

SiSiB SILICONES

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SINOPCC GROUP

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HIGH PERFORMANCE SILICONES FOR TEXTILE FINISHING



SISIB
SILICONES
西斯博有机硅

HIGH PERFORMANCE SILICONES FOR TEXTILE FINISHING



SiSiB SILICONES, established in 1989, is a leading player in the silicone industry, specializing in the research, development, and manufacturing of silanes and silicones. Situated strategically within the silicone supply chain, SiSiB SILICONES offers a comprehensive range of high-performance products and solutions tailored to meet customer requirements. These encompass silanes and siloxanes, silicone fluids, silicone rubbers, fumed silicas, silicone polymers, and additives.

To ensure the quality and availability expected by customers, SiSiB follows a strategy of backward integration. By 2015, we achieved complete integration across the silicon value chain, covering silicone monomers to downstream applications. Presently, SiSiB operates one upstream silicone production base and six downstream silicone production bases in China. We are also on track to launch two new production bases by 2022, all of which are equipped with precise monitoring systems, operate state-of-the-art equipment, and undergo continuous upgrades. With a workforce of 1,350 employees, including over 100 senior engineers, SiSiB is dedicated to upholding high-quality standards.

We deliver the highest quality products promptly to meet evolving customer needs, leveraging our expertise and resources to achieve economies of scale, increased efficiency, and throughput. Moreover, should your requirements surpass our current capacity or capabilities, we are prepared to invest in enhancing or expanding facilities, equipment, or processes.

We are dedicated to enhancing our manufacturing processes not only for operational efficiency but also for the sustainability and safety of our operations and the environment. Our plants, featuring fully integrated by-product recovery and recycling systems, aim to achieve zero by-product or waste generation through a balanced plant concept.

Sustainable growth is achieved through reduced energy consumption and the development of new and innovative technologies for both new and existing products. Our ISO-9001 certification underscores our adherence to international quality standards and commitment to continuous improvement.

WHY SELECT SiSiB SILICONES?

Decades of Manufacturing Excellence

With over 30 years of experience in silane and silicone manufacturing, we have developed robust capabilities in meeting diverse production needs, from small-scale to large-scale operations.

Customer-Centric Focus

At SiSiB SILICONES, we prioritize our customers' needs by constantly innovating and offering comprehensive raw material solutions. From initial product evaluation and testing to full-scale production and timely delivery, we provide unwavering support and formulation assistance every step of the way.

Innovation and Technological Expertise

Innovation drives SiSiB SILICONES, fueled by our commitment to sustainability and backed by our expertise in science, advanced technology, global market reach, and regulatory compliance. We continuously push boundaries to deliver cutting-edge solutions.

Sustainable and Reliable Supply

We excel in swift developing and scaling up processes, ensuring smooth transitions from concept to execution. Our dedication to sustainability extends to our supply chains, where we leverage proprietary technology, economies of scale, and backward integration to ensure a sustainable and dependable supply for our customers' needs.



Textiles are not only about beauty but also about touch. Clothes are becoming a more powerful medium for natural human expression. Naturally bright colors on textiles delight both wearers and observers, while multiple sensations such as softness, comfort, wetness, dryness and elasticity satisfy the user's sensory needs.

In recent years, softeners have played a more important role in improving the firmness and abrasion resistance of treated fabrics, as well as their comfort. For textile finishers, meeting consumer demands for natural comfort has become even more challenging. SiSiB SILICONES continues to innovate and is committed to developing high-performance silicone softeners to change the surface feel of fabrics and meet the diverse needs of customers.

POWSIL silicone softeners include PDMS, amino modified silicones, amino polyether modified silicones and linear AB block silicones. POWSIL silicone softeners significantly improve fabric softness, lubricity, wrinkle recovery, tear strength and abrasion resistance, as well as enhance anti-fouling and anti-static properties. POWSIL silicone softeners also reduce sewing thread breakage, pilling and flammability by reducing fiber cohesion.

Key benefits of POWSIL Silicone Softener include:

- Provides a soft, smooth and fluffy feel.
- Improved antistatic, hygroscopic, flexible, sewing, wiping and anti-pilling properties.
- Improve the feel of synthetic fiber products to make them closer to natural fibers.
- Effective even at low concentrations.

POWSIL products not only improve the softness and comfort of textiles, but also provide excellent washability and stability, helping customers stand out in the fiercely competitive market.

POWSIL silicone softeners are used not only in the final finishing of fabrics but also in scraping, shrink proofing, sewing and yarn rewinding processes, helping to provide many benefits including:

- Excellent interfiber lubrication
- Good stretching and recovery abilities
- Improve elasticity and resilience
- Excellent surface protection
- Premium soft feel
- Have hydrophobic or hydrophilic properties
- Good durability.

SiSiB SILICONES ensures that its products are always at the forefront of the industry through continuous optimization and introduction of new technologies. Our R&D team closely monitors market demand and technological development trends, and continuously launches new products and solutions to help customers meet the ever-changing market challenges. Whether in the treatment of home textiles, clothing fabrics or industrial fabrics, POWSIL silicone softeners can provide excellent performance and reliability, and have won high recognition from customers.

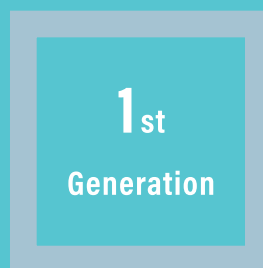
Through continuous innovation and unremitting pursuit of quality, SiSiB SILICONES not only provides customers with a variety of product choices, but also establishes a leading brand image in the global textile market. In the future, SiSiB SILICONES will continue to focus on the research and development of more efficient and environmentally friendly silicone products to meet the growing needs of customers and contribute to the sustainable development of the textile industry.

BENEFIT OF 4TH GENERATION

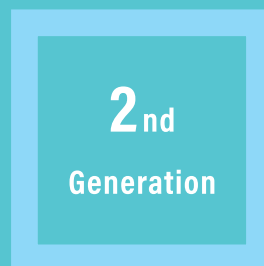
Linear (AB)_n Terpolymer Silicone Softener



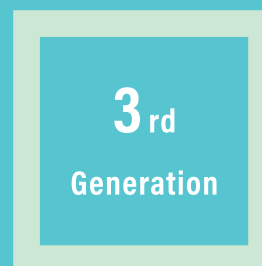
- Superior softness; Bulky, full and rich hand-feel.
- Water dispersible; no emulsification or easy emulsification.
- Free or less oil spot.
- Excellent shear stability, stable under high alkaline conditions, stable at boiling.
- Excellent hydrophilicity, hydrophilic segments directly attached to the fiber surface.
- Low yellowing, almost no yellowing and discoloration of fabrics.
- Re-dyeable, over-dyeable, over-printable and re-coatable.
- Selected compatibility with durable press resins.
- May improve fabric tear strength.
- Very low dosage; extremely cost-effective.



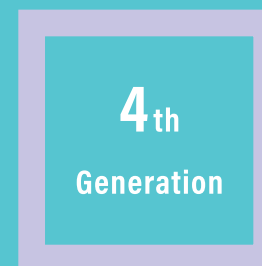
Methyl or Hydroxy PDMS Silicones
 Lubricant, non yellowing, low softness



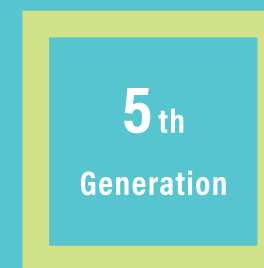
Pendant Amino or Epoxy Silicones
 Prominent soft & slick feel, but yellowish, hydrophobic, oil-spots, etc



Pendant Amino Polyether Silicones
 Hydrophilic, self-dispersion, but moderate soft feel.



Linear Block Silicones
 Stable, safe, bulky, silky, hydrophilic



More safe and friendly? Multifunctional?

HIGH PERFORMANCE SILICONES FOR TEXTILE FINISHING

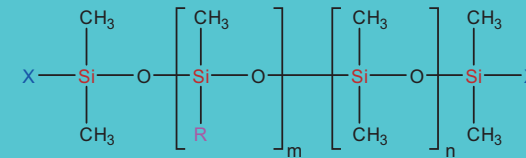
In the 1960s, the first generation of textile silicone additives, PDMS polydimethylsiloxane and hydroxy-terminated PDMS, were introduced into the textile industry. This type of softener has the advantages of good lubricity and low cost, which can reduce the color change of the treated fabric, but has poor washability, and can provide a soft feel but poor recovery. The first generation of silicone softener emulsions are unstable, easy to stratify, and prone to oil spots. Therefore, PDMS is rarely used as a fabric softener at present, but is more used for yarn lubrication, fiber filling treatment or chemical fiber spinning oil. Due to its thermal stability and good lubricity, silicone can reduce the dynamic friction coefficient, thereby reducing the risk of fiber melting and breakage during production. In the process of artificial fiber manufacturing, PDMS can be used as a lubricant to prevent thermoplastic fiber materials from adhering to the spinneret, avoiding production instability and cleaning problems. In addition to being used as a sewing thread lubricant, it is also used to improve the feel and friction fastness in pigment printing systems.



PDMS SILICONES

1ST
Generation

To improve durability through multiple wash cycles, some of the methyl groups on the silicone polymer can be replaced with other functional groups to enhance the attraction and interaction of the silicone softener with the fiber. Amino functional groups can increase physical adsorption and provide better softening performance.



The properties of softeners can be changed in many ways, including:

- Functional groups R; The diverse properties of silicone can be tailored by altering the R group in its structure. Below are the properties achieved through various modifications.

Silicone Modifications	Properties Derived
Amino Group	Highly exhaustible and durable softness
Hydrophilic Group	Water adsorptive
Methyl Group	Water repellence and antistatic finish
Hydrogen Group	Water repellence and soil resistance
Other Organo Modifications	Draperly and wrinkle recovery property.

- Molecular weight (characterized by the viscosity of the oil), mainly determined by n;
- The number of substituents, m (number of amines);
- The distribution of substituents in the chain;
- The chain end X, which can be reactive/crosslinkable (OH or OR) or terminated (X=Me).

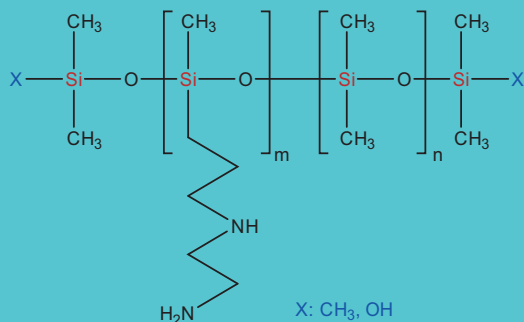
Chemical Structure	SISIB SILICONES	Description	Active Ingredients	Physical Form	Emulsifiability	Characteristics	Typical Target Fabrics	Countertype
Polydimethylsiloxane (PDMS)	POWSIL-59211	Polydimethylsiloxane. PDMS silicone fluid, 5000 cst	100	Fluid	Easy with emulsifiers	Improve rubbing fastness and hand feel for pigment printing. Anti-tacky.	Lubricant for yarn and thread or some fabric.	Luprimol SIG (BASF). Tubisoft PS (CHT).
Polydimethylsiloxane (PDMS)	POWSIL-59491	Silicone emulsion	60	Emulsion	-	Lubricant. Raising agent. Releasing agent. Polishing agent.	-	-

HIGH PERFORMANCE SILICONES FOR TEXTILE FINISHING

Low viscosity oils produce a dry feel, while high viscosity silicone oils produce a greasy touch. The hydrophobicity of the treated textiles is also highly dependent on the length of the silicone chain. The number of substituents determines the substantivity (partial protonation of the amino group), hydrophobicity and tendency to yellow.

The performance of softeners is judged by the following criteria:

- High softening performance (soft fluffy-dry, smooth or greasy hand);
- Whiteness/yellowing tendency;
- Hydrophilicity / hydrophobicity, i.e. fabric wettability;
- Antistatic effect;
- Emulsion stability;
- Shear stability under application conditions;
- Exhaustion from long liquor.

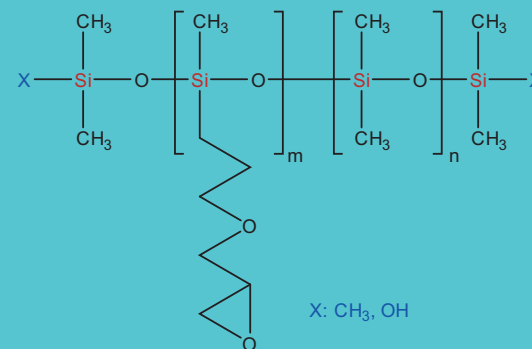


During the application process, which is usually carried out under acidic conditions, these amino groups are quaternized into cationic species, making them more attractive to negatively charged fabrics. This is especially true for cotton-based fabrics, which have anionic charges on the surface. This improves the deposition, performance and durability of the softener.

The 2nd generation of POWSIL silicone softeners are typically linear amino polydimethylsiloxanes. The amino-functional side groups allow the silicone to be optimally distributed on the fiber surface, ensuring the fabric a smooth feel and good elasticity. Amino-functional silicones are more effective than dimethyl silicones or silicones with carboxyl or epoxy groups in giving fabrics a softer feel, and have good wash resistance and can improve the tear strength of fabrics. This is because the partially protonated amino groups in the molecule can interact with the negatively charged cotton fibers. However, it tends to yellow under heat or UV light and is not suitable for light-colored fabrics.

PENDANT AMINO/EPOXY SILICONES

2ND
Generation



There are strong hydrogen bonds between the hydroxyl or amino groups of fibers (such as cellulose, wool, silk and polyamide fibers) and the amino groups of modified silicones. This hydrogen bond acts as an anchor for the silicone and forms a uniformly distributed film on the fiber surface, making the fabric feel very soft and have good water resistance. The polysiloxane segments between the anchor points are long enough to maintain high flexibility and optimal amino side group content, which provides softness and lubrication effects for amino-functional silicones on polar fibers. The hydrophobic surface of non-polar polyester fibers interacts strongly with the hydrophobic segments of the silicone chains, and the positively charged amino side groups repel each other, which enhances the flexibility of the silicone chain rings and makes the amino-functional silicones have a particularly soft feel even on non-polar fibers.

The 2nd generation of POWSIL silicone softeners also includes epoxy-modified polysiloxanes. The epoxy group of the epoxy modified silicone textile softener has high activity and can cross-link with fiber surface groups, giving the treated fabric durable finishing effect, dry hand feeling and rebound effect, but the slip and water absorption are poor, and the fullness and softness are lacking. It is mainly used for water-repellent and soft finishing.

These amino-functional silicones are best applied to textile surfaces in the form of microemulsions. Microemulsions have good clarity and excellent shelf life, and allow for higher dilutions and better shear stability than macroemulsions. However, microemulsions often contain high concentrations of surfactants, which may affect softness.



HIGH PERFORMANCE SILICONES FOR TEXTILE FINISHING

PENDANT AMINO SILICONES

2ND
Generation



Chemical Structure	SiSIB SILICONES	Description	Active Ingredients	Physical Form	Emulsifiability	Characteristics	Typical Target Fabrics	Countertype
Amino Modified Silicones	POWSIL-59010	Amino Modified Silicones. Viscosity: 3000-5000 cSt. Amine Content: 0.24-0.40% (wt%). Amine Value: 0.15-0.25 mmol/g.	100	Fluid	Easy with emulsifiers	Low yellowing. High slickness & elastomeric.	Various types of fibers & fabrics.	Magnasoft Plus (Momentive). WR-1100/1200 (Wacker). RD-21645 (Bluestar).
Amino Modified Silicones	POWSIL-59020	Amino Modified Silicones. Viscosity: 800-2000 cSt. Amino content: 0.56-0.72% (wt%). Amine Value: 0.35-0.45 mmol/g.	100	Fluid	Easy with emulsifiers	Common amino silicone oil	Various types of fibers & fabrics.	TSF-4708 (Momentive). DC-8040 (Dow). WR-1300/AF-21 (Wacker).
Amino Modified Silicones	POWSIL-59030	Amino Modified Silicones. Viscosity: 1000-1500 cSt. Amino Content: 0.88-0.90% (wt%). Amine Value: 0.55-0.65 mmol/g.	100	Fluid	Easy with emulsifiers	Common amino silicone oil	Various types of fibers & fabrics.	TSF-4703 (Momentive). OFX-8460 (Dow) AM-9 (Wacker)
Amino Modified Silicones	POWSIL-59040	Amino Modified Silicones. Viscosity: 3000-5000 cSt. Amino Content: 0.42-0.51% (wt%). Amine Value: 0.26-0.32 mmol/g.	100	Fluid	Easy with emulsifiers	Common amino silicone oil	Various types of fibers & fabrics.	TSF-4100 (Momentive). OFX-8630 (Dow)
Amino Modified Silicones	POWSIL-59050	Amino Modified Silicones. Viscosity: 800-2000 cSt; Amino Content: 0.42-0.51% (wt%). Amine Value: 0.26-0.32 mmol/g.	100	Fluid	Easy with emulsifiers	Common amino silicone oil	Various types of fibers & fabrics.	Finish WR1300 (Wacker). Finish WR301 (Wacker).
Amino Modified Silicones	POWSIL-99050	Amino Modified Silicones. Viscosity: 800-2000 cSt. Amino Content: 0.42-0.51% (wt%). Amine Value: 0.26-0.32 mmol/g. D4 and D5 cyclic siloxanes content is reduced to less than 0.1% each.	100	Fluid	Easy with emulsifiers	Common amino silicone oil	Various types of fibers & fabrics.	Finish WR1300 (Wacker).
Amino Modified Silicones	POWSIL-99051	Amino Modified Silicones. Viscosity: 800-2000 cSt. Amino Content: 0.42-0.51% (wt%). Amine Value: 0.26-0.32 mmol/g. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	100	Fluid	Easy with emulsifiers	Common amino silicone oil	Various types of fibers & fabrics.	
Amino Modified Silicones	POWSIL-59870	Amino Modified Silicones. Viscosity: 5000-8000 cSt; Amino content: 0.32-0.48% (wt%)	100	Fluid	Easy with emulsifiers	Common amino silicone oil	Various types of fibers & fabrics.	KF-877 (ShinEtsu).

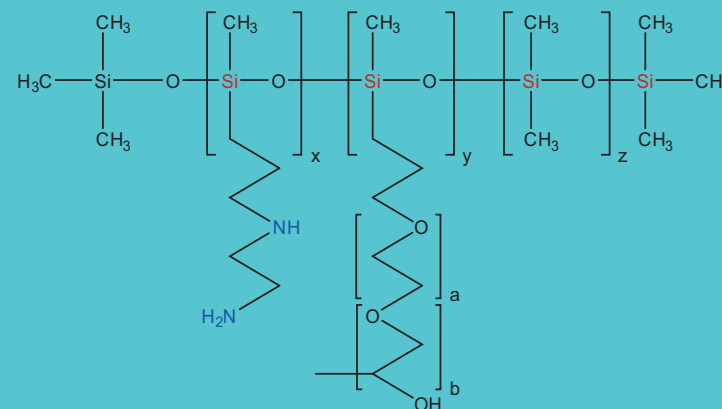
HIGH PERFORMANCE SILICONES FOR TEXTILE FINISHING

Amino silicone oils must be emulsified before they can be used in water-based textile finishing processes. The polyether chains added to the third generation POWSIL silicone softeners make textiles hydrophilic. They are suitable for standard industrial finishing processes such as padding, spraying, minimum-liquor application methods or jet dyeing.

Polyether modified silicone softeners are grafted with polyether active groups on the side chains of polysiloxane chains, which are not easy to break the emulsion and impart fabrics good hydrophilic properties, but the hand feel is slightly poor. Pure polyether-modified silicone oils are water-dispersible/water-soluble, no emulsification, delamination, and oil spot problems. The finished fabric can be re-dyed, has instant water absorption function, and no yellowing or color change, but the finished fabric has poor smoothness, no plump and soft hand feel, and hydrophilicity and softness are not durable, and the tear strength is not improved. POWSIL polyether modified silicone softeners are suitable for products that require instant water absorption and general soft finishing. POWSIL amino (epoxy) / polyether modified silicone oils can provide better hand feel, but the yellowing is slightly higher, and are mainly used as general hydrophilic softeners for general fabrics.

AMINO POLYETHER SILICONES

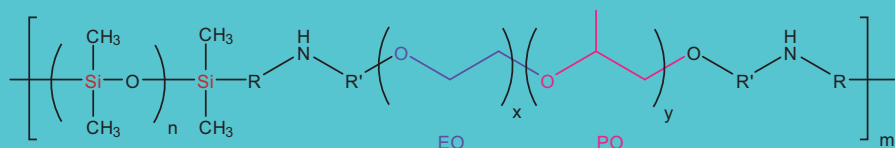
3RD Generation



Chemical Structure	SiSiB SILICONES	Description	Active Ingredients	Physical Form	Emulsifiability	Characteristics	Typical Target Fabrics	Countertype
Polyether Modified Silicones	POWSIL-59257	Polyether Modified Silicones. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	95	Fluid	No need emulsification	Instant water absorption.	All types of fabric for hydrophilicity enhancer, emulsifier, leveling agent.	Magnasoft TLC (Momentive).
Polyether Modified Silicones	POWSIL-59251	Polyether Modified Silicones.	100	Fluid	No need emulsification	Super spreading and penetration. Instant water absorption.	Improve core dyeing, Maintain hydrophilic at enhance temperature.	
Polyether Modified Amino Silicones	POWSIL-99255	Polyether Modified Amino Silicones.	40	Fluid	No need emulsification	Instant water absorption. Good hand feel.	Enhance wicking height	
Polyether Modified Amino Silicones	POWSIL-59256	Polyether Modified Amino Silicones. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	100	Fluid	No need emulsification	Instant water absorption. Good hand feel.		Magnasoft HSSD (Momentive).
Polyether and Epoxy Modified Silicones	POWSIL-59258	Polyether and Epoxy Modified Silicones. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	100	Fluid	No need emulsification	Provide instant water absorption. Non yellowing.		Magnasoft EPS (Momentive).

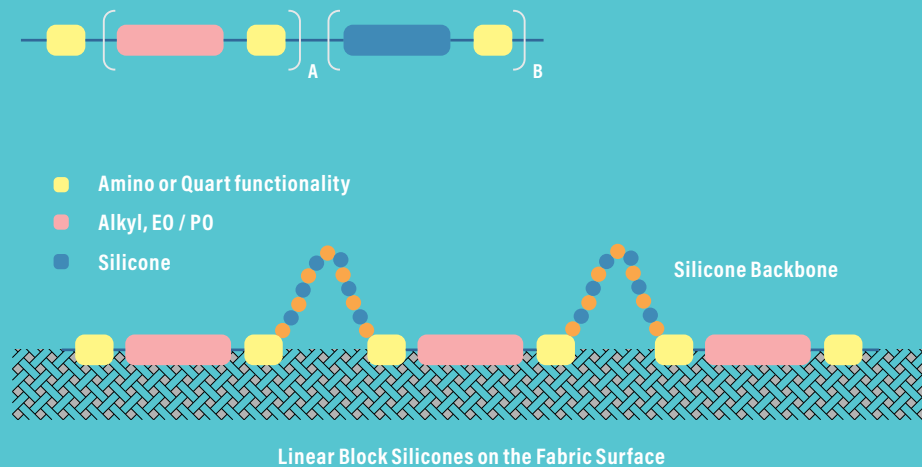
HIGH PERFORMANCE SILICONES FOR TEXTILE FINISHING

The powerful anchoring groups of POWSIL 4th generation silicone softener ensure that the silicone segments in the silicone copolymer are firmly anchored and distributed throughout the fabric surface. New generation of POWSIL linear amino polyether block copolymers are synthesized by linear block copolymerization of amino groups and polyether groups on the siloxane skeleton. Due to the anchoring effect of the amino group, the entire polysiloxane can be firmly bonded to the fabric surface, maintaining the original softness and smooth feeling of the polysiloxane. The structure of the polyether molecule allows the hydrophilic segments to ultimately stay on the fiber surface, where they interact with the anchoring groups to allow water molecules to transfer unhindered on the fiber surface, forming a soft and hydrophilic compatibility without reducing the fluidity of the silicone segments or the resulting softness.



LINEAR BLOCK TEXTILE SOFTENERS LINEAR (AB)_n SILICONE TERPOLYMER

4TH
Generation



Chemical Structure	SiSIB SILICONES	Description	Active Ingredients	Physical Form	Emulsifiability	Characteristics	Typical Target Fabrics	Countertype
Linear Block Silicone Copolymer	POWSIL-99900	Linear Block Silicone Copolymer. Modified with quats & polyether. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	90	Fluid, Weak cationic	Easy with emulsifiers	Bulky, silky, soft feel. Good hydrophilic. Good reboundy.	Cotton, PE/Cotton blends.	Magnasoft SilQ (Momentive). Magnasoft DerMaNT (Momentive). Magnasoft MT-90 (Momentive). Wetsoft 810VP (Wacker). XIAMETER OFX-8505 (Dow). Tego6924/4001 (Evonik).
Linear Block Silicone Copolymer	POWSIL-59912	Linear Block Silicone Copolymer. Modified with amine and polyether. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.2% each.	90	Fluid, Nonionic to weak cationic	Easy with emulsifiers	Internal silky and soft feel. Moderate hydrophilic. Good rebounding.	Bone-breaking effect. Suitable for all types of fabric, especially for Pigment printed fabric, Linen.	Magnasoft STE (Momentive).
Linear Block Silicone Copolymer	POWSIL-59107	Linear Block Silicone Copolymer. Modified with Quats. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	85	Fluid, Weak cationic	Easy with emulsifiers	Bulky, silky, smooth feel. Good hydrophilic. Good reboundy.	Cotton, PE/Cotton blends.	Magnasoft DerMaNT (Momentive). Magnasoft MT-90 (Momentive). Wetsoft 810 (Wacker). XIAMETER OFX-8505 (Dow). XIAMETER OFX-8600 (Dow). Tego-6924/4001 (Evonik).

HIGH PERFORMANCE SILICONES FOR TEXTILE FINISHING

LINER BLOCK TEXTILE SOFTENERS

4TH
Generation



Chemical Structure	SISIB SILICONES	Description	Active Ingredients	Physical Form	Emulsifiability	Characteristics	Typical Target Fabrics	Countertype
Linear Block Silicone Copolymer	POWSIL-59106	Linear Block Silicone Copolymer. Modified with Quats. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	87	Fluid, Weak cationic	Easy with emulsifiers	Bulky, soft, smooth feel. Hydrophilic. Reboundy.	Economic for Cotton, PE/Cotton blends.	Magnasoft DerMaNT (Momentive). Magnasoft MT-90 (Momentive). Wetsoft 810 (Wacker). XIAMETER OFX-8505 (Dow). XIAMETER OFX-8600 (Dow). Tego-6924/4001 (Evonik).
Linear Block Silicone Copolymer	POWSIL-59157	Linear Block Silicone Copolymer. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	30	Fluid, Nonionic to weak cationic	Self-dispersion, No need emulsification	Super surface smoothness. Super Silky, smooth, soft.	PE, T/R, T/C, Fleece. Wool, Cashmere.	Magnasoft SRS (Momentive). Magnasoft MT-80 (Momentive).
Linear Block Silicone Copolymer	POWSIL-99160	Linear Block Silicone Copolymer. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	60	Fluid, Nonionic to weak cationic	Self-dispersion, No need emulsification	Super surface smoothness with moisturized hand feel.	PE, T/R, T/C, Fleece. Wool, Cashmere.	Magnasoft 238 (Momentive).
Linear Block Silicone Copolymer	POWSIL-59480	Linear Block Silicone Copolymer.	60	Fluid, Nonionic to weak cationic	Self-dispersion, No need emulsification	Super surface smoothness with moisturized hand feel.	PE, T/R, T/C, Fleece. Wool, Cashmere.	Magnasoft 238 (Momentive).
Linear Block Silicone Copolymer	POWSIL-59482	Linear Block Silicone Copolymer. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	60	Fluid, Nonionic to weak cationic	Self-dispersion, No need emulsification	Super surface smoothness with moisturized hand feel. Moderate hydrophilic. Strong antistatic.	PE, T/R, T/C, Fleece. Wool, Cashmere.	Magnasoft 238 (Momentive).
Linear Block Silicone Copolymer	POWSIL-99580	Linear Block Silicone Copolymer. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	90	Fluid	Easy with emulsifiers	Fast hydrophilic. Oil spots free, redyeable.	Hydrophilic treatment on various fabric (cotton & synthetic fabric).	Wetsoft CTA (Wacker) Magnasoft SilQ (Momentive). Rucofin SIQ/SQM (Rudolf). XIAMETER OFX-8600 (Dow). XIAMETER OFX-8800 (Dow). XIAMETER OFX-7700 (Dow). Tego 4001 (Evonik).
Linear Block Silicone Copolymer	POWSIL-59930	Latest Silicone Terpolymer. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	90	Fluid, Weak cationic	Easy with emulsifiers	Fast hydrophilic. Deeply silky & soft hand feel.	Suitable for fabric requesting both hydrophilic & silky hand feel.	
Linear Block Silicone Copolymer	POWSIL-59960	Linear Block Silicone Copolymer. D4, D5, and D6 cyclic siloxanes content is reduced to less than 0.1% each.	80	Fluid, Nonionic to weak cationic	Easy with emulsifiers	Greasy feel. Super surface smoothness. Not hydrophilic. Elastomeric. Economic.	Suitable for PE, TR, TC fabric for enhancing greasy feel, wrinkle recovery	

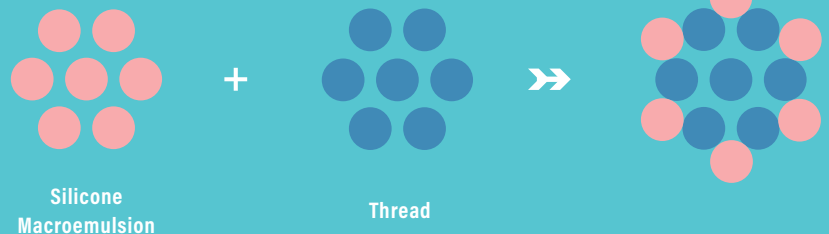
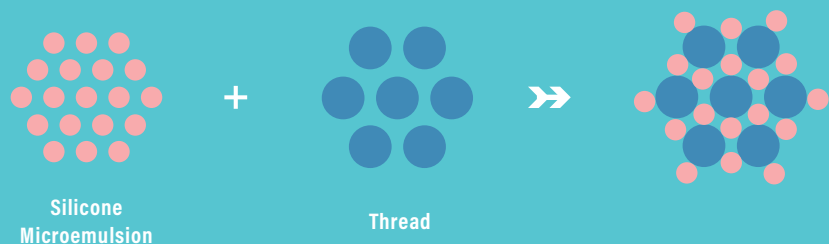
SOFTENING SOLUTION FOR FABRICS

In recent years, SiSiB have also developed new silicone-polyurethane copolymer emulsions as textile softeners. These softeners improve the tear strength, softness, wrinkle resistance and flexibility of treated cotton fabrics and reduce the wettability and whiteness index. Cotton knitted fabrics treated with polyurethane-silicone softeners also have excellent elasticity, flexibility, shear recovery, bending deformation recovery, and soft and smooth surface properties, with a small friction coefficient even after multiple washes.

POWSIL silicone softeners are suitable for applications using standard techniques such as padding and exhaust dyeing. They provide significant cost savings during textile processing. The reason for this is that our new finish produces a more uniform fiber surface. Color errors can therefore be corrected during textile processing without removing the silicone coating.

In addition, SiSiB SILICONES offers some silicones in the form of cationic and nonionic emulsions that are easy to mix and disperse without the need for a pre-emulsification step. The following guidelines can help you choose the most appropriate silicone fabric conditioning additive for your application.

Microemulsion and Macroemulsion



The transparent microemulsion penetrates the primary fibers, providing inner softness.

The milky-white macroemulsion is deposited on the fiber surface, providing surface softness.

TYPE OF EMULSIONS

There are three different types of emulsions, with particle size determining whether the emulsion is clear, milky or creamy.

- Macroemulsions: milky appearance and a particle size between 150 and 300 nanometers;
- Microemulsions: clear and transparent, with a particle size below 50 nanometers;
- Semi-microemulsions: sometimes slightly bluish turbid emulsions, with a particle size between 80 and 120 nanometers.

The particle size of the emulsion can be adjusted by adjusting the ratio between silicone oil and emulsifier, which decreases with increasing amount of emulsifier. Microemulsions can only be obtained with amino-functional silicones (protonated form); they are currently the most demanded textile softeners due to their high shear stability.

Particle size has a significant impact on the feel of textile finishes. Macroemulsions deposit silicone onto the surface of the yarn to improve surface smoothness, while microemulsions better penetrate into the spaces between individual fibers, providing internal softness.

Microemulsions containing short-chain or cross-linked silicone fluids produce a soft, dry hand. In this case, the microemulsion penetrates into the fabric down to the individual main fibers; interfiber friction is reduced and the fibers take on an internal softness. Microemulsions are only available with aminofunctional silicones (protonated form); due to their high shear stability, they are currently one of the most popular textile softeners.

Significantly larger silicone particles in macroemulsions are deposited on the surface, creating surface softness. Its typical features are optimal smoothness, soft feel, high elasticity and good sewing properties. Since the ratio of active agents to emulsifiers is more favorable than microemulsions, more silicone will ultimately remain on the fabric and the effect will be more noticeable.

Shear Stability and Exhaustion

The dosage of softener emulsions is usually 5 to 50 g/l. The development trend in the textile machinery industry is to shorten the bath ratio, increase productivity and use more powerful pumps. Some machines and equipment, such as padders, ejectors, yarn dyeing equipment, exert considerable shear stress in the process liquid. When shear forces break the emulsion, the oil is released in an uncontrolled manner, causing spots and fabric defects. Microemulsions are one of the most popular silicone softeners at present due to their small particle size and good stability.

The ideal softener is a molecularly dispersible silicone, but it is still a cationic emulsion for exhaustion. One possible solution is to use amino polyether silicones, but they provide a relatively poor feel. Silicones greatly reduce the friction between fibers, so they can improve abrasion resistance to a large extent. The fibers' fluidity increases, they can absorb and dissipate mechanical energy, and they can flex and loosen instead of breaking as they would in "hard" fabrics with high fiber friction.

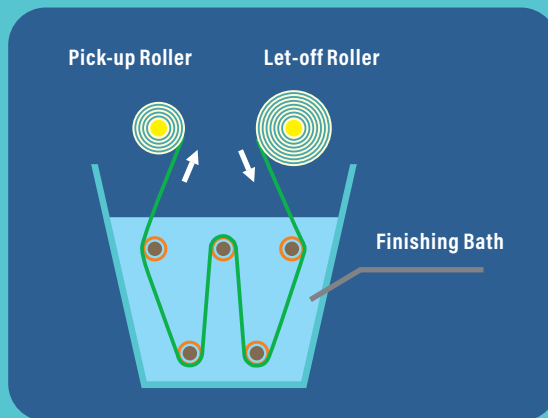
Continuous Process (Padding Method)

- Higher temperatures
- Solution subjected to shear
- Easier to apply chemicals with low affinity for the fiber



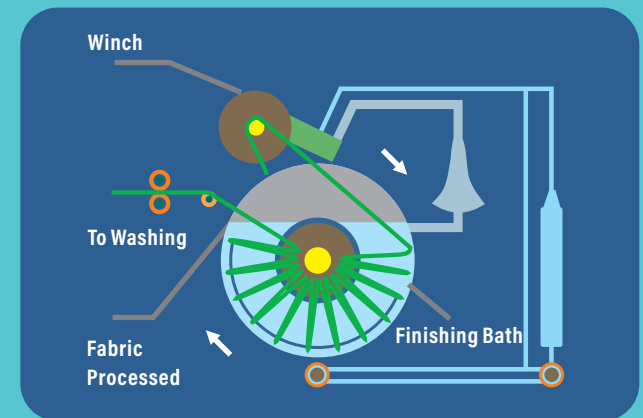
Batch Process (Exhaust Method)

- Rather low temperatures
- No shear applied
- Large liquor to goods ratio
- Open bath is more prone to oxidation



Jet Dyeing

- Higher temperatures
- Solution subjected to high shear
- Less water and time consuming
- Easier to apply chemicals with low affinity for the fiber



TEXTILE FINISHING SOLUTION GUIDE

SOFTENER FOR COTTON AND COTTON BLENDS

SiSiB SILICONES	Active Components	Features	Physical Properties	Solid Content	Target Applications	Dosage
POWSIL-99110	Terpolymer Silicone Softener	<p>Holistic Softness & Smooth</p> <ul style="list-style-type: none"> - Self-dispersion. - Less or non oil-spots. - High penetration inside of fiber. - Bulky, soft, silky. - Moderate hydrophilic. - Redyeable. 	<p>Micro emulsion.</p> <p>Weak cationic.</p>	40%	<p>Cotton, T/C, T/R, fabric for baby use.</p> <p>High dense, heavy, casual, trousers.</p> <p>Clothes next to skin & baby fabric.</p> <p>Jean fabric (less dyestuff deposition on back).</p> <p>Similar to CHT ARRISTAN 71</p>	<p>Padding process: 10-30g/l.</p> <p>Exhaust process: 1.0-3.0% o.w.f.</p>
POWSIL-99122	Terpolymer Silicone Softener	<p>Hydrophilic, Peach Hand Feel</p> <ul style="list-style-type: none"> - Stable, less or non oil-spots. - Bulky, silky & soft. - Moderate water absorption. - Good compatibility with resin or binder. - Redyeable. 	<p>Micro emulsion.</p> <p>Weak cationic.</p>	32%	<p>Cotton, T/C, T/R.</p> <p>Various fabrics.</p> <p>Home fabric.</p> <p>Can be applied with resin or binder in the same bath.</p>	<p>Padding process: 20-50 g/l:</p> <p>Exhaust process: 2.0-5.0% o.w.f.</p>
POWSIL-99128	Terpolymer Silicone Softener, contain long chain alkyl group	<p>Super Bulky, Peach/Fluffy Hand Feel</p> <ul style="list-style-type: none"> - Stable, less or non oil- spots. - Bulky, silky & soft. - Moderate water absorption. - Compatible with resin or binder. - Redyeable. 	<p>Micro emulsion.</p> <p>Weak cationic.</p>	32%	<p>Towel, Cotton, T/C, T/R.</p> <p>Linen & its blends.</p> <p>Home fabric.</p> <p>Raising agent.</p> <p>Can be applied with resin or binder in the same bath.</p> <p>Counter type of fatty acid quats modified silicone.</p>	<p>Padding process: 20-50 g/l.</p> <p>Exhaust process: 2.0-5.0% o.w.f.</p>
POWSIL-99852	Terpolymer Silicone Softener	<p>Moderate Compatible</p> <ul style="list-style-type: none"> - Stable, less or non oil- spots. - Bulky, silky & soft. - Hydrophilic. - Compatible with resin or binder. - Redyeable. 	<p>Micro emulsion.</p> <p>Weak cationic.</p>	45%	<p>Cotton, T/C, T/R.</p> <p>Various fabrics.</p> <p>Home fabric.</p> <p>Can be applied with resin or binder in the same bath.</p> <p>Counter type of Rudolf RUCOFIN GWA</p>	<p>Padding process: 20-50 g/l.</p> <p>Exhaust process: 2.0-5.0% o.w.f.</p>
POWSIL-99229	Terpolymer Silicone Softener	<p>Hydrophilic & Terry Towel Feel</p> <ul style="list-style-type: none"> - Surface Slick. - Stable, less or non oil-spots. - Bulky, silky & soft. - Quick water absorption. - Compatible with resin or binder. - Less yellowing. - Redyeable. 	<p>Micro emulsion.</p> <p>Weak cationic.</p>	56%	<p>Cotton, T/C, T/R.</p> <p>Various fabrics.</p> <p>Home fabric.</p> <p>Can be applied with resin or binder in the same bath.</p> <p>Counter type of Rudolf RUCOFIN GSQ 200</p>	<p>Padding process: 10-30 g/l.</p> <p>Exhaust process: 1.0-3.0% o.w.f.</p> <p>Yarn Finishing: 0.2-0.4% o.w.f.</p>
POWSIL-99335	Terpolymer Silicone Softener	<p>Super Soft & Less Slick- Boneless Feel</p> <ul style="list-style-type: none"> - Stable, less or non oil-spots. - Bulky, soft & less slick. - Slow water absorption. - Compatible with resin or binder. 	<p>Micro emulsion.</p> <p>Weak cationic.</p>	23%	<p>Cotton, T/C, T/R, fabric for baby use.</p> <p>High dense, heavy, casual, trousers.</p> <p>Pigment printed fabric, lawn fabric.</p> <p>Linen fabric.</p>	<p>Padding process: 20-50g/l.</p> <p>Exhaust process: 2.0- 5.0% o.w.f.</p>
POWSIL-59720	Linear block copolymer	<p>Greasy / Moisturized Feel</p> <ul style="list-style-type: none"> - Enhancer of wrinkle recovery - Elastomeric 	<p>Micro emulsion</p>	35%	<p>All types of fabric.</p> <p>Not hydrophilic.</p>	

TEXTILE FINISHING SOLUTION GUIDE

SOFTENER FOR COTTON AND COTTON BLENDS

SiSiB SILICONES	Active Components	Features	Physical Properties	Solid Content	Target Applications	Dosage
POWSIL-99360	Terpolymer Silicone Softener	Fast Hydrophilic - Stable, less or non oil-spots. - Big particles, resulting in slick on surface. - Quick water absorption. - Compatible with resin or binder. - Redyeable.	Marco emulsion. Nonionic to weak cationic.	32%	Cotton, T/C, T/R. Various fabrics. Yarn finishing. Home fabric. Can be applied with resin or binder in the same bath.	Padding process: 10-30 g/l. Exhaust process: 1.0- 3.0% o.w.f.
POWSIL-58160	Macro-Huge molecules emulsion of amino-modified silicone fluid.	High Slick & rebound Resilience - Big particles, slick on surface. - Highly elastomeric & rebound resilience. - Poor water absorption.	Marco emulsion. Weak cationic.	30%	Cotton, T/C, T/R. Various fabrics to increase rebond resilience.	Padding process: 20-50 g/l. Exhaust process: 2.0-5.0% o.w.f.
POWSIL-59789	Macro-Huge molecules emulsion of amino-modified silicone fluid.	High Slick - Big particles, slick on surface. - Poor water absorption.	Marco emulsion. Nonionic.	60%	Cotton, T/C, T/R, PE. Various fabrics to increase slickness. Fiberfill & thread lubricant	Padding process: 10-50 g/l. Exhaust process: 2.0-5.0% o.w.f.
POWSIL-99888	New Generation Silicone Copolymer	Highly Compatible - Very stable, less or non oil-spots. - Bulky, silky & soft. - Hydrophilic. - Compatible with resin or binder. - Redyeable.	Micro emulsion. Nonionic.	50%	Cotton, T/C, T/R printed fabric. Home fabric. Can be applied with resin or binder in the same bath. Countertype of Solusoft NMW.	Padding process: 15-30 g/l
POWSIL-59251	Silicone surfactant	Hydrophilic Softener Finish - Super low surface tension. - Super spreading. - Enhance hydrophilicity.	Fluid	100%	Enhancer for traditional wetting agent. Core dyeing. Hydropilicity enhancer. Enhancer for core softeners.	0.05-0.1%
POWSIL-99160	Linear Terpolymer Silicone Softener	Super Smoothness with Moisturized Hand Feel. - To replace Macro-Type amino silicone. - No emulsifiers but self-dispersion. - Non oil-spots. - Natural smooth feel with moisturized. - Super silky, smooth, comfortable softness.	Nonionic to weak cationic	55%	Thin cotton woven and various knit. PE, T/R, T/C. Light fabric, such as Lawn fabric. Wool, Cashmere. Various Fleece. Swimming suits. Yarn finishing.	Padding process: 5-20 g/l. Exhaust process: 0.5- 2.0% o.w.f.
POWSIL-99170	Innovative Silicone oil	Super Stable Softener. - Self-Dispersion. - Smooth, silky, internal soft. - Hydrophilic. - Tolerant to strong acid & alkaline. - Lubricant for pretreatment process.	Micro emulsion	52%	Can be applied in tank for pretreatment. Can be used in finishing tank for softening.	Padding process: 10-30 g/l. Exhaust process: 1.0-3.0% o.w.f. Tank pretreatment: 0.2- 1.0% o.w.f.

TEXTILE FINISHING SOLUTION GUIDE

SOFTENER FOR PE & PROTEIN FIBER (Wool, Cashmere)

SiSiB SILICONES	Active Components	Features	Physical Properties	Solid Content	Target Applications	Dosage
POWSIL-59480	Linear Terpolymer Silicone Softener	<ul style="list-style-type: none"> Super Smoothness with Moisturized Hand Feel. - Emulsifier-free but self-dispersing. - No oil-spots. - Natural hand feel with moisturized. - Super silky, smooth, soft. - Hindered amine stabilized to prevent oil spots. 	Fluid, Nonionic to weak cationic	55%	PE, T/R, T/C. Light fabric, such as Lawn fabric. Wool, Cashmere. Various Fleece. Swimming suits. Yarn finishing.	Padding process: 5-20 g/l. Exhaust process: 0.5-2.0% o.w.f.
POWSIL-59482	Linear Terpolymer Silicone Softener	<ul style="list-style-type: none"> Super Smoothness with Moisturized Hand Feel. - Moderate hydrophilic. - Strong antistatic. - No emulsifiers but self-dispersion. - Non oil-spots. - Natural hand feel with moisturized. - Super silky, smooth, soft. - Hindered amine stabilized to prevent oil spots. 	Fluid, Nonionic to weak cationic	55%	PE, T/R, T/C. Light fabric, such as Lawn fabric. Wool, Cashmere. Various Fleece. Swimming suits. Yarn finishing.	Padding process: 5-20 g/l. Exhaust process: 0.5-2.0% o.w.f.
POWSIL-59157	Linear Terpolymer Silicone Softener	<ul style="list-style-type: none"> Super Smooth after Dry-cleaning. - Emulsifier-free but self-dispersing. - Oil-spots free. - Large molecular weight. - Natural feel. - Super silky and soft. - Excellent elasticity and rebound resilience. 	Fluid, Nonionic to weak cationic	30%	PE, T/R, T/C. Wool, Cashmere. Light fabric, such as lawn fabric. Various Fleece. Yarn finishing.	Padding process: 5-20 g/l. Exhaust process: 0.5-2.0% o.w.f.
POWSIL-99160	Linear Terpolymer Silicone Softener	<ul style="list-style-type: none"> Super Smoothness with Moisturized Hand Feel. - Natural hand feel with moisturized. - Super silky, smooth, soft. - Emulsifier-free but self-dispersing. - Non oil-spots. - Hindered amine stabilized to prevent oil spots. 	Fluid, Nonionic to weak cationic	55%	PE, T/R, T/C. Light fabric, such as Lawn fabric. Wool, Cashmere. Various Fleece. Swimming suits. Yarn finishing.	Padding process: 5-20 g/l. Exhaust process: 0.5-2.0% o.w.f.

TEXTILE FINISHING SOLUTION GUIDE

SOFTENER FOR PE & PROTEIN FIBER (Wool, Cashmere)

SISIB SILICONES	Active Components	Features	Physical Properties	Solid Content	Target Applications	Dosage
POWSIL-99161	Linear Terpolymer Silicone Softener	<p>Super Smoothness & Springiness with Moisturized Hand Feel.</p> <ul style="list-style-type: none"> - Emulsifier-free but self-dispersing. - Oil-spots free. - Huge molecular weight. - Natural hand feel. - Super silky, smooth, soft. - Excellent elastomeric & rebound resilience. 		25%	<p>PE, T/R, T/C. Light fabric, such as Lawn fabric.</p> <p>Wool, Cashmere.</p> <p>Various Fleece.</p> <p>Swimming suits.</p>	<p>Padding process: 10-40 g/l.</p> <p>Exhaust process: 1.0-4.0% o.w.f.</p>
POWSIL-60019	Innovative Silicone oil	<p>Lubricant for Reducing Fabric Friction</p> <ul style="list-style-type: none"> - Smooth, silky, internal soft. - Hydrophilic. - Self-dispersion. - Tolerant to strong acid & alkaline. 		60%	Can be applied in the same tank with disperse dyestuff	<p>Padding process: 1-5 g/l.</p> <p>Exhaust process: 0.1-0.5% o.w.f.</p>
POWSIL-99360	Amino-modified silicone fluid	<p>High Slick & Rebound Resilience</p> <ul style="list-style-type: none"> - Nonionic. - Big particles, super slick on surface. - Highly elastomeric & rebound resilience. - Good water absorption. - Compatible with resin or binder. - Non color migration. 	Marco emulsion	32%	<p>Cotton, T/C, T/R</p> <p>Various fabrics to increase slickness & rebound resilience.</p>	<p>Padding process: 10-30 g/l.</p> <p>Exhaust process: 1.0-3.0% o.w.f.</p>
POWSIL-59730	Innovative silicone softener, transparent liquid	<p>Baby Skin Feel.</p> <ul style="list-style-type: none"> - No emulsifiers but self-dispersion. 		48%	<p>Versatile softeners to Various fluffy, fleece fabric, fabric for toys, baby fabric, underwear.</p> <p>Most economic.</p>	<p>Padding process: 10-50 g/l.</p> <p>Exhaust process: 1.0-5.0% o.w.f.</p>
POWSIL-59771	Linear Terpolymer Silicone Softener	<p>BoneBreaking feel.</p> <p>Both internal & external slick feel.</p> <p>Moderate hydrophilic.</p>		40%	<p>Blend of spandex and other fibers.</p> <p>Smooth and internal soft needed.</p> <p>Fine and dense fabric.</p> <p>Nano feel.</p>	
POWSIL-59491	PDMS silicone emulsion	<p>Stable.</p> <p>Non yellowing.</p>	Nonionic or weak cationic	60%	<p>Raising agent.</p> <p>Lubricant.</p> <p>Release agent.</p> <p>Personal care in shampoo.</p> <p>Polishing agent for shoes and tyre.</p>	



TEXTILE FINISHING SOLUTION GUIDE

SOFTENER FOR TERRY TOWEL

SISIB SILICONES	Active Components	Features	Physical Properties	Solid Content	Target Applications	Dosage
POWSIL-62110	Terpolymer Silicone Softener	99.9% Anti-Bacterial. - No irritation. - Water absorption. - Bulky & silky.	Micro emulsion		Towel. Inner wear fabric. Baby wear fabric. Wiping paper.	
POWSIL-62111	Terpolymer Silicone Softener	99.9% Anti-Bacterial. - No irritation. - Water absorption. - Bulky & silky.	Micro emulsion		Towel. Inner wear fabric. Baby wear fabric. Wiping paper.	
POWSIL-59830	Terpolymer Silicone Softener	Fast & Consistent Hydrophilicity. - Oil-spots free. - Durable to washing. - Redyeable.	Micro emulsion	20%	Various fabric (both cotton and synthetic fabric). Countertype of SHE/GES/962-5G/3344/THS	
POWSIL-59180	Terpolymer Silicone Softener	Fast & Consistent Hydrophilicity. - Oil-spots free. - Durable to washing. - Redyeable.	Micro emulsion	23%	Various fabric (both cotton and synthetic fabric). Durable for washing. Terry towel & knitted.	Padding process: 20-40 g/l. Exhaust process: 2.0-4.0% o.w.f.



TEXTILE FINISHING SOLUTION GUIDE

SOFTENER FOR TERRY TOWEL

SiSiB SILICONES	Active Components	Features	Physical Properties	Solid Content	Target Applications	Dosage
POWSIL-59183	Concentrate of POWSIL-59180	Fast & Consistent Hydrophilicity. - Oil-spots free. - Wash resistance. - Redyeable.	Micro emulsion	45%	Various fabric (both cotton and synthetic fabric). Durable for washing. Terry towel & knitted.	Padding process: 20-40 g/l. Exhaust process: 1.0-2.0% o.w.f.
POWSIL-99229	Terpolymer Silicone Softener	Fast Hydrophilic and Bulkiness. - Fast & consistent Hydrophilicity. - Retain >85% water. - High bulkiness. - Oil-spots free. - Wash resistance. - Redyeable.	Micro emulsion	56%	Terry towel & knitted fabric. Retain water >85%. Bulky & soft.	Padding process: 20-50 g/l.
POWSIL-99360	Terpolymer Silicone Softener	Fast Hydrophilic and Slickness. - Fast and consistent. - Retain >85% water. - High soft & silky. - Oil-spots free. - Durable to washing. - Redyeable.	Marco emulsion. Nonionic to weak cationic.	32%	Terry towel & knitted fabric. Retain water >85%. Bulky & soft.	Padding process: 20-50 g/l. Exhaust process: 2.0-5.0% o.w.f.
POWSIL-59257	New silicone terpolymer emulsion concentrate	Fast Hydrophilic and Slickness - Good Fastness. - Fast & consistent . - Retain >85% water. - High soft & silky. - Oil-spots free. - Wash resistance. - Redyeable.	Micro emulsion	100%	Terry towel & knitted fabric. Retain water >85%. Bulky & soft.	Padding process: 10-50 g/l. Exhaust process: 1.0-5.0% o.w.f.



TEXTILE FINISHING SOLUTION GUIDE

FINISHING FOR PIGMENT PRINTING

SiSiB SILICONES	Active Components	Features	Physical Properties	Solid Content	Target Applications	Dosage
POWSIL-59211	Polydimethylsiloxane, 5000cSt	Lubricant for Printing & Yarn, Sewing Thread - Enhance rubbing abrasion resistance, especially for dry rubbing fastness. - Soft & silky hand feel.	Fluid	100%	Add into printing paste. Countertype of Luprimol SIG (BASF), MS-1000 (Silicone SPA), Tubisoft PS (CHT).	Padding process: 3-5 g/l. Exhaust process: 0.3-0.5% o.w.f.
POWSIL-99335	New Generation Silicone Copolymer	Super Soft & Less Slick- Boneless feel - Stable, less or non oil- spots. - Weak cationic. - Bulky, soft & less slick. - Slow water absorption. - Compatible with resin or binder.	Micro emulsion	23%	Pigment printed fabric	Padding process: 20-50 g/l. Exhaust process: 2.0-5.0% o.w.f.
POWSIL-59771	New Generation Silicone Copolymer	Super Soft & Less Slick-Boneless feel - Stable, less or non oil- spots. - Weak cationic. - Bulky, soft & less slick. - Slow water absorption. - Compatible with resin or binder.	Micro emulsion	40%	Pigment printed fabric	Padding process: 20-50 g/l. Exhaust process: 2.0-5.0% o.w.f.
POWSIL-99889	New Generation Silicone Copolymer	Highly Compatible - Stable, less or non oil- spots. - Bulky, silky & soft. - Hydrophilic. - Compatible with resin or binder. - Redyeable	Micro emulsion. Nonionic to weak cationic.	40%	Cotton, T/C, T/R Printing Fabric. Home fabric. Can be applied with resin or binder in the same bath. Countertype of Solusoft NMW.	Padding process: 15-30 g/l. Exhaust process: 2.0-5.0% o.w.f.
POWSIL-99888	New Generation Silicone Copolymer Meet GOTS7.0	Highly Compatible - Stable, less or non oil- spots. - Bulky, silky & soft. - Hydrophilic. - Compatible with resin or binder. - Redyeable	Micro emulsion. Nonionic to weak cationic.	40%	Cotton, T/C, T/R Printing Fabric. Home fabric. Can be applied with resin or binder in the same bath.	Padding process: 15-30 g/l. Exhaust process: 2.0-5.0% o.w.f.

FINISHING FOR SEWING THREAD & FIBER FILL

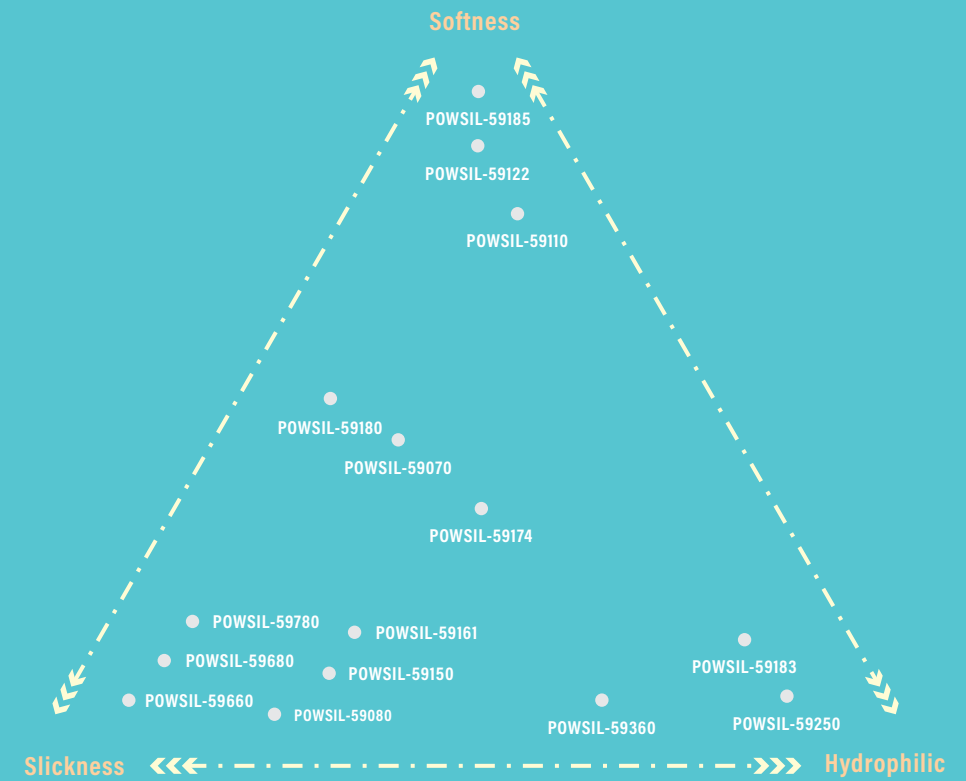
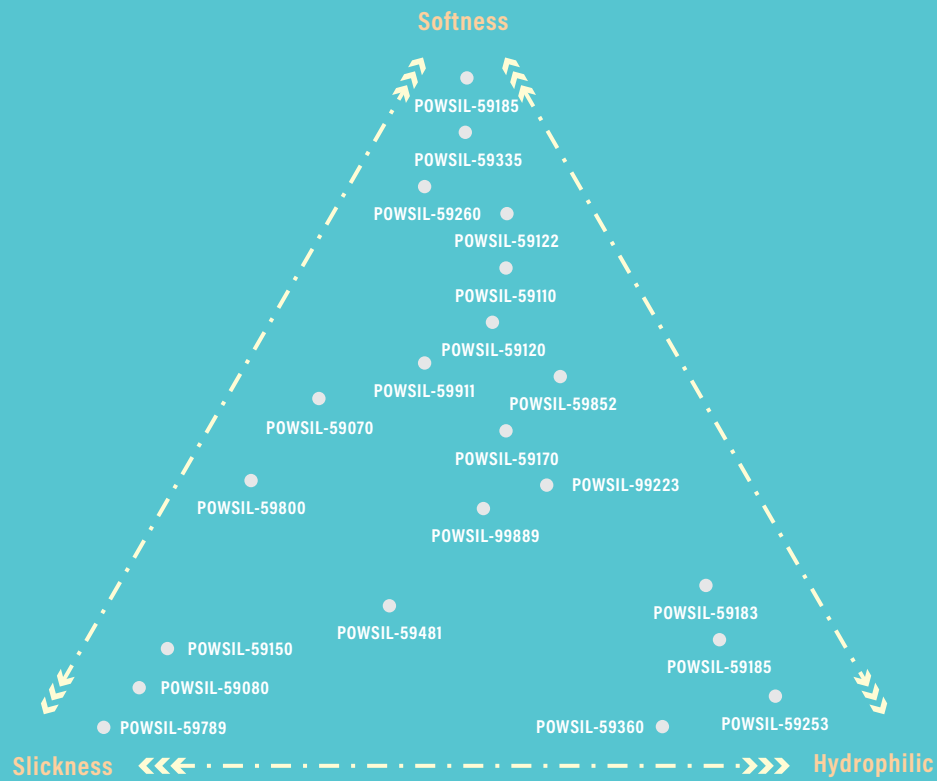
FLUOROCARBON FREE WATER REPELLENT

SiSiB SILICONES	Active Components	Features	Physical Properties	Solid Content	Target Applications	Dosage
POWSIL-59210	Polydimethylsiloxane 500, 1000, 5000cSt	Lubricant for Sewing Thread - Provides lubrication to various threads.	Fluid		Coating to sewing thread as a lubricant.	Exhaust process: 0.2-1.5% o.w.f
POWSIL-58160	Macro-Huge molecules of amino-modified silicone polymer emulsion	High Slick & Rebound Resilience. - Big particles, slick on surface. - Highly elastomeric & rebound resilience. - Poor water absorption.	Marco emulsion. Weak cationic.	30%	Fiberfill for general fiber	Padding process: 10- 30 g/l. Spraying: 20-40 g/l. Dry & cure at 160 deg.C
POWSIL-59780	Organo-silicone emulsion	Super Greasy Slickness. - High springiness. - Less yellowing.	Emulsion	60%	Fiberfill for general fiber	Padding process: 10- 30 g/l. Spraying: 20-40 g/l. Dry & cure at 160 deg.C

SiSiB SILICONES	Active Components	Features	Physical Properties	Solid Content	Target Applications	Dosage
POWSIL-59000	Organo-Silicone emulsion	Fluorocarbon Free. - As a softener for fluorocarbon finishing. - Doesn't interfere or even enhance water repellency.	Emulsion	30%	Can be applied with fluorocarbon in the same bath. To improve hand feel.	Padding process: 10-30 g/l. Exhaust process: 1.0-3.0% o.w.f.
POWSIL-69100	Organo-silicone emulsion	Fluorocarbon Free. - Wash-durable more than 20 times. - Aqueous system.	Emulsion	30%	Fluorocarbon Free	Padding process: POWSIL-69100A: 20 g/l. POWSIL-69100B: 6 g/l.

SOFTENER SELECTION GUIDE FOR COTTON FIBER

SOFTENER SELECTION GUIDE FOR SYNTHETIC FIBER



MANUFACTURING FACILITIES



- Silanes & Silicones
- Polymer Stabilizers
- Under Construction
- International Sales