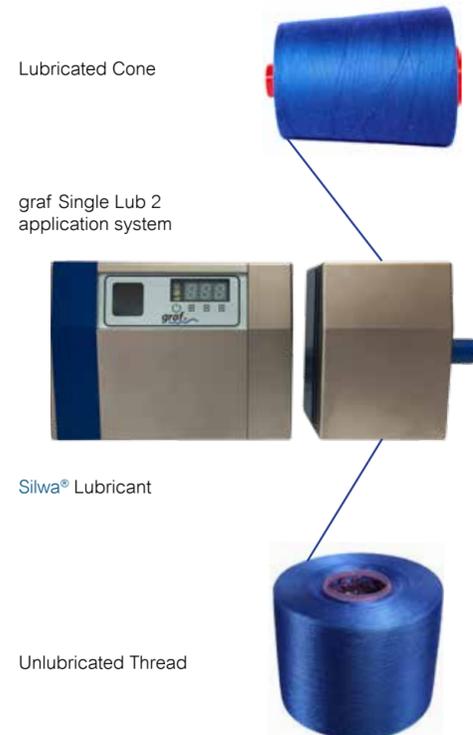


GRAF APPLICATION SYSTEM

The state of the art technology for thread lubrication.
Precise thread lubrication guarantees constant yarn tension and an excellent seam finish.



Important features and advantages

- high precision dosing system for absolutely precise application of lubricants on any thread during the winding process
- adjustable lubricant pick-up from 0.5% to 20% depending on the type of thread
- highest reliability due to the permanent operation of the Fluid Motion Control
- System, which stops the spindle in the case of failure
- slotted applicators for quick and easy yarn insertion
- optimised for use on high-speed finishing and pre-winding machines
- minimum contamination of the winding machine, even at high winding speeds
- almost adaptable to any winding machine, independent of brand or type
- minimum maintenance requirements
- greatest flexibility due to its small size

Simply contact the Graf Sales / Technical Service Team.

Frank Engelbrecht Dipl.-Ing. (FH)
Phone +49 (0)8041 792 85-16
Mobil +49 (0)172 803 433 0
frank.engelbrecht@graf-chemicals.com



Why not try Graf's lubrication and laboratory testing service!

Your benefits!

- competence and long-term experience in application technology
- intensive research and development in the field of chemical products
- creative innovations
- responsibility for environmental protection and safety
- competent service for all your needs
- we are close to you and your business

WINDING PROCESS LUBRICATION
GRAF APPLICATION SYSTEM
COLD LICK ROLL SYSTEM
THREAD LUBRICANTS

Graf Chemicals GmbH
Prof.-Max-Lange-Platz 4
83646 Bad Tölz – Germany
Phone +49 (0)8041-792 85 0
www.graf-chemicals.com



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www.graf-chemicals.com

SILWA® LUBRICANTS

The perfect solution for finishing your sewing thread and embroidery yarn

Silwa® lubricants are highly effective processing agents which are designed for the lubrication of sewing threads and embroidery yarns and can be used with all application techniques. Silwa® high quality lubricants are a very cost effective solution because they provide a wide range of functions.

Application method:

- graf Sinlge Lub 2 application system
- cold lick roll system
- application during final winding or rewinding process



Silwa® lubricants are sophisticated formulations for sewing threads and embroidery yarns based on high quality silicone oils, paraffin wax, softeners and special additives. In combination with our in-house developed emulsifier systems and our specialised production method you are assured the latest, state of the art technology.

Benefits:

- highly stable lubricants, based on special silicone oils, paraffin wax and additives with antistatic properties
- sophisticated Silwa® lubricants are available 100% active, water free; highly concentrated or as water based emulsions
- guarantee constant low friction values and best stick slip properties
- provide excellent sewability, with outstanding heat protection for your thread
- no separation, thickening or change in viscosity
- easy to handle in production
- cost effective compared to pure silicone oils
- very fine and homogenous dispersion
- minimal shade change
- excellent antistatic properties
- produce high performance sewing thread and embroidery yarn
- productive, efficient sewing operations
- excellent seam construction
- conform to Öko-Text Standard 100
- with FDA/EU approval available

	SILWA® CMS 100	SILWA® SL 195	SILWA® GFR	SILWA® 7 AH	SILWA® SL 1000	SILWA® TL 100
Chemical characteristics	water-free formulation of high molecular silicones, hydrocarbons and additives	high concentrated formulation of silicones, waxes and additives, contains only about 5 - 8 % water	water-free formulation of silicones and additives	water-free formulation of silicones, waxes and additives	high concentrated formulation of high molecular silicones, waxes and additives, contains only about 5 - 8 % water	water-free formulation of silicones, waxes and additives with antistatic properties
Appearance	clear to slightly opaque liquid	milky white	clear, liquid	milky white	milky white	milky white
Viscosity mPas (at 20°C)	> 150 < 350	< 600	< = 400	> 250 < 400	> 650 < 1200	< 1000
graf application system	■	■	■	■	■	■
cold lick roll system	■	■	■	■	■	■
suitable for	all types of sewing threads and embroidery yarns, preferably for text. PES or PA	all types of sewing threads and embroidery yarns	all types of sewing threads and embroidery yarns	all types of sewing threads and embroidery yarns	all types of sewing threads and embroidery yarns	all types of sewing threads and embroidery yarns
FDA approval	■	■	■	■		
Benefits	<ul style="list-style-type: none"> • causes no product abrasion or deposits at the needle • exhibits good friction and heat protection properties due to high molecular silicone oil 	<ul style="list-style-type: none"> • exhibits very good friction values and sewability • very cost effective lubricant • provides excellent antistatic properties • GOTS approved 	<ul style="list-style-type: none"> • causes no product abrasion or deposits at the needle • exhibits good friction values and sewability 	<ul style="list-style-type: none"> • exhibits good friction values and sewability 	<ul style="list-style-type: none"> • exhibits very good friction values and excellent sewability • provides excellent antistatic properties • GOTS approved 	<ul style="list-style-type: none"> • exhibits very good friction values and sewability • provides good antistatic properties • GOTS approved

	SILWA® TL 2000	SILWA® TL 3000	SILWA® 145 KS	SILWA® HR	SILWA® NSP-CA	SILWA® NSP-CA FDA
Chemical characteristics	water-free formulation of high molecular silicones, waxes and additives with antistatic properties	water-free formulation of high molecular silicones, waxes and additives with antistatic properties	water-free formulation of very high molecular silicones, waxes and additives	hot melt, water-free formulation of silicones, waxes and additives	compound of fatty acid esters and special additives with antistatic properties	compound of fatty acid esters and special additives with antistatic properties
Appearance	milky white	milky white	milky white	white paste	yellow clear liquid	yellow clear liquid
Viscosity mPas (at 20°C)	< 3000	> 2500 < 3500	< 6000	approx. 150 (at 80°C) >900 >1400 (at 20°C)	< 100	< 50
graf application system	■	■	■		■	■
cold lick roll system				hot lick roll system	■	■
suitable for	all types of sewing threads	all types of sewing threads	all types of sewing threads	all types of sewing threads	all types of sewing threads and embroidery yarns	all types of sewing threads and embroidery yarns
FDA approval	■	■	■	■		■
Benefits	<ul style="list-style-type: none"> • exhibits excellent friction values and heat protection properties during sewing due to high molecular silicone oil • exhibits excellent antistatic properties • GOTS approved 	<ul style="list-style-type: none"> • exhibits excellent friction values and heat protection properties during sewing due to high molecular silicone oil • exhibits excellent antistatic properties • GOTS approved 	<ul style="list-style-type: none"> • provides extreme heat protection and excellent friction values during sewing due to high molecular silicone oil • exhibits excellent antistatic properties 	<ul style="list-style-type: none"> • exhibits excellent friction values and heat protection properties during sewing 	<ul style="list-style-type: none"> • silicone and paraffin free lubricant, i.e. for automotive industry • exhibits good friction and antistatic properties 	<ul style="list-style-type: none"> • silicone and paraffin free lubricant, i.e. for automotive industry • for the food industry approved • exhibits good friction and antistatic properties • GOTS approved

	SILWA® TL 100 FDA	SILWA® 1809	SILWA® APY	SILWA® SL 350	SILWA® EMB 100	SILWA® HLP
Chemical characteristics	water-free formulation of silicones, waxes and additives with antistatic properties	water-free formulation of silicones, waxes and additives with antistatic properties	water-free formulation of silicones, waxes and special additives to protect the thread against phenolic yellowing	water-free formulation of silicones, waxes and additives with antistatic properties	water-free formulation of silicones, waxes and additives with antistatic properties	water-free formulation of silicones, waxes and additives
Appearance	milky white	milky white	milky white	milky white	milky white	milky white
Viscosity mPas (at 20°C)	< 1000	< 1000	< 800 > 1200	800-1200	> 600 < 900	> 1000 < 3000
graf application system	■	■	■	■	■	■
cold lick roll system	■	■	■	■	■	
suitable for	all types of sewing threads and embroidery yarns	all types of sewing threads and embroidery yarns	all types of sewing threads and embroidery yarns	all types of sewing threads and embroidery yarns	Polyester and Rayon embroidery yarns, all types of sewing threads	all types of sewing threads
FDA approval	■					■
Benefits	<ul style="list-style-type: none"> • exhibits very good friction values and sewability • provides good antistatic properties 	<ul style="list-style-type: none"> • exhibits very good friction values and sewability • provides good antistatic properties • GOTS approved 	<ul style="list-style-type: none"> • prevents phenolic yellowing • exhibits very good friction values and sewability 	<ul style="list-style-type: none"> • exhibits very good friction values and sewability • provides good antistatic properties 	<ul style="list-style-type: none"> • provides excellent running properties due to low, consistent friction values • exhibits excellent antistatic properties 	<ul style="list-style-type: none"> • exhibits very good friction values and sewability • GOTS approved

	SILWA® S280	SILWA® F500	SILWA® UFP 50	SILWA® EMB 45
Chemical characteristics	water based dispersion of high molecular silicones, waxes, softeners, additives and emulsifiers with antistatic properties	water based dispersion of high molecular silicones, waxes, softeners, additives and emulsifiers with antistatic properties	water based dispersion of silicones, waxes, softeners, additives and emulsifiers with antistatic properties	water based dispersion of silicones, waxes, softeners, additives and emulsifiers with antistatic properties
Appearance	white milky liquid	white milky liquid	white milky liquid	white milky liquid
Ionic-state	cationic	cationic	nonionic, slightly cationic	nonionic, slightly cationic
Solid matter (%)	50	50	47	45
pH-value	4.0 - 4.5	4.0 - 4.5	6.0	4.0 - 5.0
Viscosity mPas (at 20°C)	< 200	< 200	< 50	< 50
graf application system	■	■	■	■
cold lick roll system	■	■	■	■
suitable for	all types of sewing threads, preferably for PES filament sewing threads	all types of sewing threads and embroidery yarns, preferable for filament sewing threads	all types of sewing threads	PES and Rayon embroidery yarns
Benefits	<ul style="list-style-type: none"> • provides extreme heat protection during sewing and very low friction / stick-slip values • exhibits soft handle 	<ul style="list-style-type: none"> • provides extreme heat protection during sewing and excellent friction / stick-slip values • exhibits soft handle 	<ul style="list-style-type: none"> • provides very good friction values and heat protection during sewing 	<ul style="list-style-type: none"> • provides excellent running properties due to low, consistent friction values • exhibits excellent antistatic properties • gives outstanding performance on Rayon and PES embroidery yarns