AL-M High-Performance Grease



Long-life grease with MoS2 | high adhesive strength and high pressure resistance

WEICON AL-M permanently reduces friction and wear and is suitable for roller and slide bearings, joints, levers, sliding guides, spindles, camshafts, spline shafts, springs, open gears and worm gears – at all sliding speeds permitted for grease lubrication.

Characteristics		
Base oil		Mineral oil
Base thickener		Li/Ca soap / MoS2
Silicone-free		yes
Colour		black
Short description	DIN 51502	KF 2 K -20
Consistency classification	DIN 51818	NLGI grade 2
Minimum shelf life	at room temperature	24 mon.
Physical properties		
Density	(+20°C) DIN 51757	0,92 g/cm³
viscosity of base oil (40 °C)	DIN 51 562	160 mm²/s
viscosity of base oil (+100 °C)	DIN 51 562	15 mm²/s
Cone penetration	DIN ISO 2137	265 - 295 1/10 mm
Thermal parameters		
Temperature resistance		-20 °C to +120 °C
Dripping point	IP 396	> 170 °C
Heat capacity	DIN EN ISO 22007-4	1,766 J/(g·K)
Thermal conductivity	DIN EN ISO 22007-4	0,491 W/m·K
Temperature conductivity		0,303 mm²/s
Mechanical properties after curing		
Water resistance	DIN 51807	1 - 90
EMCOR-corrosion test	DIN 51802 (distilled water)	0 / 0
Four ball weld test property load	DIN 51350	3.200 N
Four ball weld test weld load	DIN 51350	3.400 N
Four ball weld test calotte value	DIN 51350 (1min/1000N)	0,5 mm
Rotation speed parameter		400.000
Electrochemical parameters		
Dielectric strength	DIN EN 60243-1 (20°C)	11,5 kV/mm
Approvals / Guidelines		
ISSA Code		53.052.01/02
IMPA Code		450435/36

Instructions for use

When using WEICON products, the physical, safety-related, toxicological and ecological data and regulations in our EC safety data sheets (www.weicon.com) must be observed.

Application

The AL-M High-Performance Grease can be applied in the desired quantity to the component that you wish to lubricate with the Processing Spatula or the Contour Spatula Flexy. The content of the 400 g cartridges can be easily injected with a hand lever grease gun, e.g. in accordance with DIN 1283.

Storage

WEICON High-Performance Greases should be stored in a dry indoor environment at room temperature. Unopened containers can be stored at temperatures from +18 °C to +28 °C. Opened containers should be resealed airtight.

Accessories

10000147	Cleaner Spray S, 500 ml, transparent
10000347	Cleaner S, 5 L, colourless, transparent
10039119	Fast Cleaner, 500 ml, colourless, transparent
10055297	Industrial Cleaner, 500 ml
10010887	Processing Spatula short, 1 PCE
10022562	Processing Spatula long, 1 PCE
10010066	Contour Spatula Flexy, 1 PCE
10065455	Brush 35, long, Adhesive, 1 PCE

Recommended equipment

Grease gun
Lint-free cloth

Grease gun

Available sizes

10016733	AL-M High-Performance Grease, 0,4 kg, black
10016735	AL-M High-Performance Grease, 1 kg, black
10016737	AL-M High-Performance Grease, 5 kg, black
10016739	AL-M High-Performance Grease, 25 kg, black

Conversion table

(°C x 1.8) + 32 = °F
mm/25.4 = inch
µm/25.4 = mil
N x 0.225 = lb
N/mm² x 145 = psi
MPa x 145 = psi

Nm x 8.851 = lb·in
Nm x 0.738 = lb·ft
Nm x 141.62 = oz·in
mPa·s = cP
N/cm x 0.571 = lb/in
kV/mm x 25.4 = V/mil

Note
The specifications and recommendations given in this technical data sheet must not be seen as guaranteed product characteristics. They are based on our laboratory tests and on practical experience. Since individual application conditions are beyond our knowledge, control and responsibility, this information is provided without any obligation. We do guarantee the continuously high quality of our products. However, own adequate laboratory and practical tests to find out if the product in question meets the requested properties are recommended. A claim cannot be derived from them. The user bears the only responsibility for non-appropriate or other than specified applications.

WEICON Middle East L.L.C.
United Arab Emirates
phone +971 4 880 25 05
info@weicon.ae

WEICON Czech Republic s.r.o.
Czech Republic
phone +42 (0) 417 533 013
info@weicon.cz

WEICON GmbH & Co. KG
(Headquaters) Germany
phone +49 (0) 251 9322 0
info@weicon.de

WEICON Romania SRL
Romania
phone +40 (0) 3 65 730 763
office@weicon.com

WEICON South East Asia Pte Ltd
Singapore
Phone (+65) 6710 7671
info@weicon.com.sg

WEICON Colombia S.A.S
Colombia
Phone: +57 314 793 86 06
Email: info@weicon.co

WEICON Inc.
Canada
phone +1 877 620 8889
info@weicon.ca

WEICON Ibérica S.L.
Spain
phone +34 (0) 914 7997 34
info@weicon.es

WEICON Italia S.r.L.
Italy
phone +39 (0) 010 2924 871
info@weicon.it

WEICON SA (Pty) Ltd
South Africa
phone +27 (0) 21 709 0088
info@weicon.co.za

WEICON Kimya Sanayi Tic. Ltd. Şti.
Türkiye
phone +90 (0) 212 465 33 65
info@weicon.com.tr

AL-M High-Performance Grease

	AL-W High-Performance Grease	AL-M High-Performance Grease	AL-F High-Performance Grease	AL-T High-Performance Grease	AL-H High-Performance Grease	Silicone Grease	Silicone Grease HV
Rolling bearings	x	x	x	x	x		
Sliding bearings	x	x	x	x	x		
Chains	x						
Joints	x	x	x	x	x	x	x
Levers	x	x	x	x	x	x	x
Sliding guides	x	x	x	x	x	x	x
Linear guide systems				x	x	x	x
Spindles	x	x	x	x	x	x	x
Spline shafts	x	x	x	x			
Camshafts		x	x				
Springs		x					
Open gears	x	x	x				
Worm gears	x	x	x				
Cables	x						

To the product detail page:

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Miscibility of WEICON Allround Lubricant with other greases

The best results when using WEICON Allround Lubricant high-performance greases can only be achieved after complete removal of all grease residues. In practice, however, complete removal of such grease residues is sometimes impossible. In these cases, it is necessary to test whether the WEICON product intended for use is generally compatible with the grease still present. This test must be carried out on the basis of the two main components of the grease (base oil and thickener). Both main components must be miscible (compatible).

Miscibility of base oils

Base oil	Mineral oil (AL-M, AL-W, AL-F, AL-T)	Polyalphaole-fins (AL-H)	Ester	Polyglycol	Silicone (methyl)	Silicone (phenyl)	Polyphenyl ether	Perfluoro-polyether oil
Mineral oil (AL-M, AL-W, AL-F, AL-T)	---	++	++	0	0	+	0	0
Polyalphaolefins (AL-H)	++	---	++	0	0	0	0	0
Ester	++	++	---	++	0	++	++	0
Polyglycol	0	0	++	---	0	0	0	0
Silicone (methyl)	0	0	0	0	---	+	0	0
Silicone (phenyl)	+	0	++	0	+	---	++	0
Polyphenyl ether	0	0	++	0	0	++	---	0
Perfluoropolyether oil	0	0	0	0	0	0	0	---

++ = miscible + = limited resistance 0 = not miscible

Date: 13/06/2024

Miscibility of thickeners

Thickener	Ca soap (anhydrous) (AL-W)	Ca-complex soap	Li soap (AL-F)	Li-com-plex soap	Li/Ca soap (AL-M)	Na soap	Gels*	Ba-com-plex soap	Al-complex soap (AL-H, AL-T)	Polyurea
Ca soap (anhydrous) (AL-W)	---	++	++	++	++	0	++	++	0	++
Ca-complex soap	++	---	++	++	++	0	++	++	0	++
Li soap (AL-F)	++	++	---	++	++	0	++	++	0	++
Li-complex soap	++	++	++	---	++	0	0	++	++	0
Li/Ca soap (AL-M)	++	++	++	++	---	0	++	++	0	++
Na soap	0	0	0	0	0	---	++	++	0	++
Gels*	++	++	++	0	++	++	---	++	0	++
Ba-complex soap	++	++	++	++	++	++	++	---	++	++
Al-complex soap (AL-H, AL-T)	0	0	0	++	0	0	0	++	---	++
Polyurea	++	++	++	0	++	++	++	++	++	---

++ = miscible 0 = not miscible

Date: 13/06/2024

WEICON lubricants and their behaviour towards sealing materials (elastomers)

	Product						
Elastomers	**AL-T**	**AL-M**	**AL-W**	**AL-H**	**AL-F**	**Silicone Grease**	**Silicone Grease HV**
ACM acrylate rubber	++	++	++	++	++	++	++
CR chloroprene rubber	+	+	+	+	+	++	++
CSM chlorosulphonated PE rubber	++	++	++	++	++	++	++
EPDM ethylene propylene diene rubber	--	--	--	--	--	++	++
FKM fluoro rubber	++	++	++	++	++	++	++
NBR nitrile butadiene rubber	++	++	++	++	++	++	++
NR natural rubber	0	--	--	--	--	++	++
SBR styrene butadiene rubber	0	--	--	--	--	++	++
SQM/MVQ silicone rubber	++	++	++	++	++	++	++

++ = resistant + = limited resistance 0 = not tested, preliminary tests or resistance tests are recommended -- = not resistant

Date: 13/06/2024

WEICON lubricants and their behaviour towards plastics

	Product						
Plastic	**AL-T**	**AL-M**	**AL-W**	**AL-H**	**AL-F**	**Silicone Grease**	**Silicone Grease HV**
ABS	++	++	++	++	++	++	++
CA cellulose acetate	++	++	++	++	++	++	++
EPS expanded polystyrene	++	++	++	++	++	++	++
PA polyamide	++	++	++	++	++	++	++
PC polycarbonate	--	--	--	+	--	++	++
PE polyethylene	++	++	++	++	++	++	++
PE-UHMW polyethylene with ultra high molecular weight	++	++	++	++	++	++	++
PE-LD polyethylene with low density	++	++	++	++	++	++	++
PET polyethylene terephthalate	+	+	+	++	+	++	++
POM polyoxymethylene	++	++	++	++	++	++	++
PP polypropylene	++	++	++	++	++	++	++
PPO polyphenylene oxide	++	++	++	++	++	++	++
PS polystyrene	+	+	+	++	+	++	++
PTFE polytetrafluoroethylene	++	++	++	++	++	++	++
PUR polyurethane	+	+	+	++	+	++	++
PVC polyvinyl chloride	++	++	++	++	++	++	++
TPE thermoplastic elastomers	0	0	0	0	0	++	++

++ = resistant + = limited resistance 0 = not tested, preliminary tests or resistance tests are recommended -- = not resistant

Date: 13/06/2024

The stated resistances are based on laboratory tests and literature references. Due to the large number of raw materials used on the one hand and the complex chemical and morphological structure of the polymers on the other, no guarantee can be given. In critical applications, we recommend carrying out tests and/or consulting our application technology department.