



GPS

PRODUCT SELECTION CHARTS



Product Selection Chart

Cutting and Grinding: Solubles/Semi-Synthetics										
PRODUCT NAME	PERFORMANCE	TYPICAL pH VALUE, 5% DILUTION	APPEARANCE	REFRACT OMETER FACTOR	MATERIAL SUITABILITY					
					CAST IRON*	LOW-MEDIUM ALLOYED STEEL	HIGH ALLOY, NICKEL-BASED, STAINLESS STEEL	ALUMINUM	TITANIUM ALLOYS	YELLOW METALS
Almaredge series - soluble oils for aerospace, yellow metals, and general purpose										
Almaredge 65	Medium Duty	9.0 – 9.6	Milky	1.7	Y	Y	Y	Y	Y	C
Almaredge 70	Heavy Duty	9.8 – 10.4	Milky	1.2	C	Y	C	C	N	N
Almaredge 420	Heavy Duty	8.2 – 8.8	Milky	0.9	C	Y	Y	Y	N	Y
Alusol AU series - high performance aluminum and multi-metal machining, meeting stringent HSE requirements										
Alusol AU 68	Heavy Duty	9.0 - 9.5	Milky	1.0	C	Y	Y	Y	Y	Y
Alusol AU 70	Heavy Duty	9.0 - 9.5	Milky	1.1	C	Y	Y	Y	Y	Y
XBB series - long life fluids, free of boron and biocide										
Hysol SL 35 XBB	Light to Medium Duty	9.4 – 9.8	Translucent	1.1	Y	Y	Y	N	N	N
Alusol SL 51 XBB	Medium to Heavy Duty	9.2 – 9.8	Milky	1.0	C	Y	Y	Y	C	Y
Alusol SL 61 XBB	Heavy Duty	8.8 - 9.5	Milky	1.1	C	Y	Y	Y	C	Y
Hysol MB series - great all-around performance and value										
Hysol MB 10	Light Duty	9.2 - 9.8	Translucent	2.0	Y	Y	C	C	C	C
Hysol MB 10 BF	Light Duty	9.2 – 9.8	Translucent	2.0	Y	Y	C	C	C	C
Hysol MB 20	Medium Duty	9.2 – 9.8	Translucent	1.7	Y	Y	Y	Y	C	C
Hysol MB 50	Heavy Duty	9.5 -9.9	Milky	1.0	C	Y	Y	Y	Y	C
Hysol series - variety of fluids covering many applications										
Hysol AMG	Heavy Duty	9.1-9.7	Milky	1.0	C	Y	Y	Y	C	N
Hysol 21 BF	Medium Duty	9.2 – 9.8	Translucent	1.6	Y	Y	Y	N	N	N
Hysol 6510	Medium Duty	9.3 – 9.8	Translucent	1.7	Y	Y	Y	N	N	N
Hysol 6519	Medium Duty	9.1 – 9.7	Translucent	1.4	Y	Y	Y	Y	Y	Y
Hysol 6754	Heavy Duty	9.4 – 10.4	Milky	1.0	C	Y	Y	Y	C	N
Mineral Oil-Free Coolants										
CareCut S 130	Heavy Duty	9.1 – 9.7	Translucent	1.3	C	Y	Y	Y	C	C

Y = Suitable –varies by application (refer to PDS) N = Not Suitable C = Consult Castrol Representative prior to use
*Note: Use of high oil-containing coolants on cast iron can lead to smut w/o proper filtration.



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Product Selection Chart

Cutting and Grinding: Synthetics										
PRODUCT NAME	PERFORMANCE	TYPICAL pH VALUE, 5% DILUTION	APPEARANCE	REFRACT-OMETER FACTOR	MATERIAL SUITABILITY					
					CAST IRON	LOW-MEDIUM ALLOYED STEEL	HIGH ALLOY, NICKEL-BASED, STAINLESS STEEL	ALUMINUM	TITANIUM ALLOYS	YELLOW METALS
Oil Rejecting - Ferrous Machining										
Syntilo 9902	Light Duty	8.5-9.0	Transparent	2.3	Y	Y	Y	N	C	N
Syntilo 9730	Light to Medium Duty	8.8-9.2	Transparent	2.1	Y	Y	Y	N	C	N
Syntilo 9930	Medium Duty	8.9-9.4	Transparent	2.3	Y	Y	Y	N	C	N
Syntilo 9930 BF	Medium Duty	8.1-9.1	Transparent	1.9	Y	Y	Y	N	C	N
Syntilo 9926	Medium to Heavy Duty	8.5-8.9	Transparent	2.1	Y	Y	Y	N	C	N
Syntilo 9904	Medium to Heavy Duty	8.8-9.2	Transparent	1.9	Y	Y	Y	N	C	N
Syntilo 9954	Heavy Duty	8.0 – 8.8	Transparent	1.5	Y	Y	Y	N	Y	N
Syntilo 9974	Heavy Duty	8.7-9.3	Transparent	1.4	Y	Y	Y	N	Y	N
Syntilo 9974 BF	Heavy Duty	8.7 – 9.5	Transparent	1.4	Y	Y	Y	N	Y	N
Oil Rejecting - Multi-Metal Machining										
Syntilo 9828	Light to Medium Duty	8.2-8.7	Transparent	2.2	Y	Y	Y	Y	Y	N
Syntilo 9918	Medium to Heavy Duty	7.4-7.8	Transparent	1.7	Y	Y	Y	Y	Y	Y
Syntilo 9913	Heavy Duty	7.2-7.6	Transparent	1.3	Y	Y	Y	Y	Y	Y
Oil Accepting										
Syntilo 1023	Medium Duty	9.1-9.5	Transparent	1.6	Y	Y	Y	N	C	N
Syntilo 2109	Medium Duty	9.1-9.6	Transparent	1.8	Y	Y	Y	N	Y	N
Carbide Grinding										
Syntilo CR 68	General Carbide Grinding	8.9 – 9.5	Transparent	2.1	Y	Y	Y	N	C	C

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BF = boron-free fluid; note: Syntilo 9913 is also boron-free



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Product Selection Chart

Cutting and Grinding: Neat Oils																
Product Name	Color	Viscosity cSt @ 40 C	Viscosity SUS @ 100 F	Flash Point °F	ESTER / FAT	SULFUR AW/EP	PHOS AW/EP	CHLORINE EP	OTHER AW/EP	Copper Corrosion	CAST IRON	LOW-MEDIUM ALLOY STEEL	HIGH ALLOY, NICKEL-BASED, STAINLESS STEEL	ALUMINUM	TITANIUM ALLOY	YELLOW METALS
Environmentally Responsible																
Performance Bio NC Plus	light yellow	40	190	540 (COC)	Y	Y	N	N	N	1b	Y	Y	Y	Y	Y	Y
Performance Bio NC Lite	light yellow	25	137	420 (COC)	Y	Y	N	N	N	1b	Y	Y	Y	Y	Y	Y
Performance Bio NC Ultra Lite	light yellow	15	77	343 (COC)	Y	Y	N	N	N	1b	Y	Y	Y	Y	Y	Y
Performance Bio NC Ultra Lite EP	clear amber	16	88	343 (COC)	Y	Y	N	N	N	1b	Y	Y	Y	Y	Y	Y
Performance Bio NC Super Lite	light yellow	8	49	330 (COC)	Y	Y	N	N	N	1b	Y	Y	Y	Y	Y	Y
Performance Bio NC Thread	light amber	70	325	509 (COC)	Y	Y	N	N	N	1b	Y	Y	Y	Y	Y	Y
Performance Bio NC MQL	light yellow	40	186	540 (COC)	Y	Y	N	N	N	1b	Y	Y	Y	Y	Y	Y
General Machining																
CareCut ES 1	yellow	28	132	435 (PMCC)	Y	Y	Y	N	N	1b	Y	Y	Y	Y	Y	Y
Ilocut 100	light yellow	13	71	369 (COC)	Y	N	N	N	N	1b	Y	Y	N	Y	N	Y
Ilocut 154	brown	35	184	356 (COC)	Y	Y	N	N	N	1b	Y	Y	N	Y	N	Y
Ilocut 5713	light amber	16	80	383 (COC)	Y	N	N	N	Y	1b	Y	Y	Y	Y	Y	Y
Ilocut 5720	blue	28	140	385(COC)	Y	Y	N	N	Y	4c	Y	Y	Y	Y	Y	N
Ilocut 5721	amber	27	135	320 (COC)	Y	N	N	N	Y	1b	Y	Y	Y	Y	Y	Y
Ilocut 5770	red	55	263	395 (COC)	Y	Y	N	N	Y	1b	Y	Y	Y	Y	Y	Y
Variocut C 700	pale yellow	11	65	334 (COC)	Y	N	Y	N	N	1b	Y	Y	Y	Y	Y	Y
Variocut C 838	amber	40	200	381 (COC)	Y	Y	N	N	Y	1b	Y	Y	Y	Y	Y	Y
Gundrilling																
Variocut C 334	light amber	10	60	289 (PMCC)	Y	Y	N	N	N	4c	Y	Y	Y	N	N	N
Variocut D 249	amber	17	86	320 (PMCC)	Y	Y	Y	N	N	4c	Y	Y	Y	N	Y	N
Broaching and Gear Manufacturing																
Variocut B 27	yellow	23	110	374 (COC)	Y	Y	Y	N	N	4c	Y	Y	Y	N	N	N
Variocut B 46 TC	amber	15	77	284 (COC)	Y	Y	Y	N	Y	2b	Y	Y	Y	N	Y	N
Grinding																
CareCut ES 2	pale yellow	9.5	60	388 (COC)	Y	Y	Y	N	N	1b	Y	Y	Y	Y	Y	Y
Variocut G 500	yellow	21.5	106	383 (COC)	Y	N	Y	N	N	1b	Y	Y	Y	N	N	Y
Variocut G 572	black, opaque	50	243	356 (COC)	Y	Y	N	N	N	4c	Y	Y	Y	N	Y	N
Variocut G 600	clear yellow	12	66	351 (COC)	Y	Y	Y	N	Y	4c	Y	Y	Y	Y	Y	N
Variocut G 600 HC	pale yellow	11.3	64	329 (PMCC)	Y	Y	Y	N	N	1b	Y	Y	Y	Y	Y	Y
Variocut G 650 HC	yellow to amber	9.3	58	320 (COC)	Y	Y	Y	N	N	1b	Y	Y	Y	N	Y	N
Variocut G 950	yellow	8	52	311 (COC)	Y	Y	Y	N	Y	1b	Y	Y	Y	Y	N	Y
Honing																
CareCut ES 3	pale yellow	5.5	46	>320 (COC)	Y	N	N	N	N	1a	Y	Y	Y	Y	Y	Y
Honilo 710	pale yellow	5.3	44	284 (COC)	Y	N	Y	N	N	1b	Y	Y	Y	Y	Y	Y
Honilo 971	yellow	8.2	53	257 (COC)	Y	Y	Y	N	N	1b	Y	Y	Y	Y	N	Y
Honilo 980	yellow	4.5	41	235 (PMCC)	Y	N	Y	N	N	1b	Y	Y	Y	Y	N	Y
Honilo 981	yellow	4.8	43	257 (COC)	Y	N	N	N	N	1b	Y	Y	Y	Y	N	Y
Heavy Duty Tapping and Threading																
Variocut C Moly Dee	gray	183	850	392 (COC)	Y	Y	Y	N	Y	4c	Y	Y	Y	Y	Y	N
41-810A	light yellow	93	430	299 (COC)	Y	N	N	N	N	1b	Y	Y	Y	Y	Y	Y
Performance Bio NC Thread	light amber	70	325	509 (COC)	Y	Y	N	N	N	1b	Y	Y	Y	Y	Y	Y
Minimum Quantity Lubrication (MQL)																
CareCut ES 1	yellow	28	132	435 (PMCC)	Y	Y	Y	N	N	1b	Y	Y	Y	Y	Y	Y
Hyspray A 1536	clear, colorless	28	148	>338 (PMCC)	Y	N	N	N	N	1a	Y	Y	N	Y	N	Y
Performance Bio NC MQL	light yellow	40	186	540 (COC)	Y	Y	N	N	N	1b	Y	Y	Y	Y	Y	Y
Electrical Discharge Machining (EDM)																
Ilocut EDM 200	clear, colorless	2.7	36	250 (PMCC)	N	N	N	N	N	1b	Y	Y	Y	Y	Y	Y
Ilocut EDM 401	pale yellow	4.3	41	261 (COC)	N	N	N	N	N	1b	Y	Y	Y	Y	Y	Y



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Product Selection Chart

Cleaners																					
Product Name	Properties							Soils Removed*						Metals*			Method*				
	pH of Solution	Temp Range	Silicates	Boron	Phosphates	Nitrites	Refractometer Factor	Emulsions	Light Duty MW Oils	Med Duty MW Oils	Heavy Duty MW Oils	Paste / Wax / Grease	Particulate	Steel	Aluminum	Yellow Metals	Dip	Spray	Flood	Ultrasonic	High Pressure
Alkaline - Oil Rejecting																					
Techniclean XHP	7.5 - 8.5	Amb - 150°F	N	Y	N	N	2.0	Y	Y	Y	Y	C	Y	Y	C	C	C	Y	Y	C	Y
Techniclean 3602	7.7 - 8.1	Amb - 150°F	N	N	Y	N	3.4	Y	Y	Y	C	C	Y	Y	Y	Y	Y	Y	Y	Y	Y
Techniclean 3653	9.2 - 9.6	Amb - 180°F	N	Y	Y	N	3.1	Y	Y	Y	Y	Y	Y	Y	C	Y	Y	Y	Y	Y	Y
Techniclean 3659	10.9 - 11.4	130 - 180°F	N	N	Y	N	4.3	Y	Y	Y	Y	Y	Y	Y	N	C	Y	Y	Y	Y	C
Techniclean 3660	8.6 - 9.2	Amb - 150°F	N	Y	N	N	3.4	Y	Y	Y	Y	C	Y	Y	N	C	Y	Y	Y	C	Y
Techniclean S 5001	10.0 - 11.0	Amb - 160°F	N	N	N	N	4.6	Y	Y	Y	Y	C	Y	Y	Y	Y	Y	Y	Y	Y	Y
Alkaline - Oil Accepting																					
Techniclean MP 2	8.6 - 9.0	122 - 176°F	N	N	N	N	2.1	Y	Y	Y	C	C	Y	Y	Y	Y	Y	Y	Y	Y	C
Emulsion Cleaner (Oil-Containing)																					
Techniclean CPL	9.0 - 9.4	Amb - 150°F	N	Y	Y	N	1.3	Y	Y	Y	Y	C	Y	Y	Y	C	Y	Y	Y	C	C
Maintenance Cleaners																					
Techniclean 2000 (floor cleaner)	8.0 - 9.5	Ambient	N	N	Y	N	4.2	Y	Y	Y	Y	Y	Y	Y	Y	C	Y	C	Y	C	C
Techniclean MP Flex (sump / parts cleaner)	12.0 - 12.6	Amb - 180°F	Y	N	Y	N	3.3	Y	Y	Y	Y	Y	Y	Y	Y	C	Y	Y	Y	Y	Y
Techniclean XHD (baked-on soils & rust)	12.9 - 13.5	Amb - 195°F	N	N	N	N	1.8	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	C	C
Solvent Cleaner																					
Techniclean AS 105	n/a	Flash pt 216F	N	N	N	N	n/a	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

*Y = Suitable N = Not Suitable C = Consult Castrol Representative prior to use



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Product Selection Chart

Corrosion Preventives										
PRODUCT NAME	APPEARANCE	FILM TYPE	VISCOSITY @ 40C	FLASH POINT	DRYING TIME @ 20°C*	INDOOR PROTECTION**	OUTDOOR PROTECTION***	WATER DISPLACING	FINGERPRINT SUPPRESSION	BARIUM
Solvent-Based										
Rustilo 4135 HF	Clear amber	Thin, greasy	n/a	234°F (COC)	90 min	12 months	3 months	Yes	Yes	No
Rustilo DW 180 X	Clear brown	Thin oily-greasy	n/a	157°F (PMCC)	60 min	8-12 months	4-6 months	Yes	Yes	No
Rustilo DW 300	Clear amber	Thin, greasy	n/a	141°F (PMCC)	45 min	9 months	3 months	Yes	Yes	No
Rustilo DW 330	Dark brown	Firm, greasy	n/a	144°F (PMCC)	120 min	24 months	12 months	Yes	Yes	No
Rustilo DW 4130	Light brown	Oily-greasy	n/a	180°F (COC)	75 min	18 months	3-6 months	Yes	Yes	Yes
Rustilo DWX 30	Light brown	Thin, greasy	n/a	106°F (PMCC)	30 min	8-12 months	3-6 months	Yes	Yes	Yes
Oil-Based										
Rustilo 66 VCI	Clear amber	Thin, oily	14 cSt	327°F (PMCC)	n/a	60 months, sealed 12 months, unsealed	NR	No	No	No
Rustilo 612	Clear brown	Oily	12 cSt	316°F (COC)	n/a	4 months	NR	No	No	No
Rustilo 630	Amber-brown	Oily	22 cSt	320°F (COC)	n/a	3 months	NR	No	No	No
Rustilo 4163	Clear brown	Oily	6 cSt	250°F (COC)	n/a	12-18 months	NR	Yes	Yes	No
Rustilo DW 90 HF	Clear yellow	Oily	13 cSt	335°F (COC)	n/a	12-18 months	NR	Yes	Yes	No
Aqueous										
Rustilo 4175	Light yellow	Dry, imperceptible	n/a	n/a	20 min	Up to 9 months	NR	No	Yes	No
Rustilo Aqua 21	Milky	Thin, oily	n/a	n/a	45 min	Up to 12 months	NR	No	Yes	No
Rustilo Aqua 614	Opaque brown	Dry-film, medium gloss	n/a	n/a	20 min	Up to 3 years	Up to 3 months	No	Yes	No
Rustilo Aqua 616	Opaque milky	Dry-film, medium gloss	n/a	n/a	20 min	Up to 2 years	Up to 2 months	No	Yes	No
Rustilo Aqua 639	Opaque tan	Dry-film, medium gloss	n/a	n/a	15 min	Up to 5 years	Up to 6 months	No	Yes	No

*Drying time is dependent on concentration, temperature, humidity, and airflow.

**Assumes storage in closed room with 60% relative humidity. Length of protection for aqueous fluids is dependent on concentration.

***Assumes primary protection from the elements via tarp or other cover.

NR = Not Recommended



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Product Selection Chart

Deformation Fluids																																				
Product	Properties							METALS					APPLICATION						METHOD																	
	pH of Solution	Refractometer Factor	Viscosity cSt @ 40C	Viscosity SUS @ 104F	Flash Point (COC)	Ester / Fat	Sulfur AW/EP	Phos AW/EP	Chlorine EP	Other EP / Lube	Steel	Stainless Steel	Aluminum	Yellow Metal	Galvanized	Auto Panel Pressing	Cold Heading	Deep Drawing	Drawing	Electrical Steel Stamping	Fin stamping	Fine Blanking	Hydroforming	Mold/Form Release	Stamping	Tube Banding	Tube Expansion	Mechanical Tube	Structural Tube	Wire Drawing	Brush/Roller	Dip	Spray	Flood	Electrostatic	
Synthetic Water Soluble - Drawing and Stamping																																				
Iloform PS 326	9.0-9.4	1.7	465*	n/a	n/a	Y	N	Y	N	N	✓	✓		✓	✓			✓							✓	✓					✓	✓	✓	✓		
Iloform PS 364	8.6-9.2	1.2	1000*	n/a	n/a	Y	Y	Y	N	N	✓	✓					✓	✓							✓	✓	✓					✓	✓	✓	✓	
Synthetic Water Soluble - Tube Mill Coolant																																				
Iloform TRS 107	8.8-9.3	2.3	n/a	n/a	n/a	N	N	N	N	N	✓																	✓					✓	✓		
Iloform TRS 185	8.8-9.3	2.5	n/a	n/a	n/a	N	N	N	N	N	✓																	✓					✓	✓		
Iloform TRS 186	8.7-9.3	2.2	n/a	n/a	n/a	N	N	N	N	N	✓																✓						✓	✓		
Neat Oils - Environmentally Responsible																																				
Performance Bio DF R40	n/a	n/a	40	186	540°F	Y	Y	N	N	N	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓								✓	✓	✓	✓	
Neat Oils - Mineral Based																																				
Iloform CFX 25	n/a	n/a	28	132	329°F	Y	Y	Y	N	N	✓	✓				✓	✓														✓	✓	✓	✓	✓	✓
Iloform FST 8	n/a	n/a	168	788	360°F	Y	Y	Y	N	Y	✓	✓						✓				✓										✓	✓	✓	✓	✓
Iloform FST 14	n/a	n/a	84	390	325°F (PMCC)	Y	Y	N	N	Y	✓	✓				✓	✓					✓		✓	✓	✓						✓	✓	✓	✓	✓
Iloform FST 16	n/a	n/a	92	426	360°F	Y	Y	Y	N	N	✓	✓				✓	✓					✓		✓								✓	✓	✓	✓	✓
Pastes and Waxes																																				
Iloform PS 104	9.5-9.8	n/a	n/a	n/a	n/a	Y	N	N	N	Y	✓	✓	✓			✓	✓								✓	✓						✓	✓			
Iloform PS 700	7.5-8.3	n/a	n/a	n/a	n/a	N	N	N	N	Y	✓	✓	✓			✓	✓					✓	✓	✓									✓	✓		✓
Iloform Stick Wax	n/a	n/a	n/a	n/a	470°F	N	N	N	N	Y	✓	✓	✓			✓	✓																			Hand applied
Vanishing Oil																																				
Iloform 7425	n/a	n/a	n/a	n/a	124°F (TCC)	N	N	N	N	N	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓										✓	✓	✓	

*Approximate viscosity of the concentrate



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Product Selection Chart

Gear Oils											
Product Name	ISO VGs Available	Base Oil	Additives ¹	Viscosity Index	Zinc	Flash Point Range ²	Pour Point Range ²	Performance ³			
								Spur	Bevel	Helical	Worm
Mineral											
Alpha SP	68 - 680	Mineral	EP	> 95	N	420°F - 445°F	-6°F to +21°F	✓	✓	✓	✗
Molub-Alloy GM 90, 690, 300S, 1500	220, 320, 1000, 1500	Mineral	EP / Solids	95 - 102	N	441°F - 482°F	0°F to 21°F	✓✓	✓✓	✓✓	✗
Molub-Alloy GM 170W	680 (AGMA 8C)	Mineral	Compounding / Solids	97	Y	471°F	16°F	✗	✗	✗	✓✓
Molub-Alloy GM 969	320	Mineral	EP / Solids / Thickener	100	N	445°F	5°F	✓✓	✓✓	✓✓	✗
Optigear 1100	68 - 1500	Mineral	EP / TGOA	95 - 100	Y	457°F - 500°F	-27°F to 5°F	✓✓✓	✓✓✓	✓✓✓	C
Optigear BM	68 - 1000, 3000	Mineral	EP / MFT	90 - 110	Y	428°F - 482°F	-11°F to 32°F	✓✓✓	✓✓✓	✓✓✓	C
Synthetic											
Alphasyn EP	150 - 680	PAO	EP	149 - 167	N	428°F - 464°F	-54°F to -27°F	✓✓	✓✓	✓✓	C
Alphasyn T	150 - 460	PAO	AW	131 - 141	N	520°F - 545°F	-44°F to -22°F	✓✓	✓✓	✓✓	✓✓
Optigear RMO	150	PAO	EP / MFT	133	Y	374°F	-54°F	✓✓✓	✓✓✓	✓✓✓	✗
Optigear Synthetic 800	150 - 1000, 2200	Polyglycol (PAG)	EP	210 - 320	N	520°F - 554°F	-33°F to 7°F	✓✓✓	✓✓✓	✓✓✓	✓✓✓
Optigear Synthetic CT	320	PAO	EP	174 - 180	N	>482°F	-49°F	✓✓✓	✓✓✓	✓✓✓	✗
Optigear Synthetic RO 150	150	PAO	EP / MFT	130	Y	410°F	-49°F	✓✓✓	✓✓✓	✓✓✓	✗
Optigear Synthetic X	220 - 460	PAO	EP	151 - 179	N	> 482°F	-49°F to -17°F	✓✓✓	✓✓✓	✓✓✓	✗
Food Grade											
Optileb GT	220, 460	PAO	EP	151-157	N	410°F - 480°F	-38°F to -33°F	✓✓	✓✓	✓✓	✓

- 1 EP** = Extreme Pressure/Anti-Scuff **AW** = Anti-wear
1 TGOA = Tribol Gear Oil Additive, a proprietary blend of EP additives capable of improving gear condition.
1 MFT = MicroFlux Trans, a proprietary blend of EP additives capable of improving gear condition.
2 Varies by viscosity grade
3 Increasing performance from 1 to 3 checks. **C** = Consult Castrol Representative prior to use



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Product Selection Chart

Hydraulic Oils									
Product Name	ISO VGs Available	Base Oil	Additives ¹	Viscosity Index	Zinc	Flash Point Range ³	Pour Point Range ³	Oxidation Resistance ²	Pressure Range
Hydraulic & Circulating Oils									
Hyspin VG	32 - 220	Mineral	R&O	95	No	410 - 469°F	-22 to +14°F	✓✓	n/a
Hyspin AWS	15 - 150	Mineral	AW	> 95	Yes	383 - 450°F	-27 to +5°F	✓	5000+ psi
Hyspin ZZ	32 - 68	Mineral	AW	> 95	No	410 - 439°F	-17 to -11°F	✓✓	5000+ psi
Hyspin AWH-M	15, 32-150	Mineral	AW / VII	> 130-150	Yes	401 - 450°F	-60 to -22°F	✓	5000+ psi
Hyspin HVI	15, 32, 46	Mineral	AW / VII	> 150	No	320 - 428°F	-54 to -33°F	✓✓	5000+ psi
Tribol HM 943	22 - 100	Mineral	AW	> 100	No	374 - 486°F	-34 to -11°F	✓✓✓	7500+ psi
Spindle Oils									
Hyspin Spindle Oil	2, 10 22	Mineral	R&O	86-100	No	176°F (2) 295°F (10) 414°F (22)	-40 to -22°F	✓✓	n/a
Hyspin Spindle Oil HS	2	Mineral	AW	n/a	Yes	200°F	n/a	✓✓	n/a
Turbine Oils									
Perfecto X	32 - 68	Mineral	R&O	112	No	432 - 453°F	+5 to +10°F	✓✓✓	n/a
Perfecto XEP	46	Mineral	AW	112	No	453°F	+5°F	✓✓✓	n/a
Environmentally Responsible									
Performance Bio HE PBL	32 - 46	Plant-based	AW	206 - 217	Yes	460 - 580°F	n/a	✓	< 5000 psi
Performance Bio HE ESU	46	Synthetic Ester	AW	185	No	518°F	-17°F	✓✓✓	7500+ psi
Fire-Resistant Hydraulic Fluids									
Anvol SWX	46, 68	Polyol Ester	AW	180	No	> 536°F	-33 to -27°F	✓✓✓	7500+ psi
Anvol WG	46	Water Glycol	AW	> 200	No	n/a	-60°F	n/a	< 3000 psi
Specialty Circulating Fluids									
Magna CTX WT (steel mill circulating oil)	460, 680	Mineral	AW	92 - 97	No	469 - 475°F	+16 to +21°F	✓✓	n/a
Tribol CT 1740 (paper machine oil)	220, 320	Semi-Synthetic	AW	145	No	510°F	-13 to -3°F	✓✓✓	n/a
Food Grade Hydraulic Oil									
Optileb HY	32, 46, 68	Synthetic PAO	AW	136 - 143	No	426 - 468°F	-58 to -49°F	✓✓✓	7500+ psi

1 R&O = Rust & Oxidation inhibitors AW = Anti-wear VII = VI improver

2 Increasing performance from 1 to 3 checks

3 Varies by viscosity grade



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Product Selection Chart

Greases											
PRODUCT NAME	Color	Thickener	Additives ¹	NLGs Available	Base Oil Type	Base Oil Vis. Available	Dropping Point (NLGI 1 & above)	Temp Range	Low Speed	Medium Speed	High Speed
Multi-Purpose, High Performance											
Molub-Alloy 777 ES	Dark Gray	Lithium	EP / Solids	1,2	Mineral	ISO 1000	>356°F	+30 to +250°F	✓	✓	✗
Molub-Alloy 860 ES	Dark Gray	Lithium complex	EP / Solids	0,1,2	Mineral	ISO 150, 220, 460	>500°F	+10°F to +400°F	ISO 460	ISO 220	ISO 150
Molub-Alloy 4086	Dark Gray	Lithium complex	EP / Solids	1,2	Mineral	ISO 320, 460	>500°F	+10°F to +350°F	✓	✓	✗
Molub-Alloy 6040	Tan / Amber	Calcium Sulfonate	EP	2 (ISO 150) 1.5 (ISO 460)	Mineral	ISO 150,460	>500°F	+20°F to +350°F	ISO 460	ISO 460	ISO 150
Tribol GR 100 PD	Amber	Lithium	EP / MFT	00,0,1,2	Mineral	ISO 100	>374°F	-30°F to +285°F	✗	✓	✓
Tribol GR 1350-2.5 PD	Brown	Lithium	EP / MFT	2.5	Mineral	1350 cSt	482°F	-15°F to +280°F	✓	✗	✗
Tribol GR 4020 PD	Beige	Lithium complex	EP / TGOA	1,2	Mineral	ISO 220, 460	464°F	-20°F to +350°F	ISO 460	ISO 220	ISO 220
Multi-Purpose											
Spherol EPL	Amber	Lithium	EP	0,1,2	Mineral	150 - 200 cSt	374°F	-5°F to +200°F	✗	✓	✓
Spherol EPLX 460	Dark Brown	Lithium complex	EP	1,2	Mineral	ISO 460	>500°F	+10°F to +300°F	✓	✓	✗
High and Low Temperature											
Braycote 2115-2	White	PTFE	Solids	2	PFPE	510 cSt	None	-20°F to +480°F	✓	✓	✗
Braycote Inertox 2	White	PTFE	Solids	2	PFPE	ISO 150*	None	-15°F to +500°F	✓	✓	✗
Molub-Alloy 1000 HT	Dark Gray	Organic Sodium	EP / Solids	1	Synthetic	540 cSt	>500°F	+30°F to +550°F	✓	✓	✗
Tribol GR SW 1.5	Beige	Lithium Complex	EP	1.5	Synthetic	ISO 460	>500°F	-40°F to +350°F	✓	✓	✗
Tribol GR 4541 HT	Red	Lithium Complex	EP	1	Synthetic	ISO 150	>500°F	-40°F to +450°F	✓	✓	✓
Molub-Alloy 6780	Dark Gray	Lithium	EP / Solids (5% moly)	1	Semi-Synthetic	130 cSt	394°F	-40°F to +150°F	✓	✓	✓
Specialty											
Molub-Alloy 9030-1	Dark Gray	Polyurea	EP / Solids	1	Mineral	ISO 460	>500°F	+10°F to +350°F	✓	✓	✗
Molub-Alloy BRB 572	Dark Gray	Lithium	EP / Solids	2	Mineral	ISO 150	>356°F	-15°F to +250°F	✗	✓	✓
Optitemp LG 2	Very light	Lithium	AW	2	Synthetic	ISO 46	428°F	-58°F to +248°F	✗	✓	✓
Optitemp PG 1.5	Beige	Lithium complex	R&O	1.5	Synthetic	ISO 220	>428°F	-40°F to +284°F	✓	✓	✗
Performance Bio GR 8899	Yellow / Amber	Inorganic	EP	00	Plant-Based	1670 cSt	n/a	+20°F to +250°F	✓	✗	✗
Tribol GR 400-3 PD	Brown	Lithium	EP / MFT	3	Mineral	400 cSt	>365°F	-13°F to +284°F	✓	✓	✗
Tribol GR 3020/1000 PD	Yellow / Amber	Lithium	EP / TGOA	0,1	Mineral	ISO 1000	>350°F	-40°F to +248°F	✓	✗	✗
Tribol GR CLS 000	Beige	Lithium / Calcium	AW	000	Mineral	ISO 100	300°F	-40°F to +212°F	✗	✓	✓
Food Grade											
Optileb GR 823	White	Aluminum Complex	AW / Solids	0,1,2	White Oil	192 cSt	>446°F	-20°F to +250°F	✓	✓	✓
Optileb GR UF	White, Clear	Aluminum Complex	AW	00, 1	Synthetic	400 cSt	>446°F	-20°F to +284°F	✓	✓	✗

¹ R&O = Rust & Oxidation inhibitors AW = Anti-wear EP = Extreme Pressure

¹ TGOA = Tribol Gear Oil Additive, a proprietary blend of EP additives capable of improving gear condition.

¹ MFT = MicroFlux Trans, a proprietary blend of EP additives capable of improving gear condition.

* Increases to 500 cSt above 100°C temperature exposure



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Product Selection Chart

Slideway Oils									
Product Name	ISO VGs Available	Base Oil	Additives ¹	Zinc	Flash Point Range ²	Performance ³			
						Demulsibility	Resistance to Coolant Wash	Coolant Compatibility	EP / AW Level
Mineral Oil Based									
Magna SW	68, 220	Mineral Oil	Stick-slip / AW	No	390°F - 414°F	✓	✓✓✓	✓	✓✓
Magna SW D	32, 68, 100, 220	Mineral Oil	Stick-slip / AW	No	433°F - 496°F	✓✓	✓✓	✓✓	✓✓
Tribol SW 1066	68, 220	Mineral Oil	Stick-slip / AW	No	450°F - 480°F	✓✓✓	✓✓✓	✓✓✓	✓✓
Tribol SW MWO 20 and 40	68, 220	Mineral Oil	Stick-slip / EP / Liquid Solids	No	374°F - 428°F	✓	✓✓✓	✓	✓✓✓
Molub-Alloy MWO 50 A LP	406 cSt	Mineral Oil	Stick-slip / EP / Solids	No	440°F	✓	✓✓✓	✓	✓✓✓
Environmentally Responsible									
Performance Bio SW PBL	46, 68	Plant Based	Stick-slip / AW	Yes	556°F - 579°F	n/a	✓✓	✓✓✓	✓

1 AW = Anti-Wear EP = Extreme Pressure

2 Varies by viscosity grade

3 Increasing performance from 1 to 3 checks



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Product Selection Chart

Compressor and Vacuum Pump Oils													
Product Name	ISO VGs Available	Base Oil	Additives ¹	Viscosity Index	Zinc	Flash Point Range ²	Pour Point Range ²	Performance ³					
								Rotary Screw	Rotary Vane	Centrifugal	Recip - Sump	Recip - Cylinder	Vacuum Pump
Mineral Oils													
Hyspin VG	32 - 220	Mineral	R&O	95	No	410 - 469°F	-22 to +14°F	✘	✘	✓✓	✓	✘	✓
Tribol HM 943	22 - 100	Mineral	AW	> 100	No	374 - 486°F	-34 to -11°F	✓	✓	✓✓✓	✓✓	✘	✓✓✓
Semi-Synthetic													
Tribol CS 1750	46, 68	Semi-Synthetic	AW	115	No	490°F - 520°F	-36°F to -15°F	✓✓	✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓
Synthetic													
Aircol SR	32, 46, 68, 100	PAO	AW	137 - 142	No	507°F - 536°F	-65°F to -51°F	✓✓	✓✓	✓✓✓	✓✓	✓	✓✓
Tribol CS 890	32, 68, 100	Ester	AW	61 - 152	No	469°F - 500°F	-60°F to -27°F	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓

1 R&O = Rust & Oxidation inhibitors AW = Anti-wear

2 Varies by viscosity grade

3 Increasing performance from 1 to 3 checks



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Product Selection Chart

Chain Oils									
PRODUCT NAME	Type	Color	ISO VGs Available	Base Fluid	Additives ¹	Viscosity Index	Flash Point	Fire Point ²	Pour Point
Mineral Based									
Molub-Alloy CH 22	Light viscosity, mineral based chain oil with solids	Dark Gray	22	Mineral	AW / Solids	n/a	360°F	n/a	-49°F
Dry-Film									
LubeCon Series I	Heavy duty dry-film lube	Dark Gray	5.5 cSt	Mineral	AW / Solids	135	142°F	n/a	-65°F
LubeCon Series I/FE	Fast evaporating dry-film lube	Dark Gray	3 cSt	Mineral	AW / Solids	n/a	109°F	n/a	-65°F
LubeCon Series I/M	Dry-film lube with additional anti-wear	Dark Gray	5.5 cSt	Mineral	AW / Solids	n/a	142°F	n/a	-65°F
LubeCon Series I/M-200	High flash point dry-film lube	Dark Gray	6 cSt	Mineral	AW / Solids	120	220°F	n/a	-65°F
LubeCon Series I/M O	Low odor dry-film lube	Dark Gray	3 cSt	Mineral	AW / Solids	n/a	150°F	n/a	-65°F
LubeCon Series III/N	Water displacing dry-film lube	Dark Gray	9 cSt	Mineral	AW / Solids	135	150°F	n/a	-65°F
LubeCon Series O	Light colored dry-film lube for food industry	Clear, green	2 cSt	Mineral	AW	n/a	150°F	n/a	-65°F
LubeCon Series 301	Moly-free dry film lube	Dark Gray	5 cSt	Mineral	Solids (moly-free)	n/a	141°F	n/a	-55°F
LubeCon Series ATS	Dry-film lube for high temp applications	Dark Gray	2 cSt	Semi-Synthetic	AW / Solids	n/a	150°F	n/a	-65°F
Synthetic									
Tribol CH 290	Chain oil compatible with water-based paint	Dark Amber	150, 220	Synthetic	AW	210 - 225	536°F	n/a	-49 to -38°F
Tribol CH 1421	Chain oil designed for extremely high temps	Clear, amber	150, 276(SG), 680	Synthetic	AW	115 - 232	500°F	570 - 580°F	-46 to -20°F
Tribol CH 1430	High temp chain oil with good wetting & adhesion	Yellow	150	Synthetic	AW	124	514°F	n/a	-27°F
Viscogen KL 3, 15, 23, 300	High temp synthetic chain oils	Green	32, 220, 250, 4000	Synthetic	AW	107-165	430°F - 480°F	n/a	-76 to +1°F
Viscogen KLK 25, KLK 28	Chain oils designed for engineered wood presses	Orange / Red	255, 280	Synthetic	AW	160	500°F	540 - 550°F	-27°F
Viscogen G	High temp chain oil for glass industry	Clear, red	220	Synthetic	AW	137	475°F	510°F	-29°F
LubeCon HTCL	Chain oil designed for extremely high temps	Clear, amber	46	Synthetic	AW	131	445°F	470°F	-40°F
LubeCon Series 525	Chain oil designed for extremely high temps	Clear, amber	22	Synthetic	AW	92	250°F	n/a	-40°F
LubeCon Series 663 and 735	Chain oil compatible with water-based paint	Dark Amber	220, 22	Synthetic	AW	185 - 225	410 - 565°F	n/a	-40°F
LubeCon Series KCL 46	Chain oil designed for extremely high temps	Clear, amber	46	Synthetic	AW	131	445°F	470°F	-40°F
LubeCon Series SYN HT 200	Chain oil designed for extremely high temps	Light amber	200	Synthetic	AW	97	585°F	640°F	n/a
Food Grade									
LubeCon Series VG Light	Semi-synthetic, H1 food grade chain oil	Clear	15	Semi-Synthetic	AW	n/a	226°F	n/a	n/a
Optileb CH	Synthetic, H1 food grade chain oil	Clear	32, 150	Synthetic	AW	128 - 145	428-457°F	n/a	-76 to -44°F

1 AW = Anti-wear

2 Data provided where available



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Product Selection Chart

Open Gear, Wire Rope, and Walking Cam Lubricants								
PRODUCT NAME	Application Type	Thickener	Base Oil Visc. @ 40C	Base Oil Type	Additives ¹	NLGI Grade	Solvent	4-Ball Weld
Open Gear Compounds								
Molub-Alloy OG 936 SF Light Heavy Heavy A Super Heavy	Open Gears	Lithium	687 cSt	Mineral	EP / Solids	00	No	800 kg
			2030 cSt			0		800 kg
			1890 cSt			0.5		800 kg
			6000 cSt			0		800+ kg
Molub-Alloy OG 936 WT 680	Open Gears, Low Temps	Lithium	687 cSt	Mineral	EP / Solids	0.5	Yes	800 kg
Molub-Alloy OG 968 SF Heavy	Open Gears and Bearings	Lithium	1000 cSt	Mineral	EP / Solids	1	No	620 kg
Molub-Alloy OG 8031 /2200-00 /3000-00 /6000-00	Open Gears and Bushing	Inorganic	2200 cSt	Mineral	EP / Solids	00	No	400 kg
			3000 cSt			00		400 kg
			6000 cSt			00		800 kg
Molub-Alloy OG 9002	Open Gears	Lithium	718 cSt	Mineral	EP / Solids	1	No	800+ kg
Molub-Alloy OG-RI	Open Gear Run-In	Inorganic	1000 cSt	Mineral	EP / Solids / Lapping compound	00	No	620 kg
Wire Rope Lubricant								
Molub-Alloy 902 SF Light	Wire Ropes	n/a	869 cSt	Mineral	AW / EP	n/a	No	315 kg
Tribol WR 4600	Wire Ropes	n/a	26 cSt	Mineral	AW / EP	n/a	Yes	n/a
Walking Cam / Slide Lubricants								
Molub-Alloy WC 880 SF Medium	Walking Cam	Inorganic	125 cSt @ 100C	Mineral	EP / Solids	0	No	800+ kg
Molub-Alloy WC 2204 SF Light Heavy	Walking Cam	Inorganic	n/a	Mineral	EP / Solids	00/0	No	800+ kg
						1		800+ kg

1 AW = Anti-wear EP = Extreme Pressure



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Product Selection Chart

Food Grade Lubricants

Gear Oils

Product Name	ISO VGs Available	Base Oil	Additives ¹	Viscosity Index	Zinc	Flash Point Range ²	Pour Point Range ²	Performance ³			
								Spur	Bevel	Helical	Worm
Optileb GT	220, 460	PAO	EP	151-157	N	410°F - 480°F	-38°F to -33°F	✓✓	✓✓	✓✓	✓

1 EP = Extreme Pressure/Anti-Scuff

2 Varies by viscosity grade

3 Increasing performance from 1 to 3 checks.

Hydraulic Oils

Product Name	ISO VGs Available	Base Oil	Additives ¹	Viscosity Index	Zinc	Flash Point Range ³	Pour Point Range ³	Oxidation Resistance ²	Pressure Range
Optileb HY	32, 46, 68	Synthetic PAO	AW	136 - 143	No	426 - 468°F	-58 to -49°F	✓✓✓	7500+ psi

AW = Anti-wear

2 Increasing performance from 1 to 3 checks

3 Varies by viscosity grade

Greases

PRODUCT NAME	Color	Thickener	Additives ¹	NLGIs Available	Base Oil Type	Base Oil Vis. Available	Dropping Point (NLGI 1 & above)	Temp Range	Low Speed	Medium Speed	High Speed
Optileb GR 823	White	Aluminum Complex	AW / Solids	0,1,2	White Oil	192 cSt	>446°F	-20°F to +250°F	✓	✓	✓
Optileb GR UF	White, Clear	Aluminum Complex	AW	00, 1	Synthetic	400 cSt	>446°F	-20°F to +284°F	✓	✓	✗

AW = Anti-wear

Chain Oils

PRODUCT NAME	Type	Color	ISO VGs Available	Base Fluid	Additives ¹	Viscosity Index	Flash Point	Fire Point ²	Pour Point
LubeCon Series VG Light	Semi-synthetic, H1 food grade chain oil	Clear	15	Semi-Synthetic	AW	n/a	226°F	n/a	n/a
Optileb CH	Synthetic, H1 food grade chain oil	Clear	32, 150	Synthetic	AW	128 - 145	428-457°F	n/a	-76 to -44°F

1 AW = Anti-wear

2 Data provided where available



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Product Selection Chart

Miscellaneous Lubricants						
PRODUCT NAME	Type	Viscosity	Base Fluid	Additives ¹	Zinc	Flash Point
Techniclean SC 320	Detergent additive for oil systems	ISO 320	Mineral oil	Detergent	Y	356°F
Molub-Alloy Paste White T	Assembly paste	n/a	Mineral oil	Solids	Y	n/a
Tribol CM ATO 100	Pneumatic tool / air line lubricant	ISO 22	Mineral oil	AW / EP	N	340°F
Molub-Alloy 491 C	Solid lubricant dispersion in water for high temps	n/a	Water	Solids	N	None
Magna oils	Flushing and general lubrication oils	22, 68, 320	Mineral oil	None	N	349°F - 572°F

1 AW = Anti-wear EP = Extreme Pressure



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