MTLM Assembly & Running In Paste

Molybdenum disulphide assembly lubricant for precision and interference fit parts

Product Overview

ROCOL® MTLM Assembly & Running In Paste is a very high content molybdenum disulphide paste. It is designed to give a tough, wear resisting, greasy film which provides anti-seize protection, eases assembly and provides complete protection during the critical start up and running in periods.

Ideal for assembling plain bearings, pins, slides and gears etc.

ROCOL MTLM Assembly & Running In Paste is also suitable for the lubrication of valves and other slow moving parts under high loads.

Specifications

- Joint Services Designation – ZX 38
- Defence Standard - DEF STAN 80-81//2 (S-722)

Features and Benefits

- Exceptional temperature range -50°C to +450°C.
- Reduces the forces required for assembly of close fitting components.
- Prevents galling, pick-up and seizure on assembly and during initial running in period before the service lubricant has circulated.
- Guards against wear and fretting corrosion.
- Resistant to high loads (up to 7,000 kg/cm^2).
- Excellent wear resistance (high molybdenum disulphide content).

Directions for Storage and Use

- Ensure surfaces to be treated with ROCOL MTLM Assembly & Running In Paste are clean, dry and free from oil, grease or dirt contamination.
- Apply a thin even coating by rubbing onto the surface with a lint free cloth.
- When using ROCOL MTLM Assembly & Running In Paste, components can be assembled immediately – no curing time necessary.
- The storage temperature of ROCOL MTLM Assembly & Running In Paste should be controlled between +1°C and +40°C.
- Shelf life is 3 years from date of manufacture.

Typical Applications

- Assembly lubricant where close fitting or interference fits are experienced.
- Initial protection of plain bearings, slides gears etc. until the service lubricant has become fully operational.
- Automotive assembly where instructions call for an assembly aid with a minimum of 50% molybdenum disulphide.

Pack Sizes

Pack Size	Part Code
100g	10050
750g	10056
18kg	10057

T +44 (0) 113 232 2600
F +44 (0) 113 232 2740
E customer-service@rocol.com
www.rocol.com
ROCOL House, Swillington, Leeds LS26 8BS

Registered Company No. 559693 VAT No. 742 0531 67
Registered Office: Admiral House, St Leonard's Road, Windsor, Berkshire SL4 3BL

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BS EN ISO 9001 Certificate No. FM 12448
BS EN ISO 14001 Certificate No. EMS 67596
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Technical Data

Performance you can trust

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Property	Test Method	Result
Appearance	Visual	Stiff blue-black paste
Base Type	N/A	Severely refined mineral oil
Thickener	N/A	Organically modified clay
Solids	N/A	Molybdenum disulphide
Worked Penetration	N/A	240 - 300
Drop Point	IP 132	Non-melting
Solids Content	N/A	50%
Temperature Range	N/A	-50°C to +450°C
4 ball Weld Load	IP 239 (ASTM D2596)	400kg
4 ball Mean Hertz Load	IP 239	78kg
Approximate Coverage	0.1mm film thickness	$10m^2/kg$

Values quoted above are typical and do not constitute a specification.

Safety Data Sheets

Safety data sheets are available for download from our website www.rocol.com or may be obtained from your usual ROCOL contact.

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Torque Setting for Fasteners

When a thread compound is applied to a fastener that will be torque tightened, the torque setting will require adjustment to achieve the correct tension in the fastener. Correct torque settings can be calculated using the methods below.

The following parameters were derived from the tension-torsion relationship measured on M12 x 50mm setscrews with 1.75mm thread pitch, full nut and Form A washers. Fasteners were degreased and a thin layer of thread compound applied in line with instructions on Page 1. Data are for fasteners at 90% of the yield stress:

Fastener Material	Coefficient of Friction (μ)	K-Factor
8.8 Steel Plain Finish	0.094	0.13
8.8 Steel BZP	0.080	0.12
8.8 Steel Hot Dip Galvanised	0.122	0.16
304 Stainless Steel	0.119	0.16
Aluminium 6061	0.074	0.11

$$T = F \times \left[(0.159 \times P) + (0.577 \times d \times \mu) + (D_f \times \frac{\mu}{2})\right]$$

T= Torque Applied (Nm)
F= Tension Generated in Fastener (N)
P = Thread Pitch (m)
d= Pitch Diameter (m)
D_f = Nut Friction Diameter (m)
μ = Coefficient of Friction

$$T = K \times F \times D$$

T= Torque Applied (Nm)
F= Tension Generated in Fastener (N)
D = Nut Nominal Bolt Diameter (m)
K = K-Factor

Many parameters affect the tension-torsion relationship of fasteners, including: Bolt geometry, surface finish, lubricant application method, joint material, torque application method, variation in fastener manufacture etc. Therefore, these parameters above are for guidance only, especially if a different material is used or if geometry is significantly different to M12. Any calculated values are a predictive tool and the final tension should be verified, especially in critical applications. These values do not constitute a specification.

For further guidance, please speak to your usual ROCOL contact or technical.lubricants@rocol.com.

The information in this publication is based on our experience and reports from customers. There are many factors outside our control or knowledge which affect the use and performance of our products, for which reason it is given without responsibility.
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