

Distributor Information



BS EN ISO 9001
Certificate No. FM 12448



BS EN ISO 14001
Certificate No. EMS 67596

ROCOL Lubricants

A division of **ITW** Ltd

For further information on these or any other ROCOL product please contact:

ROCOL Lubricants, ROCOL House, Swillington, Leeds LS26 8BS.

Customer Service: +44 (0) 113 232 2700 Technical Help Desk: +44 (0) 113 232 2750 Facsimile: +44 (0) 113 232 2740.

customer-service.lubricants@rocol.com

www.rocol.com

ROCOL, FOODLUBE, ROCOLcare & Sapphire are trademarks of ITW Inc.

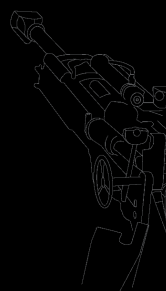
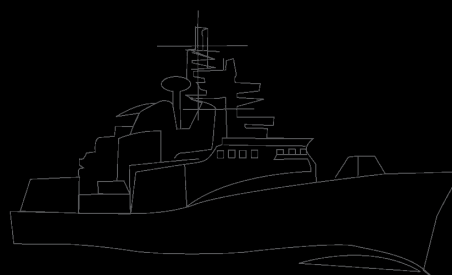
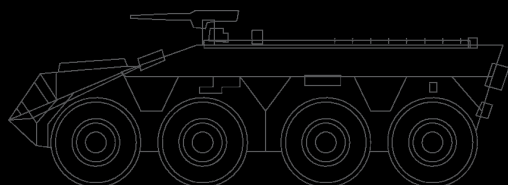
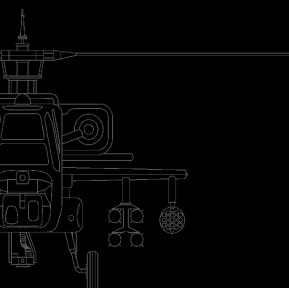
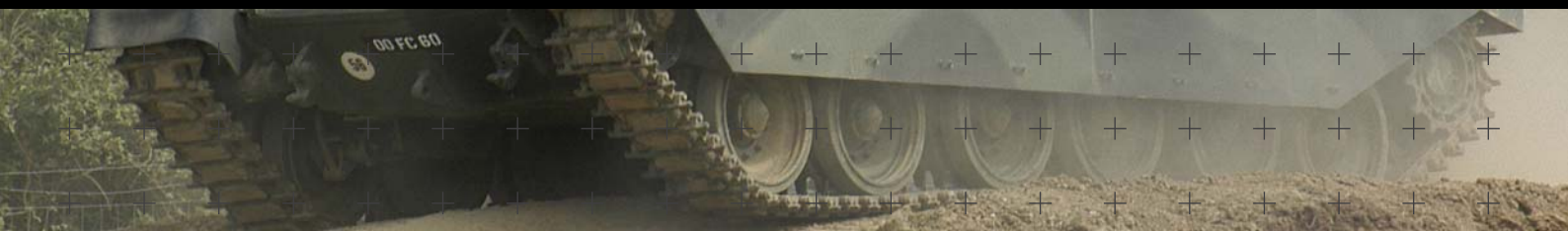


OHSAS 18001
Certificate No. OHS 78173



INVESTOR IN PEOPLE

> Defence & Aerospace
> Lubricants Range



www.rocol.com/defence

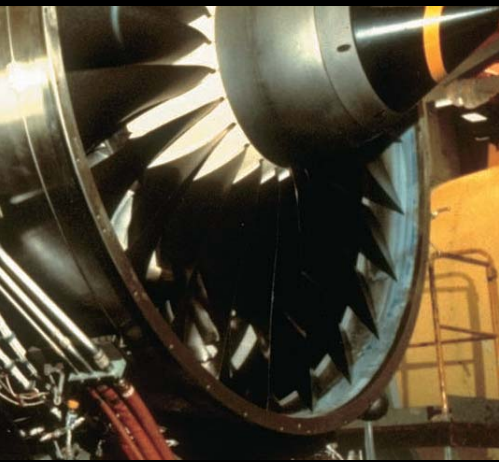
With over 100 years experience of Creating Lubricants with Industry, the ROCOL range of innovative greases, metalworking fluids, lubricants, cleaners and oils have been designed for today's challenging operating conditions.



Contents

Page

1. General Lubrication / Airframe Lubricants	4/5
2. Anti Seize & Assembly	6
3. Corrosion Protection & Water Dispersant	7
4. Oxygen Compatible / Long Life	8
5. Open Gear Oils	8
6. Weapons Lubricants	9
7. Chain & Drive	9
8. Wire Rope	10
9. Silicone Based Lubricants	10
10. Cleaners	11

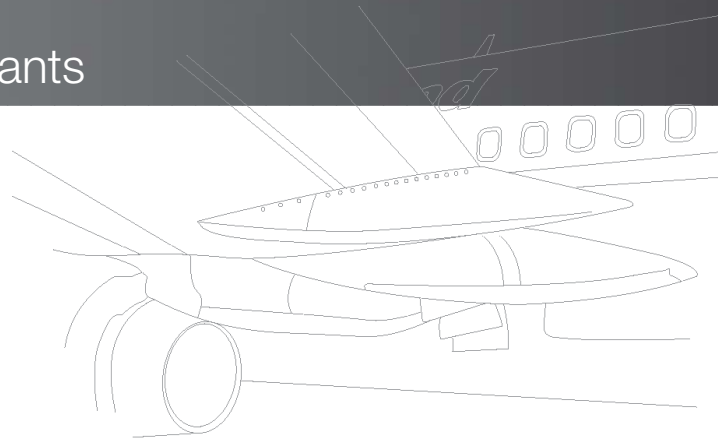


ROCOL products cover solutions for:

- Actuators
- Bearings
- Slidign Mechanisms
- Oxygen Systems
- General Airframe
- Gearboxes
- Gear Drives
- Propulsion
- Pins & Bushes
- Wheel Bearings
- Coupling Systems
- Power Train
- Chain Drives
- Surface Coatings
- Winches & Cables
- NBC Systems
- Life Support Systems

General Lubrication / Airframe Lubricants

ROCOL formulate and supply a comprehensive range of high performance airframe greases, lubricants and corrosion inhibitive coatings for use on both rotary and fixed wing aircraft. These products include Aerospec 100 semi fluid lubricant developed for the Airbus high lift system rotary actuator gearboxes and Aerospec 200 lithium based airframe grease approved for the A380 programme. Rocol also provide high performance wheel bearing lubricants based on Aerospec 300 and 400 and have approved Aerospec Protect as a spray corrosion protective coating for use in the extreme environments of aircraft undercarriage components. Rocol also provide Aerospace "Fit and Forget" lubrication and "Sealed for Life Systems", see Perfluronated Lubricants on Page 8.



USES:

- HIGH SPEED PLANETARY GEARBOXES
- ROTARY ACTUATORS
- AIRFRAME
- HIGHLY LOADED BEARINGS
- EXTREME ENVIRONMENTS

CONDITIONS	ROCOL PRODUCT	SPECIFICATION	TEMP RANGE	APPLICATIONS
SEMI FLUID	AEROSPEC 100	AMS 3057	-56 TO 120°C	Semi fluid grease with operating temperature from -56°C to 120°C. Approved with Airbus for use on rotary actuators and gearbox drives.
GENERAL PURPOSE	AEROSPEC 200	XG-287	-75 TO 120°C	Multipurpose aerospace grease for lubrication of gearboxes, AF bearings, plain bearings sliding mechanisms and bushes. Satisfactory performance in the presence of water.
	AEROSPEC 300	XG-291	-40 TO 140°C	Long life general purpose bearing grease for aviation and shipping. Applications include gearboxes, anti friction and plain bearings. Satisfactory performance in the presence of water.
		XG-271		
	AEROSPEC 210	XG-273	-54 TO 120°C	Aircraft grade general purpose graphite grease, ideal for lubrication of leaf springs, lift guides, steel wire rope and bowden cables. Also used for lubrication of machine guns and small arms in hot dusty conditions.
AEROSPEC 400	XG-294	-54 TO 175°C	Aircraft grade multipurpose grease. Suitable for lubrication of a wide range of components including anti friction bearings, plain bearings, gearboxes and other mechanisms.	
HIGH LOAD	AEROSPEC 250	XG-276	-75 TO 120°C	Low temperature aerospace molybdenum disulphide based grease. Recommended for use on heavily loaded sliding mechanisms, anti friction bearings and splined shafts.
	AEROSPEC 350	XG-285	-40 TO 120°C	For use in heavily loaded intermittent applications such as aircraft combustion starter gears and slow moving plain bearings and sliding surfaces.
	S-BG-305	XG-305	-20 TO 120°C	Molybdenum disulphide grease for heavily loaded applications providing good anti seize performance. Applications include heavily loaded bearings and slide mechanisms.
	MTS 1000	AFS 1152 A	-20 TO 150°C	High load molybdenum disulphide grease for heavily loaded and slow moving bearings especially plain bearings.



CONDITIONS	ROCOL PRODUCT	SPECIFICATION	TEMP RANGE	APPLICATIONS
HIGH TEMPERATURE	SAPPHIRE ENDURE	RR OMAT 4/60	-25 TO 280°C	High performance EP lubricant fortified with PTFE suitable for long term lubrication of chains, valves, bearings slides and small gears operating in harsh environments.
	MHT GREASE	DTD 900/49190	100 TO 235°C	High temperature molybdenum disulphide grease for heavily loaded and slow moving bearings especially plain bearings above 100°C.
	MTLM GREASE	ZX38	-50 TO 450°C	General purpose Anti Seize. Provides tough wear resistant film, ideal for assembly, start up and running in of gears, bearings pins and slides. Not suitable for titanium or titanium alloys. Not suitable for ball
	PRECISION SILICONE SPRAY	-	-50 TO 200°C	Multi purpose, food grade silicone spray for light lubrication. Non-toxic silicone spray for use as an anti-stick film or light lubrication of links, pins, chutes, slides etc. operating in food/clean environments.
	SAPPHIRE PRECISION LUBE	RR OMAT 10-108A	-55 TO 250°C	High performance maintenance lubricant with PTFE. Designed to provide excellent lubrication, penetration and protection in the widest range of applications. It is clean, non-toxic, highly penetrating and free from chlorinated solvents.
LOW TEMPERATURE	AEROSPEC 200	XG-287	-75 TO 120°C	Multipurpose aerospace grease for lubrication of gearboxes, AF bearings, plain bearings sliding mechanisms and bushes. Satisfactory performance in the presence of water.
	AEROSPEC 250	XG-276	-75 TO 120°C	Low temperature aerospace molybdenum disulphide based grease. Recommended for use on heavily loaded sliding mechanisms, anti friction bearings and splined shafts.
	AEROSPEC 533	XG-315	-73 TO 150°C	Silicone based low temperature grease widely used on pneumatic and sliding systems for ships and aircraft. Compatible with most plastics and rubbers (excluding silicone rubbers).
	MX33	DTD 900/4630 A	-73 TO 150°C	Silicone based grease with molybdenum disulphide for highly loaded low temperature applications.
HARSH ENVIRONMENT	AEROSPEC 300	XG-291 XG-271	-40 TO 140°C	Long life general purpose bearing grease for aviation and shipping. Applications include gearboxes, anti friction and plain bearings. Satisfactory performance in the presence of water.
	AEROSPEC 620	-	-46 TO 100°C	Perfluoropolyether (PFPE) grease suitable for wide range of applications. Resistance to oxidation makes product suitable for use in hostile environments and provides extended life under normal conditions. Applications in plain bearings, and for sliding surfaces.
	BG-211	XG-286	-30 TO 110°C	Sea water resistant general purpose grease for naval gun mountings, weapons systems, bulkhead glands, ball and roller bearings in rudder bearings. Suitable for use with copper containing alloys.

Anti-Seize & Assembly Products



ROCOL formulate and supply a unique range of assembly and anti seize products that find uses in a variety of high performance aviation and military equipment. Several anti seize compounds have been developed specifically for use with Nimonic and Aircraft grade Stainless Steels, plus a full range of high temperature products based on Copper, Nickle and Graphite.

USES:

- FAN BLADE ASSEMBLY & "SNUBBER" LUBRICANTS
- FASTENERS, THREADS & PINS
- CAM LOCK & LATCH MECHANISMS
- USE IN CORROSIVE OR EXTREME TEMPERATURE ENVIRONMENTS

APPLICATION	ROCOL PRODUCT	SOLIDS TYPE	SPECIFICATIONS	TEMP RANGE	APPLICATIONS
ANTI SEIZE / DISMANTLING	ANTI SEIZE COMPOUND	COPPER GRAPHITE	-	UP TO 1100°C	Copper based anti seize paste for all static fasteners and mechanisms. Anti seize compound is an assembly and anti seize lubricant that prevents pick up and seizure even in wet, dirty and corrosive conditions.
	ANTI SEIZE SPRAY	COPPER GRAPHITE	-	UP TO 1100°C	Copper based anti seize spray for all static fasteners and mechanisms. Anti seize spray is an assembly and anti seize lubricant that prevents pick up and seizure even in wet, dirty and corrosive conditions.
	ANTI SEIZE 797	NICKEL GRAPHITE	MSSR 9380	UP TO 1100°C	Nickel and graphite based anti seize paste suitable for use with nimonic and stainless steel. Specifically formulated for the Aerospace and Power Generation industries to provide protection for fasteners at high operating temperatures over extended periods.
	ANTI SEIZE STAINLESS	GRAPHITE INORGANIC	MSSR 4308	-40 TO 1000°C	Anti Seize for nimonic, stainless steel and silver coated fasteners. Suitable for use in Aerospace and power generating industries.
	MTLM	MOS ₂	ZX38	-50 TO 450°C	General purpose Anti Seize. Provides tough wear resistant film, ideal for assembly, start up and running in of gears, bearings pins and slides. Not suitable for titanium or titanium alloys.
	PENETRATING SPRAY	MOS ₂	-	-20 TO 120°C	Penetrating spray with Molybdenum disulphide. Quick, effective release of corroded threaded fasteners.
ASSEMBLY & DRY FILM	DRY MOLY PASTE	MOS ₂	RR OMAT 4/53	UP TO 450°C	Dry film coating of molybdenum disulphide in paste form to lubricate sliding mechanisms, plain bearings pins and cams.
	DRY MOLY FLUID	MOS ₂	-	UP TO 450°C	Resin bonded dry film coating with molybdenum disulphide, suitable for lubrication of sliding mechanisms, plain bearings, pins and cams.
	DRY MOLY SPRAY	MOS ₂	RR OMAT 4/52	UP TO 450°C	Resin bonded dry film of molybdenum disulphide in an aerosol spray. Ideal for lubrication of sliding mechanisms, pins plain bearings and cams.
	OXYLUBE	MOS ₂	RR OMAT 4/54	UP TO 450°C	Resin bonded dry film of molybdenum disulphide for use in aggressive environments. Lubrication of sliding mechanisms, pins plain bearings and cams especially in oxygen and vacuum environments.
	AS POWDER	MOS ₂	ZX35	-200 TO 450°C	Boundary Lubricant.
	DRY PTFE SPRAY	PTFE	RR OMAT 4/67	-200 TO 270°C	Multipurpose dry PTFE spray lubricant for light lubrication and use as a dry anti stick film. Applications include pins, chutes and slides operating in clean environments.

Corrosion Protection & Water Dispersant



ROCOL formulate and supply a wide range of high performance products including "de-watering" or water dispersant sprays, semi permanent corrosion protectives and weapons lubricants or "gun oils". These products have been formulated to meet a range of environmental challenges in the most extreme cases providing protection in marine environments for several years. Rocol also developed Aerospec Protect as a spray corrosion maintenance coating specifically for use in the extreme environments of aircraft undercarriage components.

USES:

- STORAGE OF JIGS / TOOLING
- PROTECTION OF WEAPONS & EQUIPMENT
- AIRCRAFT & MARINE MAINTENANCE

APPLICATION	ROCOL PRODUCT	SPECIFICATIONS	TEMP RANGE	APPLICATIONS
CORROSION PROTECTION WAXY/DRY FILM	AEROSPEC PROTECT	AIRBUS	-50 TO 120°C	Heavy duty "dry" waxy film for long term corrosion protection, fortified with PTFE. Chemically resistant, non melting formulation approved for use in the commercial aircraft industry.
	PX28	PX28	-35 TO 120°C	Preservation of interior surfaces of hollow sections and underbodies of vehicles and artillery components.
	PX32	PX32	-35 TO 120°C	Preservation of structural members and airframes, hollow sections, internal surfaces of aircraft skins. Can be applied over base metal or painted surfaces.
	Z30	-	-20 TO 110°C	Waxy film for long term corrosion protection. Ideal for long term protection of machinery, elevators forklift trucks and underground installations and offshore platforms.
	HEAVY DUTY RUSTSHIELD	-	-20 TO 110°C	Thin dry film corrosion protective. Thin flexible film will not crack or chip.
	SAPPHIRE ENDURE PRECOAT	-	-70 TO 250°C	High performance lubricant and corrosion protection coating. Designed for application to all types of bearings, runners and slides. Compatible with Rocol Fomblin and Endure products.
CORROSION PROTECTION OILY FILM	WEAPONGUARD 24	OX24	-54 TO 50°C	Lubricating oil and corrosion preventative for large calibre weapons (30mm plus), also used for cleaning the surface of barrels and breach mechanisms.
	WEAPONGUARD 36	PX36	-54 TO 50°C	Lubricating oil and corrosion preventative for large calibre weapons (30mm plus), also used for cleaning the surface of barrels and breach mechanisms.
	PX 4	PX4	-20 TO 120°C	Thin-film oil based corrosion preventative. Suitable for the preservation of engines.
WATER DISPLACING	PX24	PX24	-	Water displacing corrosion preventative suitable for short term corrosion protection of gas turbine engines and metal surfaces.
	WD SPRAY	-	-	Water displacing corrosion preventative and lubricant spray. Suitable for protection and drying out of engine ignition systems, coils, distributors, HT leads etc.

Oxygen Compatible / Extended Life (Perfluorinated Lubricants)



ROCOL provide a range of specialist PFPE greases and lubricants specifically for use with breathable air systems and having approval by the UK MOD for use on board submarine. PFPE based lubricants are not subject to oxidation and provide excellent high temperature stability. Several products have now also been developed that exploit these unique characteristics in Aerospace "Fit and Forget" lubrication and "Sealed for Life" applications.

USES:

- SUBMARINE & BREATHABLE AIR SYSTEMS
- AIRCRAFT ENVIRONMENTAL CONTROL SYSTEMS
- "FIT & FORGET" AIRCRAFT LUBRICATION

COMPATIBILITY	ROCOL PRODUCT	SPECIFICATION	TEMP RANGE	APPLICATIONS
HIGH PRESSURE OXYGEN SERVICE	FOMBLIN OT20	DTD 900/6080	-70 TO 100°C	PFPE grease recommended for use in oxygen systems and specified by the Ministry of Defence for all diving and breathing air systems. Can be considered as a "fit and forget" lubricant, compatible with most plastics and non metallic seals.
	FOMBLIN RT15	DTD 900/6031	-20 TO 200°C	PFPE grease is highly resistant to a wide range of chemicals and recommended for use in any oxygen rich environments including diving and breathing air systems. PFPE grease can be considered as a "fit and forget" lubricant. Compatible with most plastics.
	FOMBLIN UT18	-	-30 TO 150°C	Perfluoropolyether grease suitable for a wide range of applications. Fomblin UT18 can lengthen relubrication periods dramatically due to its ability to resist degradation in hostile conditions. It is used in antifriction and plain bearings, or any sliding surfaces.
	FOMBLIN YNX	-	-40 TO 220°C	PFPE grease is highly resistant to a wide range of chemicals. YNX is suitable for applications in very aggressive bromine and chlorine environments. Highly resistant to oxidation and compatible with most plastics and non metallic seals.
NOT FOR OXYGEN SERVICE	AEROSPEC 620	-	-40 TO 100°C	Perfluoropolyether (PFPE) grease suitable for wide range of applications. Resistance to oxidation makes product suitable for use in hostile environments and provides extended life under normal conditions. Applications in plain bearings, and for sliding surfaces.
	SAPPHIRE ENDURE PRECOAT	-	-70 TO 250°C	High performance lubricant and corrosion preventative coating. Designed for application to all types of bearings, bushings and slides. Compatible with ROCOL Fomblin and Endure products.

Open Gear



ROCOL Open Gear oils have been developed specifically for the heavily loaded mechanisms normally associated with the marine industry. Open Gear lubricants also provide excellent corrosion protection in harsh marine environments where "water wash-out" is often a serious challenge.

USES:

- LOCK GATES
- CABLE WINCH MECHANISMS
- SEA BUOYS
- MARINE BRIDGES

CONDITIONS	ROCOL PRODUCT	TEMP RANGE	APPLICATIONS
NORMAL	TUFGEAR UNIVERSAL	-40 TO 120°C	Heavy-duty open gear lubricant for demanding applications. Developed to deal with the loads found in the largest gears and to withstand the aggressive environments within which they operate, including gears that are exposed to strong underwater currents.
	TUFGEAR SPRAY	-10 TO 100°C	High performance long life Open Gear lubricant in aerosol form. High viscosity, non melting lubricant containing high load solids to increase anti pitting and load carrying characteristics. Provides excellent corrosion resistance in all environments.
SUBMERGED OR WET	TUFSHIELD	-10 TO 120°C	Heavy duty "high cling" corrosion preventative grease specifically developed for the most arduous marine applications and areas subjected to flooding or repeated forceful wash downs. Applications include swing bridges, lock gates and sea buoys.

Weapons Lubricants



ROCOL weapons have been developed to provide optimised performance of both small and large calibre weapons. These products have also found uses in manufacturing providing protection for machined metal components susceptible to corrosion.

USES:

- SPECIALIST WEAPONS LUBRICANT
- MANUFACTURING & COMPONENT PROTECTION



TYPE	ROCOL PRODUCT	SPECIFICATION	TEMP RANGE	APPLICATIONS
SMALL CALIBRE	WEAPONGUARD 24	OX-24	-54 TO 50°C	Lubricating oil and corrosion preventative for small arms and light calibre weapons.
LARGE CALIBRE	WEAPONGUARD 36	PX36	-40 TO 50°C	Lubricating oil and corrosion preventative for large calibre weapons (30mm plus), also used for cleaning the surface of barrels and breach mechanisms.
	BG-211	XG286	-30 TO 110°C	Sea water resistant general purpose grease for naval gun mountings, weapons systems, bulkhead glands, ball and roller bearings in rudder bearings. Suitable for use with copper containing alloys.

Chain & Drive



ROCOL have developed lubricants for a wide variety of Chain Drive systems where high temperature and high load conditions are a particular issue. Rocol Chain & Drive Lubricants have been formulated to provide improved penetration of the link system and can deliver a variety of EP additives to help extend chain life and reduce drag (improve chain efficiency).

USES:

- DRIVE CHAINS



CONDITIONS	ROCOL PRODUCT	TEMP RANGE	APPLICATIONS
NORMAL	CHAIN & DRIVE FLUID	-15 TO 120°C	High performance EP chain and conveyor lubricant. Penetrates, lubricates and protects chains from corrosion.
	CHAIN & DRIVE SPRAY	-30 TO 150°C	High performance EP chain and conveyor lubricant in an aerosol. Designed to effectively displace water, penetrate, lubricate and protect against corrosion particularly in wet and aggressive conditions.
HIGH LOAD	CHAIN GUARD HI LOAD SPRAY	-30 TO 180°C	High performance water displacing EP chain and conveyor lubricant with molybdenum disulphide.
DIRTY/DUSTY	DRY MOLY FLUID & SPRAY	-50 TO 450°C	Resin bonded dry film coating with molybdenum disulphide, suitable for lubrication of sliding mechanisms, plain bearings, pins and cams.

Wire Rope Lubricants



ROCOL wire rope lubricants have been formulated to provide improved penetration and de-watering of the cables for extended life. Rocol have formulated products to meet the extreme environment of the marine industry and have also led the way in the development of Bio-degradable lubricants for use in cable winches (especially in dock side areas).

USES:

- WINCH CABLES
- EXPOSED MARINE CONTROL CABLES

APPLICATION	ROCOL PRODUCT	TEMP RANGE	APPLICATIONS
HAND APPLIED	WIRE ROPE DRESSING	-30 TO 100°C	Semi fluid lubricant that will not emulsify in water and is completely water repellent. Product is non tacky and will help prevent the build-up of dust and contamination on wire rope. Recommended for use on hoist cables and drag lines operated under arduous conditions.
	BIOGEN ROPEGUARD	-30 TO 100°C	Biodegradable, water repellent wire rope lubricant. Semi-fluid grease with excellent penetration, lubrication and corrosion protection on all types of wire rope.
SPRAY GUN APPLIED	WIRE ROPE FLUID	-30 TO 180°C	High performance, rapid penetration, de-watering wire rope lubricant that can be applied even in wet conditions. Recommended for use on hoist cables, drag lines and other arduous marine environments.
AEROSOL APPLIED	WIRE ROPE SPRAY	-30 TO 100°C	High performance de-watering wire rope lubricant spray. Recommended for use on hoist cables, drag lines and other arduous marine environments.

Silicone Based Lubricants



Rocol manufacture a range of silicone based lubricants to meet a variety specialised requirements. Silicone Lubricants are characterised by their reduced toxicity and are compatible with a wide range of plastics and rubbers (not compatible with silicone rubber). Silicone Lubricants can also be used over a wide range of temperatures.

USES:

- LIGHT FILM LUBRICANTS
- NON TOXIC LUBRICATING FILM
- LUBRICANT FOR THERMOPLASTIC AND ELASTOMER COMPONENTS

CONDITIONS	ROCOL PRODUCT	SPECIFICATION	TEMP RANGE	APPLICATIONS
GENERAL PURPOSE	PRECISION SILICONE SPRAY	-	-50 TO 200°C	Multi purpose, food grade silicone spray for light lubrication. Non-toxic silicone spray for use as an anti-stick film or light lubrication of links, pins, chutes, slides etc. operating in food/clean environments.
	AEROSPEC 533	XG 315	-73 TO 150°C	Silicone based low temperature grease widely used on pneumatic and sliding systems for ships and aircraft. Compatible with most plastics and rubbers (excluding silicone rubbers).
HIGH LOAD	MX33	DTD 900/4630A	-73 TO 150°C	Silicone based grease with MoS2 for highly loaded low temperature applications.

Cleaners



Rocol manufacture a variety of cleaning products and solutions ranging from foam based water soluble cleaners to pre saturated cloth wipes for personal hygiene.

USES:

- HEAVY & LIGHT DEGREASING
- PERSONAL HYGIENE

APPLICATION	ROCOL PRODUCT	APPLICATIONS
WATER WASHABLE	FOAM CLEANER SPRAY	Highly versatile, fast acting foaming cleaner. Non-toxic blend of cleaning agents for effective removal of dirt, grease and grime from a wide variety of non-porous surfaces.
	HEAVY DUTY CLEANER (FLUID/SPRAY)	Heavy duty, water washable, multi-purpose degreaser. A specially formulated blend of degreasing solvents designed to remove grease, oil and general workshop grime rapidly from a wide range of surfaces. It emulsifies grease and grime then the residue can easily removed.
ZERO RESIDUE	INDUSTRIAL CLEANER RAPID DRY	Multi-purpose, fast drying, degreaser that leaves no residue. A specially formulated blend of degreasing solvents designed to remove grease, oil and general workshop grime rapidly from a wide range of surfaces.
CLOTH WIPES	SCRUBS	Unique waterless hand-cleaning system. SCRUBS combines a high quality liquid hand cleaner and a heavy duty, non-scratching, abrasive hand-cleaning towel.