptionally good thickening properties in most fine particle dispersion binders with low emulsifier content in water-based systems • Promotes longer open times than normal due to its high capacity for water retention
Borchi® Gel LW 44	W	Low shear/ strongly pseudoplastic	46% in water (24% PU)	• VOC- and APEO-free; develops viscosity stability mainly in the low shear range for water-based coatings systems • Will not cause yellowing or chalking in cured film
Borchi® Gel 0625	W	Medium shear/ pseudoplastic	34% in water (25% PU)	• VOC- and APEO-free; develops viscosity stability and improves rheological properties mainly in the medium and high shear range for water-based systems • Improves storage stability, leveling and application properties • Low water sensitivity
Borchi® Gel L 75 N	W	Medium shear/ pseudoplastic	50% in water (25% PU)	• VOC- and APEO-free; develops viscosity stability in water-based coatings mainly in the medium shear range; good pigment wetting properties • Improves properties for easier brush and roller application and does not yellow or cause chalking in the cured film
Borchi® Gel L 76	W	Medium shear/ pseudoplastic	50% in water (25% PU)	• Improves rheological properties of aqueous coatings systems, allowing for easier application of paint with brush or roller, especially for emulsion paints
Borchi® Gel 0434	W	High shear/ newtonian	20% in water (20% PU)	• VOC- and APEO-free; recommended for latex dispersions and water-based coatings systems in the high shear range • Improves brush drag (ICI viscosity), reduces spattering during roller application, and imparts superior flow and leveling
Borchi® Gel 0435	W	High shear/ newtonian	50% in water (30% PU)	• APEO-free; develops outstanding brush and roll application properties and high shear thixotropy for water-based systems • Produces viscosity stability mainly in the higher shear range

RHEOLOGY MODIFIERS (continued)

Borchi® Gel additives are associative and non-associative rheology modifiers for water-based coatings that have a significant influence on the storage stability and application properties of the coatings system. Benefits include a full range of low to high shear polyurethane, acrylic and zirconium complex thickeners to ensure optimal flow and leveling combined with anti-sag performance.

Borchers Additive	System*	Functionality	% Active	Description
Other Rheology Modifiers				
Borchi® Gel A LA	W	Low shear/ strongly pseudoplastic	10% anionic acrylate polymer in water	• APEO-free; improves flow and leveling properties of water-based coatings systems mainly in high gloss emulsions • Builds viscosity in the low shear range and swells water in the coating rather than associating it with binders
Borchi® Gel PN	W	Low shear/ strongly pseudoplastic	Zirconium complex neutralized with ammonia	• VOC-, emulsifier- and APEO-free; thixotropic additive for use in water-based coatings systems whose binders contain free hydroxyl and carboxyl groups • Develops viscosity in the low shear range; prevents sagging and settling; improves viscosity stability of a coating after tinting with universal colorants; no need for biocides

FLOW & LEVELING ADDITIVES

Borchi® Gol high-performance flow and leveling additives are modified polydimethylsiloxane (PDMS) and acrylic additives which reduce the surface tension of the coating to improve flow, substrate wetting and slip. Benefits include the elimination of surface defects such as fish eyes and cratering. Many surface defects are related to surface tension, and by correcting the surface tension of a system, most surface defects can be resolved.

Borchers Additive	System*	Chemistry	% Active	Description
Borchi® Gol 1570	W/S	Polyether modified polysiloxane (PDMS)	100%	• Improves substrate wetting on challenging surfaces or dirty substrates, and enhances slip properties when used in combination with Borchi® Gol LA 2 or Borchi® Gol LA 232 • Inhibits the formation of surface defects like craters and pinholes
Borchi® Gol 3467	W/S	Solvent-free polyether modified polysiloxane (PDMS)	100%	• VOC-free; suitable for clear and pigmented systems, hydrophobic surfaces and water- and solvent-based formulations in wood substrates • Provides improvements in substrate wetting, and wetting of difficult to wet and dirt contaminated substrates
Borchi® Gol 1473	W/S	Solvent-free polyether modified polysiloxane (PDMS)	100%	• VOC-free; recommended for top coats that are cured at room temperature and below 150 °C in solvent- and water-based systems, as well as solvent-free systems • Provides improvements in surface smoothness by reducing orange peel and preventing the formation of craters
Borchi® Gol 1474	W/S	Solvent-free polyether modified polysiloxane (PDMS)	100%	• VOC-free; provides improvements in flow, leveling and slip properties as well as mar resistance • Inhibits the formation of surface defects like craters and pin holes
Borchi® Gol LA 2 LC	W/S	Solvent-free polyether modified polysiloxane (PDMS)	100%	• VOC-free; provides lowered surface tension as well as mar, scratch and block resistance • Inhibits the formation of surface defects and improves final film appearance
Borchi® Gol LA 6	S	Polyether modified polysiloxane (PDMS)	12% in xylene	• Provides enhanced substrate wetting, lowered surface tension and block and slip resistance • Inhibits the formation of surface defects

FLOW & LEVELING ADDITIVES (continued)

Borchi® Gol high-performance flow and leveling additives are modified polydimethylsiloxane (PDMS) and acrylic additives which reduce the surface tension of the coating to improve flow, substrate wetting and slip. Benefits include the elimination of surface defects such as fish eyes and cratering. Many surface defects are related to surface tension, and by correcting the surface tension of a system, most surface defects can be resolved.

Borchers Additive	System*	Chemistry	% Active	Description
Borchi® Gol M 51	S	Polydimethylsiloxane	100%	• VOC-free; provides reductions in surface tension and enhanced flow • Counteracts surface defects caused by silicone-based additives
Borchi® Gol OL 17 LC	W/S	Solvent-free polyether modified polysiloxane (PDMS)	100%	• VOC-free; universal flow promoter with very good compatibility • Improves slip and prevents cratering
Borchi® Gol 1670	S	Polydimethyl-siloxane	100%	• Reduces surface tension • Prevents pigment float and Bénard cell formation
Borchi® Gol 1375	W/S	Silicone-free mixture of ethoxylated alcohols and surfactants	N/A	• VOC- and APEO-free; recommended for challenging surfaces and dirty substrates in water- and solvent-based systems • Provides reductions in surface tension, improvements in the wetting process and low-foaming tendencies in formulations • Can enhance block resistance
Borchi® Gol LA 50	W/S	Polyether modified polysiloxane (PDMS)	50% in dipropylene glycol monobutyl ether	• Lowers surface tension and inhibits the formation of surface defects in non-polar surfaces • Can be used in conjunction with Borchi® Gol LA 2 for better slip • Can improve wet and dry adhesion at 2% dosage in polyaspartic coatings
Borchi® Gol LA 200	W/S	Solvent-free polyether modified polysiloxane (PDMS)	100%	• VOC-free; provides improvements in substrate wetting and block and scratch resistance • Quickly removes air bubbles from applied coated surfaces and avoids micro foam formation at all production stages
Borchi® Gol LA 232	W/S	Solvent-free polyether modified polysiloxane (PDMS)	100%	• VOC-free; provides reductions in surface tension, increases in surface slip and improvements in block and scratch resistance • Quickly removes air bubbles from applied films to provide smooth surfaces
Borchi® Gol OL 44	W/S	Solvent-free polyether modified polysiloxane (PDMS)	100%	• VOC-free; broad compatibility; eliminates craters and uneven film applications • Increases and improves slip properties with no recoatability issues
Borchi® Gol 8701	S	Silicone-free	50% in methoxypropyl acetate	• Specially designed for solvent-based coatings systems • Provides improvement in substrate wetting and flow, as well as excellent slip without inter-coat adhesion interference
Borchi® Gol LAC 80	W/S	Solvent-free polyether modified polysiloxane (PDMS)	100%	• VOC-free; provides excellent flow and a clear increase in the surface smoothness of paint films; good block resistance • Prevents crater formation and largely prevents bleeding in hammer finishes
Borchi® Gol PL	S	Solvent-free phenyl modified polysiloxane (PDMS)	100%	• VOC-free; eliminates craters and other surface defects characterized by poor flow in can and coil coatings; stable up to 300 °C • Effective flow promoter and compatible with numerous organic binders

DEFOAMERS

Borchers offers high-performance modified polydimethylsiloxane (PDMS) and non-silicone defoamers for water- and solvent-based coating and paint systems. Our products eliminate foaming in the pumping, stirring, and grinding processes during production as well as the formation of foam when brushing, rolling, or spraying upon application.

Borchers Additive	System*	Chemistry	% Active	Description
Borchers® AF 1171	W/S	Modified polysiloxane with hydrophobic particles	>98%	• Prevents foaming during paint production • Particularly suitable for millbase defoaming for aqueous decorative and general industrial coatings
Borchi® Gol 0011	S	Polysiloxane modified preparation of fatty acid esters	100%	• Reduces pigment floating and provides barrier properties to cured film • Suitable for high-build systems • Borchi® Gol 0011 can be used in combination with Borchi® Gol E2 (2:1) in epoxy systems for improved flow and deaeration
Borchi® Gol E2	S	Silicone-free hydrocarbon resins	100%	• Helps eliminate flow defects and craters caused by air entrapment • Borchi® Gol 0011 and Borchi® Gol E2 can be used together (2:1) in epoxy systems for improved flow and deaeration
Borchi® Burst DFM 100	W	Mineral Hydrocarbons, silica, and surface active materials	99%	• Excellent defoamer for low to high PVC systems as well as some low gloss paints, paper coatings, and plasters
Borchi® Burst DFM 200	W	Mineral Hydrocarbons and surface active materials	99%	• Excellent defoamer for low to high PVC paints, automotive spray booth effluent systems, and adhesives and polymer latex systems
Borchi® Burst DF 300	W	Silicone-free polymers	99%	• Solvent- and silicone-free foam control agent • Excellent defoamer for gloss paints, wood coatings, pigment dispersions, and matt and silk paints
Borchi® Burst DFS 500	W/S	Modified silicones SVHC Label free	100%	• Very successfully eliminates foam in the production of inks and pigment dispersions • Excellent defoamer for solvent-based and solvent-free wood coatings and varnishes
Borchi® Burst DFS 600	W	Emulsion of modified silicones	21%	• Excellent defoamer for water-based gloss paints and wood coatings • Can be used in adhesives, inks, and polymer latex systems
Borchi® Gol LA 200	W/S	Polyether modified polysiloxane	100%	• VOC-free; provides improvements in substrate wetting and block and scratch resistance • Supports quick air release of entrapped air in the surface during application
Borchers® AF T	W/S	Silicone-free tri-n-butyl phosphate	N/A	• Destroys foam and prevents foam formation • Ideal for improving wettability of adhesives
Borchi® Gol 1470	S	Silicone-free solution of foam destroying polymers	37% in aromatic petroleum solvent	• Helps eliminate flow defects and craters caused by air entrapment • Can be used in solvent-free and solvent-based one- and two-component industrial coatings and sealants

CATALYSTS

Metal carboxylates for urethanes.

Product Name	System*	Chemistry	Description
Polyurethane			
Borchi® Kat 2115	S	Bismuth, Zinc Neodecanoate	• Catalyst based on combination of metal neodecanoates for one- and two-component polyurethane systems and RTV silicones • Improved pot life and hardness, fast blocking stability, earlier solvent resistance and sanding capability, and good balance between drying times and overall performance
Borchi® Kat 315	S	Bismuth Neodecanoate	• Solvent-free; specially designed for one- and two-component polyurethane systems and RTV silicones • Accelerates the chemical reaction between the polyol and isocyanate component of polyurethane foam systems
Borchi® Kat 24	S	Bismuth Octoate	• Solvent-free; specially designed for one- and two-component polyurethane systems • Accelerates the chemical reaction between the alcohol and isocyanate component of polyurethane coatings systems, thus allowing optimum control of the drying properties
Dibutyltin Dilaurate	S	Laurate	• Suitable to accelerate the cross-linking process of solvent-based two-component polyurethane coatings • Improves the drying of chemically curing systems favoring the isocyanate/polyol reaction over other side reactions such as isocyanate/water
Borchers® LH 10	W	Aqueous Emulsion (DBTL)	• Specially designed for water-based two-component polyurethane coatings • Accelerates the cross-linking process and improves the drying of chemically curing systems
15% Potassium Hex-Cem®	S	Octoate	• Specially designed for unsaturated polyesters and pot life stabilizers for two-component polyurethane systems • Capable of stabilizing the rheological and pot life behavior of water-based two-component polyurethane systems and decreasing discoloration of UPS systems caused by cobalt
Product	**Physical Form**	**Chemistry**	**Description**
Solvent-Free Oxygen Scavenger			
9.5% Cobalt Stearate	Pastille	Stearate	• Acts as an oxygen scavenger in various applications

MOISTURE SCAVENGERS

Additive OF and Additive TI™ are 100% active moisture scavenger products. Benefits include improved storage stability and dehydrating pigments, fillers and solvents in the production process of 1K and 2K polyurethane systems.

Borchers Additive	System*	Chemistry	% Active	Description
Additive OF	S	Triethyl ortho formate	100%	• Eliminates moisture in solvent-based one- and two-component polyurethane coatings during shelf life • Compatible with most polyol and isocyanate components
Additive TI™	S	P-toluene sulfonyl isocyanate	100%	• Removes moisture introduced with solvents, pigments and fillers in one- and two-component polyurethane systems in production • Low viscosity, monofunctional isocyanate which chemically reacts with water to form an inert amide

SPECIALTIES

The specialties line of additives contains essential products for coatings formulations. These include, among others: adhesion promoters, pot life stabilizers and nano-silica dispersions.

Borchers Additive	System*	Chemistry	% Active	Description
Adhesion Promoters				
Borchi® Gen HMP-F	W/S	Oil-free polyester resin	80% in solvent mixture	• Recommended for baking finishes in water- and solvent-based systems • Improves adhesion to metal in reactive coatings
Anti-Blocking Agents				
Borchi® Coll 10	W	Colloidal dispersion of silica	30% in water	• Particle size 9 nm • Best transparency and effectiveness; maximum matting effect; improves surface hardness at low film builds
Borchi® Coll 20	W	Colloidal dispersion of silica	30% in water	• Particle size 18 nm • Low matting effect; improves surface hardness at low film builds
Anticorrosive				
Bayoxide® Z active	W/S	Zinc Oxide	100%	• Increases through drying for additives and topcoats and improves corrosion protection behavior and hardness • Reduces yellowing

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For more information, please reach us at **borchers.com/contact**

In this brochure you will find an overview of our additives for coatings, paints, composites, printing inks and adhesives.

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PROD-BRO-US-10.06.2026

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