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GB



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# **Assembly Pastes**

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# Anti-Seize

# **Assembly Pastes**





## Anti-Seize

All kinds of influencing factors, such as moisture and friction, lead to damage due to corrosion, seizure, and wear on machines and installations.

Extensive repair and maintenance work at considerable cost are the result.

Especially under critical conditions of application, such as:

- High operation temperatures
- High pressure loads
- Outdoor weather conditions
- Aggressive chemicals
- The influence of other media
- such consequences frequently occur.

WEICON Anti-Seize assembly pastes are especially developed for these requirements. They are used as protecting and separating agents, as well as lubricants, for highly stressed parts, especially at high temperatures.



Optimally balanced solids contents as well as selected additives permit a wide range of applications, especially in this area.

Conventional separating agents or lubricants such as mineral oils and greases often cannot provide sufficient lubrication and protection in difficult industrial environments.

The basic components in WEICON Anti-Seize are made of synthetic oils, which have a considerably lower sulphur content than products containing mineral oil. A residuefree vaporisation of the oil at temperatures between +200°C (+392°F) and +250°C (+482°F) is thus possible. This is particularly important in the case of stainless steels (e.g. for VA material) to prevent stress-corrosion cracking.

The safe protection of work pieces and structures made of steel and other metals is thus absolutely necessary for the rational and economic operation of technical installations.

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# Anti-Seize

# **Assembly Pastes**



Due to the special formulation and the very fine grinding of the solids contained in WEICON Anti-Seize, irregularities in the surface being protected are completely filled - even to a layer thickness of only 12 µm. Only a perfectly sealed surface guarantees a reliable protection against corrosion. An additional sealing effect thus results for special applications, such as flange connections.

WEICON Anti-Seize provides protection against the following:

- Corrosion seizure wear
- Stick-slip phenomena
- Oxidation and fretting corrosion
- Electrolytic reactions ("cold welding")

WEICON Anti-Seize is free of sulphurous additives and halogens, well-adherent and abrasion-proof, and resistant against hot, cold, and salt water. The extremely low friction coefficient also permits easy disassembly from machines and installations.

In addition, WEICON Anti-Seize assembly pastes are excellent lubricants for statically high-stressed parts and for slowly rotating installations, as long as corresponding relubrication intervals are observed.

With its dual function as a lubricant and corrosion protection agent, WEICON Anti-Seize thus becomes a rationalisation factor, both in terms of saving time and reducing costs.

WEICON Anti-Seize is used sparingly. At a layer thickness of 0,01 mm, 1 kg suffices to cover a surface area of approximately 45 m².

Three product variants are available for various areas of application.

Anti-Seize Anti-Seize "High Tech" **Copper Paste** 

Catalogue WEICON



## Anti-Seize

**Reliable protection against** corrosion, seizing and cold welding

WEICON Anti-Seize is used as a protecting, separating and lubricating agent for highly stressed parts. Ideally compatible solid contents and selected additives enable a wide range of usage.

Anti-Seize protects against corrosion, seizure and wear, stick-slip phenomena, oxidation, fretting corrosion and electrolytic reactions ("cold welding").





OFW device coefficient of friction

Coefficient of friction total

Colour

Coefficient of friction thread	0,13 μ
Coefficient of friction on upside down	0,15 μ
VKA-Test (DIN 51350) goods load	4200 N
VKA-Test (DIN 51350) welding load	4400 N
VKA-Test (DIN 51350) Spherical cap value (1 Min/1000)	0,5 mm
Worked penetration (DIN ISO 2137)	310 to 340 1/10 mm
Sulphur content (DIN 51400)	< 0,1%
Water resistance (DIN 51807)	0 - 90
Temperature resistance	-180 to +1.200°C (-292 to +2.192°F)
Pressure load	230 N/mm² (33.400 psi)
Density at +20°C (+68°F) (DIN 51757)	1,16 g/cm <sup>3</sup>
Salt spray test (DIN 50017)	> 170 h
Thermal conductivity	0,3 W/m•K
Dielectric strength	0,47 kV/mm
Specific resistance	1,2 x 10 <sup>15</sup> Ohm/cm

Synthetic oil mixture

anthracite

0,13

0,14 µ



10 g 🥑	30 g 🥑	120 g 🥑	200 ml 🥑
26000001	26000003	26000012	26000200
Syringe	Pen	Brush top can	Press pack
400 g o	450 g 🧹	500 g o	1,0 kg 🥳
26000040	26000045	26000050	26000100
Cartridge	Can	Brush top can	Can
1,8 kg 🧹	5,0 kg 🧹	10,0 kg 🥳	20,0 kg 🥳
26000180	26000500	26000910	26000920
Bucket	Bucket	Bucket	Bucket
100 ml 🗹	400 ml 🗹		

27000100 27000400 Spray

Spray



DENGOD

#### **Technical Data**

Basic oil	Medicinal oil
Colour	white
OFW device coefficient of friction	0,10 to 0,13
Coefficient of friction total	0,13 µ
Coefficient of friction thread	0,11 µ
Coefficient of friction on upside down	0,14 µ
VKA-Test (DIN 51350) goods load	3600 N
VKA-Test (DIN 51350) welding load	3800 N
VKA-Test (DIN 51350) Spheri- cal cap value (1 Min/1000)	0,7 mm
Worked penetration (DIN ISO 2137)	310 to 340 1/10 mm
Sulphur content (DIN 51400)	< 0,1%
Water resistance (DIN 51807)	1 - 90
Temperature resistance	-40 to +1.400°C (-40 to +2.552°F)
Pressure load	230 N/mm² (33.400 psi)
Density at +20°C (+68°F) (DIN 51757)	1,42 g/cm <sup>3</sup>
Salt spray test (DIN 50017)	> 170 h
Thermal conductivity	0,7 W/m•K
Dielectric strength	0,40 kV/mm
Specific resistance	1,0 x 10 <sup>15</sup> Ohm/cm

# Anti-Seize

# **Assembly Pastes**

BETTOR

Anti-Seize

# Anti-Seize "High-Tech"

#### Metal-free, NSF approval

Anti Seize "High-Tech" is high temperature resistant, has excellent separating characteristics, is metal-free, neutral to materials and has an NSF approval.

Anti-Seize "High-Tech" is particularly suitable when metal-containing pastes can cause electrolytic reactions, when nickel-containing products should or may not be used due to health reasons and when dark metalcontaining products should or may not be used for optical reasons.

120 g 🥑 26100012 Brush top can

> 1,0 kg 🥑 26100100 Can

20,0 kg 🥳 26100920 Bucket

400 g 🥑 26100040 Cartridge

1,8 kg 🥑 26100180 Bucket

400 ml 🥳 27050400 Spray

30 g 🥑 26100003 Pen

500 g 🥑 26100050 Brush top can

10,0 kg 🥳 26100910 Bucket

450 g 🧹 26100045

Can

5,0 kg 🥑

26100500

Bucket

WEICON



WEICON Anti-Seize products and their behaviour vis-à-vis sealing materials (elastomers)	Anti-Seize	Anti-Seize "High-Tech"
ACM - Acrylate rubber	++	++
CR - Chloroprene rubber	+	+
CSM - Chlorosulfonated PE rubber	++	++
EPDM - Ethylene propylene diene rubber		
FKM - Fluorocaoutchoc	++	++
NBR - Nitrile butadiene rubber	++	++
NR - Natural rubber		
SBR - Styrene butadiene rubber		
SQM/MVQ - Silicone rubber	++	++

++ resistant + resistant to a limited extent 0 not tested, preliminary trials or resistance tests are recommended -- not resistant

WEICON Anti-Seize products and their behaviour

vis-a-vis sealing materials (elastomers)	Anti-Seize	Anti-Seize nigh-tech
ABS - ABS copolymeride	++	++
CA - Cellulose acetate	++	++
EPS - Expanded polystyrene	++	++
PA - Polyamide	++	++
PC - Polycarbonate		
PE - Polyethylene	++	++
PE-UHMW - Polyethylene with ultra high molar weight	++	++
PE-LD - Polyethylene with low density	+	+
PET - Polyethyleneterephthalate	++	++
POM - Polyoxymethylene	++	++
PP - Polypropylene	++	++
PPO - Polyphenylene oxide	++	++
PS - Polystyrene	+	+
PTFE - Polytetrafluor ethylene	++	++
PUR - Polyurethane	+	+

++ resistant + resistant to a limited extent 0 not tested, preliminary trials or resistance tests are recommended -- not resistant

The specified resistance levels are based on laboratory tests and literature notices. A guarantee cannot be provided 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. In critical application cases, we recommend that you carry out tests and/or consult with our application technology department.

Technical Data

Consistency assignment (DIN 51818)	NLGI-Class 1
Colour	copper
Thickener	Aluminium complex soap
Basic oil	Mineral oil
Solid lubricant	Copper / Graphite
Coefficient of friction (acc. to DIN 946)	0,11 - 0,13
Coefficient of friction total	0,12 μ
Coefficient of friction thread	0,11 µ
Coefficient of fricti- on on upside down	0,13 μ
VKA-Test (DIN 51350) / Welding load	3200 N
Density	1,1 g/cm <sup>3</sup>
Kinematic viscosity basic oil (+40°C/+104°F DIN 51562)	180 mm²/s
Drop point (IP 396)	+180°C (+356°F)
Worked penetration (DIN ISO 2137)	310 to 340 1/10 mm
Temperature resistance	-20 to +1.100°C (-4 to +2.012°F)



Packaging	10 g Syringe	30 g Pen	120 g Brush top can	200 ml Press pack	400 g Cartridge	
Anti-Seize	<b>S</b>	5	<b>S</b>	<b>S</b>	<b>`</b>	
Anti-Seize "High Tech"	-	5	<b>S</b>	-	<b>S</b>	
Copper Paste	-	5	5	-	-	

# Anti-Seize

# **Assembly Pastes**

## **Copper Paste**

# Protecting, separating and lubricating agent for highly stressed parts in high-temperature applications



Copper Paste is corrosion resistant and strong. It contains no sulphur, lead or nickel.

WEICON Copper Paste is used as an assembly lubricant for all kinds of threaded joints and sliding surfaces. It forms an effective lubricating and separating film which protects the functional surfaces on plug-in tools, wear bushings, screws, and all kinds of threaded, plug-in and bayonet joints against corrosion and seizing.

It can be used to reduce vibration on brake blocks and guides, brake cams and pins, car and truck battery terminals and other electrical connections, wheel bolts and nuts, and on wear bushings at electrical, compressed air and hydraulic hammers. The product can be used in many industrial applications.

50 g 🕤
26200003
Pen

20 0 0

500 g 26200050 Brush top can

400 ml 🧹 27200400 Spray

120 g 💉 26200012 Brush top can





10,0 kg 26200910 Bucket







## High performance greases

Product	Page
AL-F	254
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# WEICON Allround Lubricant ALW

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Fathten

asteld.

Spezialschmierstoff und Korrosionsschut auch für Unterwasseranwendungen Special lubricant and corrosion protection, also for underwater applications

400 g Art.-No.: 26450040 1,5 kg Art.-No.: 26450150 5,0 kg Art.-No.: 26450500

25,0 kg Art.-No.: 26450925

Srx W fortune stillares distan. WECON + 3E-LES' Motor\*

Allround Lubrican

ALW

# High performance greases Allround Lubricant



### Allround Lubricant

Even in the present "High-tech age" problems due to friction and wear are a matter in a lot of industrial sectors. Extensive repairs, longer downtimes, shorter maintenance intervals and lower serviceable lives of plant and equipment are the consequence and cause enormous costs every year.



Therefore it is important to already fulfil the requirements for long-term operational dependability of plant and equipment in the development and construction phase.

During the technical design of movable plant and equipment elements, the lubricant should be viewed as being a calculable functional element and must be included within the terms of reference under the aspects of friction and wear.

A plant operator needs to guarantee a disturbance-free and damage-free operation. The working life of lubricated machine parts depend to a decisive extent upon the selection and the use of the right lubricant.

Modern high performance lubricants, which meet the constantly increasing demands placed on plant and equipment, are thus increasingly gaining in significance.

The main demand placed upon such high performance lubricants is the maximum power transmission with minimal friction and minimal wear.

Moreover, additional properties such as water resistance, chemicals' resistance, plastics compatibility or protection against corrosion must be observed.

WEICON Allround Lubricant high performance greases are specially developed to meet these high demands.

They provide sustained protection against friction and wear and thus enable:

- extremely long re-greasing intervals
- increased functional dependability and the retention of the value of the machine and production plants.
- reduction of the maintenance and repair work
- improved economic efficiency



# Allround Lubricant

The following influential factors of tribological systems and their complex interactions must be taken into account when selecting the appropriate WEICON product.

- design specifications, e.g. type of material, surface properties, geometry of the components
- mechanical stress,
- e.g. speed, vibration, pressure
- environmental influences, e.g. temperature, moisture, dirt accumulation

Technical product information, a type selection table as well as basic information about "Tribology" can be found on the following pages.

Constant further development and advancement in line with the latest practical and environmental demands additionally guarantee a constantly high quality standard.



## AL-F

#### Allround product, NSF approval

WEICON AL-F can be used to lubricate rolling and sliding bearings, joints, levers, sliding guides, spindles, spline shafts, camshafts, open gears, worm gears and all grease lubrication points, even in the food industry.



Clearance certificate for the application in the food industry, according to the USDA H2

400 g 🥑

26550040

Cartridge

Advanced Laboration SLF Transmission and a second product of the second pro- ment of second product of the second product of the Index for the second birth and the second product of the second product of the second product of the second results are being a related product of the second product of the second results are being a related product of the second product	Altround Lubricant AL-F	Reference Laboration M-T Sector Sector Protocol, etc. Wey difference instantion of the Mandalement and the difference instantion of the Mandalement and the difference - Address of the Mandalement and the Mandalement - Address of the Mandalement - Ad
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1,0 kg 🧹

26550100

Can

KLF 2K -30

white

3600 N

3400 N

0,8 mm 350 000

1 - 90

280 + 15 1/10 mm

Lithium soap/mineral oil

5,0 kg 🧹

26550500

Bucket

Basis

Colour

350 g 🧹

26550035

Can

**Technical Data** 

VKA-Test (DIN 51350) welding load

Worked penetration (DIN ISO 2137)

VKA-Test (DIN 51350) goods load

VKA-Test (DIN 51350) Spherical cap value (1 Min/1000)

Water resistance (DIN 51807)

Speed identifying value

~		

Temperature resistance	-30 to +120°C (-22 to +248°F)
Drop point (IP 396)	>190°C (+374°F)
Kinematic viscosity (DIN 51 562) +40°C (+104°F)	approx. 100 mm <sup>2</sup> /s
Kinematic viscosity (DIN 51 562) +100°C (+212°F)	approx. 9 mm <sup>2</sup> /s
EMCOR-corrosion test (DIN 51 802)	0 / 0
Density at +20°C (+68°F) (DIN 51757)	0,90 g/cm <sup>3</sup>
Conforms to	NSF-H 2, LMBG Section 31 and Section 5
Shelf life at least	24 months

## AL-H

#### High temperature resistant, NSF approval, odourless and tasteless

WEICON AL-H is suitable for rolling bearings, sliding bearings, joints, spindles, spline shafts and linear guidance systems at all sliding speeds permitted for grease lubrication.

WEICON AL-H is particularly suited for usage in foodstuff technology.



Clearance certificate for the application in the food industry, according to the USDA H1

1,0 kg 🥑

Can

-
-

5,0 kg 🥑

Bucket

400 g 🥑 26500100 26500040 Cartridge

25,0 kg 🥑 26500500 26500925 Bucket

#### **Technical Data**

Abbreviation (DIN 51502)	KPHC 1P -40
Consistency assignment (DIN 51818)	NLGI-class 1
Basis	Aluminium complex soap polyalphaolefine
Colour	yellowish-white
VKA-Test (DIN 51350) welding load	1800 N
VKA-Test (DIN 51350) goods load	1700 N
VKA-Test (DIN 51350) Spherical cap value (1 Min/1000)	0,6 mm
Speed identifying value	400 000
Worked penetration (DIN ISO 2137)	310-340 1/10 mm
Water resistance (DIN 51807)	1 - 90
Temperature resistance	-40 to +160°C (-40 to +320°F)
Drop point (IP 396)	>200°C (+392°F)
Kinematic viscosity (DIN 51 562) +40°C (+104°F)	approx. 400 mm <sup>2</sup> /s
Kinematic viscosity (DIN 51 562) +100°C (+212°F)	approx. 40 mm²/s
EMCOR-corrosion test (DIN 51 802)	1/1
Density at +20°C (+68°F) (DIN 51757)	0,93 g/cm <sup>3</sup>
Conforms to	NSF-H 1, LMBG Section 31 and Section 21
Shelf life at least	24 months

#### **Technical Data**

Abbreviation (DIN 51502)	KF 2 K-20
Consistency assignment (DIN 51818)	NLGI-class 2
Basis	Li/Ca-Soap/MoS <sub>2</sub> / mineral oil
Colour	black
VKA-Test (DIN 51350) welding load	3200 N
VKA-Test (DIN 51350) goods load	3000 N
VKA-Test (DIN 51350) Spherical cap value (1 Min/1000)	0,5 mm
Speed identifying value	250 000
Worked penetration (DIN ISO 2137)	265-295 1/10 mm
Water resistance (DIN 51807)	1 - 90
Temperature resistance	-20 to +120°C (-4 to +248°F)
Drop point (IP 396)	>170°C (+338°F)
Kinematic viscosity (DIN 51 562) +40°C (+104°F)	approx. 185 mm <sup>2</sup> /s
Kinematic viscosity (DIN 51 562) +100°C (+212°F)	approx. 14 mm <sup>2</sup> /s
EMCOR-corrosion test (DIN 51 802)	0/0
Density at +20°C (+68°F) (DIN 51757)	0,92 g/cm <sup>3</sup>
Shelf life at least	24 months



# High performance greases Allround Lubricant

# AL-M

#### Strong adhesion, high pressure resistant, with MoS<sub>2</sub>

WEICON AL-M reduces friction and wear for a long time and is suited for rolling and slide bearings, joints, levers, sliding guides, spindles, camshafts, spline shafts, springs, open gears, worm gears and at all sliding speeds permitted for grease lubrication.



# AL-T

#### Long-term lubrication, high temperature resistant

WEICON AL-T high performance grease is a universally usable high temperature grease for long-term lubrication.

WEICON AL-T is suitable for rolling and sliding bearings, joints, levers, sliding guides, spindles, spline shafts and at all sliding speeds permitted for grease lubrication.



Abbreviation (DIN 51502)	KPL 2 R -20
Consistency assignment (DIN 51818)	NLGI-class 2
Basis	Aluminium complex soap / mineral oil
Colour	dark-brown
VKA-Test (DIN 51 350) welding load	2400 N
VKA-Test (DIN 51350) goods load	2200 N
VKA-Test (DIN 51350) Spherical cap value (1 Min/1000)	2,0 mm
Speed identifying value	400 000
Worked penetration (DIN ISO 2137)	265-295 1/10 mm
Water resistance (DIN 51807)	0 - 90
Temperature resistance	-25 to +190°C (-13 to +374°F)
Drop point (IP 396)	>210°C (+410°F)
Kinematic viscosity (DIN 51 562) +40°C (+104°F)	approx. 230 mm <sup>2</sup> /s
Kinematic viscosity (DIN 51 562) +100°C (+212°F)	approx. 16 mm <sup>2</sup> /s
EMCOR-corrosion test (DIN 51 802)	0/0

Density at +20°C (+68°F) (DIN 51757) 0,94 g/cm<sup>3</sup>

Shelf life at least

Technical Data

#### Technical Data

looninou butu	
Abbreviation (DIN 51502)	KPL 1-2 E -25
Consistency assignment (DIN 51818)	NLGI-class 1-2
Basis	Spec. calcium soap / mineral oil
Colour	beige
VKA-Test (DIN 51350) welding load	3400 N
VKA-Test (DIN 51350) goods load	3200 N
VKA-Test (DIN 51350) Spherical cap value (1 Min/1000)	0,7 mm
Speed identifying value	350 000
Worked penetration (DIN ISO 2137)	285-315 1/10 mm
Water resistance (DIN 51807)	0 - 40
Temperature resistance	-25 to +80°C (-13 to +176°F)
Drop point (IP 396)	>100°C (+212°F)
Kinematic viscosity (DIN 51 562) +40°C (+104°F)	approx. 100 mm <sup>2</sup> /s
Kinematic viscosity (DIN 51 562) +100°C (+212°F)	approx. 9 mm <sup>2</sup> /s
EMCOR-corrosion test (DIN 51 802)	0/0
Density at +20°C (+68°F) (DIN 51757)	0,94 g/cm <sup>3</sup>
Conforms to	Federal German Armed Forces TL 9150-0066, NATO specification G-460
Shelf life at least	24 months







24 months

-	
1	
-	Allround
-	Lubricant
	ALW
-	Mathematics and Korrosionschaft

60 g Art NE: 25450040

Alfround Lubric

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# High performance greases Allround Lubricant

# AL-W

#### Special lubricant for underwater applications

AL-W high performance grease is a special lubricant and corrosion protection which can also be used for underwater applications.

WEICON AL-W offers effective protection against aggressive liquids such as sea or wastewater, both in the maritime sector and in wet plants.

WEICON AL-W is suitable for rolling and sliding bearings even in mixed friction operation, for joints, levers, sliding guides, spindles, spline shafts, open gears, worm gears, chains and wire cables and at all sliding speeds permitted for grease lubrication.





1,0 kg 🕤 26450100 Can 5,0 kg 🕥 26450500 Bucket



Catalogue WEICON 25



# Type selection table

	AL-T	AL-M	AL-W	AL-H	AL-F
Rolling bearings	•	•	•	•	•
Sliding bearings	•	•	•	•	•
Chains			•		
Joints	•	•	•	•	•
Levers	•	•	•	•	•
Sliding guides	•	•	•	•	•
Linear guide systems	•			•	
Spindles	•	•	•	•	•
Spline shafts	•	•	•		•
Camshafts		•			•
Springs		•			
Open gears		•	•		•
Worm gears		•	•		•
Cables			•		

		AL-T	AL-M	AL-W	AL-H	AL-F
Abbreviation (DIN 51502):		KPL 2 R -20	KF 2 K –20	KPL 1-2 E -25	KPHC 1P -40	KLF 2K -30
Consistency assignment (DIN	51818):	NLGI-Klasse 2	NLGI-Klasse 2	NLGI-Klasse 1-2	NLGI-Klasse 1	NLGI-Klasse 2
Base:		Aluminium complex soap / mineral oil	Li/Ca soap / MoS <sub>2</sub> / mineral oil	Spec. calcium soap / mineral oil	Aluminium complex soap / polyalphaolefine	Lithium soap / mineral oil
Colour:		darkbrown	black	beige	yellowish-white	white
VKA Test	Welding load:	2400 N	3200 N	3400 N	1800 N	3600 N
(DIN 51 350):	Goods load:	2200 N	3000 N	3200 N	1700 N	3400 N
	Spherical cap value (1 Min / 1000 N)	2,0 mm	0,5 mm	0,7 mm	0,6 mm	0,8 mm
Speed identifying value (k <sub>a</sub> · n	· d <sub>m</sub> ):	400 000	250 000	350 000	400 000	350 000
Worked penetration (DIN ISO	2137):	265-295 1/10 mm	265-295 1/10 mm	285-315 1/10 mm	310-340 1/10 mm	280 <u>+</u> 15 1/10 mm
Water resistance (DIN 51807)		0 - 90	1 - 90	0 - 40	1 - 90	1 - 90
Temperature resistance:		-25°C to +190°C (-13 to +374°F)	-20°C to +120°C (-4 to +248°F)	-25°C to +80°C (-13 to +176°F)	-40°C to +160°C (-40 to +320°F)	-30°C to +120°C (-22 to +248°F)
Drop point (IP 396):		>210°C (+410°F)	>170°C (+338°F)	>100°C (+212°F)	>200°C (+392°F)	>190°C (+374°F)
Kinematic visosity	+40°C (+104°F)	approx. 230 mm²/s	approx. 185 mm²/s	approx. 100 mm²/s	approx. 400 mm²/s	approx. 100 mm²/s
(DIN 51 562):	+100°C (+212°F)	approx. 16 mm²/s	approx. 14 mm <sup>2</sup> /s	approx. 9 mm <sup>2</sup> /s	approx. 40 mm <sup>2</sup> /s	approx. 9 mm²/s
Salt spray test with separated prote Armed Forces Regulations 336 h/3	ective coats (Federal German 85°C, 5% NaCl):			no corrosion		
EMCOR-corrosion test (DIN 5	1 802):	0 / 0	0 / 0	0 / 0	1/1	0 / 0
Density at +20°C (+68°F) (DIN	51757):	0,94 g/cm <sup>3</sup>	0,92 g/cm <sup>3</sup>	0,94 g/cm <sup>3</sup>	0,93 g/cm <sup>3</sup>	0,90 g/cm <sup>3</sup>
Conforms to:		./.	./.	Federal German Armed Forces TL 9150-0066, NATO specification G-460	NSF-H 1, LMBG Section 31 and Section 21	NSF-H 2, LMBG Section 31 and Section 5
Shelf life at least (months)*:		24	24	24	24	24



# High performance greases Allround Lubricant

# **Technical Specifications**

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Catalogue WEICON



## Manual for the determination and classification of lubricating greases in accordance with DIN 51 502



3

Lubricating grease	Identifying letter	Symbol		
Lubricating greases for rolling and sliding bearings and sliding surfaces in ac- cordance with DIN 51825	K <sup>1)</sup>	For lubricating greases based on mineral oil		
Lubricating greases for closed gears in accordance with DIN 51826	G			
Lubricating greases for open gears, gearing (adhesive lubricants without bitumen)	OG			
Lubricating greases for sliding bearings and seals <sup>2</sup> )	М			
Lubricating greases with a synthetic base are classi- fied like the aforementioned greases based on mineral oil in terms of the basic properties.	Addition to the identifying letters in accordance with Table 1, Material group 3	For lubricating greases with a synthetic oil base		
<sup>1)</sup> ISO/TR 3498: 1986 uses the letters XM for the identifying letter K				

2

1	2
Additional identifying number	lower application temperature
-10	-10°C (+14°F)
-20	-20°C (-4°F)
-30	-30°C (-22°F)
-40	-40°C (-40°F)
-50	-50°C (-58°F)
-60	-60°C (-76°F)

1	2			
Consistency identifying number (NLGI classes in accordance with DIN 51818)	Worked penetration determined based on DIN ISO 2137 units <sup>1)</sup>			
000	445 to 475			
00	400 to 430			
0	355 to 385			
1	310 to 340			
2	265 to 295			
3	220 to 250			
4	175 to 205			
5	130 to 160			
6	85 to 115 <sup>2)</sup>			
<sup>1)</sup> 1 unit = 0.1mm / <sup>2)</sup> Stationary penetration				

#### Additional identifying letters for synthetic oils

E	organic ester
FK	perfluor liquids
HC	synthetic hydrocarbons
PH	esters of phosphoric acid
PG	polyglycol oils
SI	silicon oils
Х	others



1	2			
Additional identifying letter	Lubricants			
D	For lubricating oils with detergent additives, e.g. hydraulic oil HLPD			
E	For lubricating oils, which are used mixed with water, e.g. water mixable cooling lubricants, e.g. SE cooling lubricant			
F	For lubricants with a solid lubricating additive (such as graphite, molybdenum sulfide), e.g. oil lubricant CLPF			
L	For lubricant oils with active substances to increase the protection against corrosion and/or the aging stability, e.g. lubricant oil DIN 51517 – CL 100			
м	For water mixable cooling lubricants with mineral oil contents, e.g. SEM cooling lubricant			
S	For water mixable cooling lubricants with a synthetic base, e.g. SES cooling lubricant			
Р	For lubricants with active substances to reduce the fric- tion and wear in the mixed friction area and/or to increase the stability under load, e.g. CLP 100 lubricating oil			
V <sup>1)</sup>	For lubricants, which are diluted with solvents, e.g. DIN 51513-BB-V lubricating oil			
<sup>1)</sup> The additional identifying letter V sometimes necessitates labelling in accordance with the Hazardous Substances Act (GefStoffV).				

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# High performance greases Allround Lubricant

1	2	3			
Additional identifying letter	upper application temperature <sup>1)</sup>	Behaviour with water in accordance with DIN 51807 Part 1 Evaluation scale DIN 51807 – 2)			
С	160°C (1140°E)	0-40 or 1-40			
D	+00 C (+140 F)	2-40 or 3-40			
E	, 90°C (, 176°E)	0-40 or 1-40			
F	+60 C (+776 F)	2-40 or 3-40			
G	100°C (+ 010°E)	0-90 or 1-90			
Н	+100°C (+212°F)	2-90 or 3-90			
K	100°C (+ 040°E)	0-90 or 1-90			
М	+120 C (+240 P)	2-90 or 3-90			
N	+140°C (+284°F)				
Р	+160°C (+320°F)				
R	+180°C (+356°F)	by arrangement			
S	+200°C (+392°F)	by an angement			
Т	+220°C (+428°F)				
U	more than +220°C (+428°F)				

<sup>1)</sup> The "upper application temperature" for permanent lubrication is equal to the highest test temperature when testing in accordance with DIN 51806 part 2 (e.g. draft) and/ or DIN 51821 part 2, if the test runs are passed.

2) 0 means no change 1 means slight change

2 means moderate change 3 means considerable change



## **Miscibility of WEICON Allround Lubricant with other greases**

Optimum results with WEICON Allround Lubricant high performance greases can only be achieved following the complete removal of grease residues. However, in practice the complete removal of such grease residues is not always possible. In this case you must check whether the WEICON product envisaged for use is always compatible with the grease that is still present. This test must be carried out on the basis of the main components of the grease (basic oil and thickener). Both main components must be miscible (compatible).

#### Miscibility of basic oils

Basic oil	Mineral oil (AL-M, AL-W, AL-F, AL-T)	Polyalpha- olefine (AL-H)	Ester	Polyglycol	Silicone (Metyhl)	Silicone (Phenyl)	Polyphenyl- ether	Perfluoro- polyether oil
Mineral oil AL-M, AL-W, AL-F, AL-T)		++	++	0	0	+	0	0
Polyalphaolefine (AL-H)	++		++	0	0	0	0	0
Ester	++	++		++	0	++	++	0
Polyglycol	0	0	++		0	0	0	0
Silicone (Metyhl)	0	0	0	0		+	0	0
Silicone (Phenyl)	+	0	++	0	+		++	0
Polyphenyl- ether	0	0	++	0	0	++		0
Perfluoro- polyether oil	0	0	0	0	0	0	0	

++ miscible + miscible to a limited extent 0 not miscible

#### **Miscibility of thickeners**

Thickening agents	Ca soap (water-free) (AL-W)	Ca complex soap	Li soap (AL-F)	Li complex soap	Li/Ca soap (AL-M)	Na soap	Gels*	Ba complex soap	Al complex soap (AL-H, AL-T)	Polyca- barmide
Ca soap (water-free)(AL-W)		++	++	++	++	0	++	++	0	++
Ca com- plex 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 com- plex soap	++	++	++	++	++	++	++		++	++
Al complex soap (AL-H, AL-T)	0	0	0	++	0	0	0	++		++
Polycabarmide	++	++	++	0	++	++	++	++	++	

++ miscible 0 not miscible

## WEICON lubricants and their behaviour vis-à-vis sealing materials (elastomers)

	AL-T	AL-M	AL-W	AL-H	AL-F
ACM - Acrylate rubber	++	++	++	++	++
CR - Chloroprene rubber	+	+	+	+	+
CSM - Chlorosulfonated PE rubber	++	++	++	++	++
EPDM - Ethylene propylene diene rubber					
FKM - Fluorocaoutchoc	++	++	++	++	++
NBR - Nitrile butadiene rubber	++	++	++	++	++
NR - Natural rubber	0				
SBR - Styrene butadiene rubber	0				
SQM/MVQ - Silicone rubber	++	++	++	++	++

++ resistant + resistant to a limited extent 0 not tested, preliminary trials or resistance tests are recommended - not resistant

#### WEICON lubricants and their behaviour vis-à-vis polymer materials AL-T ABS - ABS copolymeride ++ CA - Cellulose acetate ++ EPS - Expanded polystyrene ++ PA - Polyamide ++ PC - Polycarbonate ---PE - Polyethylene ++ PE-UHMW - Polyethylene with ultra high molar mass ++ PE-LD - Polyethylene with low density + PET - Polyethyleneterephtalate ++ POM - Polyoxylmethylene ++ PP - Polypropylene ++ PPO - Polyphenylene oxide ++ PS - Polystyrene + PTFE - Polytetrafluor ethylene ++

PUR - Polyurethane + PVC - Polyvinylchloride ++ TPE - Thermoplastic elastomers 0

++ resistant + resistant to a limited extent 0 not tested, preliminary trials or resistance tests are recommended - not resistant The stated resistance levels are based on laboratory tests and literature notices. A guarantee cannot be provided 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. In critical application cases we recommend that you carry out tests and/or consult with our application technology department

# High performance greases Allround Lubricant

AL-M	AL-W	AL-H	AL-F
++	++	++	++
++	++	++	++
++	++	++	++
++	++	++	++
		+	
++	++	++	++
++	++	++	++
+	+	++	+
++	++	++	++
++	++	++	++
++	++	++	++
++	++	++	++
+	+	++	+
++	++	++	++
+	+	++	+
++	++	++	++
0	0	0	0



## Point of Sale



Other





2210 mm





Equipment proposal. Supply of the displays is without products.



Repair Sticks 115 g (12 pc.)

Cable Stripper S 4-28 Multi (12 pc.)



Flex + Bond (20 pc.)

SDTS 250 ml (9 pc.)

1 1

Cyanoacrylate Adhesive 30 g (20 pc.)

(12 pc.)

Cyanoacrylate Adhesive 12 g (25 pc.)



2170 mm



# **Product Presentation**

# Point of Sale



Cable Stripper S 4-28





Wire Stripper No.5 (12 pc.)



WEICONLOCK® 50 ml (24 pc.)

WEICONLOCK® 20 ml (24 pc.)



Cartriges 290-310 ml (12 pc.)

# WEICON



## **Trade fairs**

The international focus of our company is shown by the large number of exhibitions we participate in. Please visit us at one of the trade fairs. Each year, WEICON is present at more than

50 events at home and abroad. For more information regarding our current exhibitions, please visit www.weicon.com.



ONS, Stavanger Norway



Siel Expo, Tunesia



T.I.T., Romania



Eisenwarenmesse, Cologne



Russian Industry, Russia



Automechanica. Dubai



WIN, Istanbul, Turkey



Manofactoring, Indonesia

#### A) General terms and conditions

§ 2 Offers and conclusion of contracts

#### § 1 General

 Our terms and conditions of sale ("Terms and Conditions") only shall apply. Terms and conditions of the customer that conflict with or deviate from our Terms and Conditions will not be recognised by us unless we have expressly agreed to them in writing. Our Terms and Conditions shall apply even if we should effect delivery without reservation to the customer despite our having knowledge of customer's terms and conditions which conflict with or deviate from our own Terms and Conditions. Customer's terms and conditions which connict with or deviate from our own in 2. All agreements made between ourselves and the customer relating to the execution of an order must be made in writing. 3. Where the customer is a business entity within the meaning of § 24 AGBG (German Act Governing General Terms and Conditions of Business), our Terms and Conditions shall also apply in all future business with the customer. 6.0 Often and executions of excitatest

1. Our offers are without obligation on us unless indicated otherwise in the order confirmation. We agree 1. Our others are without obligation on us unless indicated otherwise in the order continuation. We agrit to be bound by specially prepared offers for a period of thirty calendar days from the date of the offer.
2. Where an order is to be seen as an offer within the meaning of § 145 BGB (German Civil Code), we may accept it within 14 calendar days by issuing our order confirmation or by delivering the ordered goods. After expiring the period, the offer shall be deemed to have been refused. If we do not issue an order confirmation, our invoice shall be valid as order confirmation. 3. We reserve tile and copyright to all illustrations, dvanings, calculations and other documents. This also applies to such written documents as are indicated as "confidential". Documents and such like may be passed on to third parties only with our prior express written consent. If so requested by us, documents must be returned to us, whereby no copies thereof may be retained by the customer. § 3 Prices

1. Unless indicated otherwise in the order confirmation, our prices are quoted "ex works" exclusive of packing; packing and transport will be charged for additionally. 2. Our prices are quoted exclusive of VAT; VAT will be charged at the statutory rate 2. Our prices are quoted exclusive of VAI; VAI will be charged at the statutory rate in force on the day of billing and shown in the invoice as a separate item.
3. If the agreed delivery date is more than six months after the date of conclusion of contract or if delivery can only be effected after expiry of such period for reasons for which the customer is responsible, our prices which are valid on the day of delivery or on the day on which the goods are made available shall apply. Should a price increase exceed the rise in the cost of living index, the customer shall have the right to repudiate the contract. § 4 Delivery times

1. A delivery time quoted by us shall not start until all technical questions have been clarified. A derivery time quoted by us start for start unit at technical questions have been claimed.
 Delivery times or dates shall only be binding on us if agreed in writing.
 Should the customer fall into delay with acceptance of delivery or fail to fulfil any of his other duties to assist, we shall have the right to claim compensation for any loss as well as any additional expenses incurred by us. In this case, also the risk of accidental loss or accidental deterioration of the goods shall pass to the customer at the time at which he falls into delay with acceptance § 5 Shipment and passing of risk

The risk shall pass to the customer on hand-over of the goods or at the time when the customer falls into delay with acceptance.
 Packing will be as customary in the trade. It will be charged for separately at cost and is non-returnable. The customer shall have a duty to take care of disposal of packing at his own expense. § 6 Liability

 All liability on our part for breach of duties arising from minor negligence shall be barred except where material contractual duties, damage or injury to life, limb or health, guarantees or claims under the Product Liability Act are concerned. The same shall also apply to breaches of duty committed on the part of our legal representatives and vicarious agents.
 Should operating or maintenance instructions and mixing recommendations not be complied with, changes made to the products, parts be replaced or consumption materials used, all warranty on our part shall lanea unless the customer is able to rifte a duty substantiated warranty on our part shall lapse unless the customer is able to refute a duly substantiated assertion that a defect would not have arisen but for any of the reasons of the aforesaid kind. 3. Liability for normal wear and tear is barred.

 Claims on account of a defect in a used item shall lapse one year from delivery of the item.
 Claims based on any other grounds than a defect in the item itself shall lapse after one year.
 In deviation from Fig. 1 and Fig. 2, the statutory periods shall apply if liability is claimed on grounds of wilful intent or a given guarantee § 8 Res nuation of title

1. We reserve title to the item of sale until receipt of all payments arising from the delivery contract. In the event of any breach of contract by the customer, in particular any delay in payment, we shall have the right to take back the item of sale. Taking-back or garnishment by us of an item of sale which was unplied by us or the applied by the customer of tild obtild how an experiment of the applied by the customer of tild obtild how and the result of any other to the applied by the customer of tild obtild how and the result of the applied by the customer of the applied by t the right to take back the item of sale. Taking-back or garnishment by us of an item of sale which was supplied by us subject to our reservation of title shall always constitute repudiation of the contract. After taking back an item of sale, we shall have the right to dispose of it otherwise, whereby the sale proceeds will - after the deduction of reasonable realisation costs - be credited towards the customer's liabilities. 2. The customer shall have a duty to notify us without delay in writing of any garnishment of items to which we reserve title as well as of any other intervention by third parties and to inform the garnisher of our reservation of title. Should the third party be unable to reimburse us for the court and out-of-court costs of legal action pursuant to § 771 ZPO (Code of Civil Procedure), the customer shall be liable for the loss incurred by us. 6 a Parment § 9 Payment

 Except as may be agreed otherwise, our invoices are due and payable with 2 % cash discount within 8 days from date of invoice or without any discount within 30 days from date of invoice.
 We expressly reserve the right to refuse cheques and bills of exchange. Cheques and bills of exchange will only be accepted on account of payment. All discount or bill expenses shall be borne by the customer and be due and payable immediately. 3. In the event of justified doubts concerning the creditworthiness of the customer, in particular if the customer should fail to honour a cheque or if he should cease payments, we shall have the right the customer should fail to honour a cheque or if he should cease payments, we shall have the right to make all outstanding amounts due for payment immediately even if we have accepted cheques. We shall also have the right to demand payment in advance or the provision of security. 4. If the customer should finally and absolutely cease payments and/or if proceedings in bankruptcy or court-supervised or out-of-court composition proceedings are applied for against him, we shall also have the right to repudiate the contract in respect of that part which has not yet been fulfilled. 5. Should the customer default on payment, we shall have the right to claim interest on arrears in accordance with the statutory provisions. If we are able to show having incurred higher loss through default, we shall have the right to claim therefor. 6. The customer shall only have the right of offset if his own counterclaims have been finally and absolutely established at law, are undisputed or have been recognised by us. The customer shall also only have a right to withhold payment insofar as his counterclaim derives from one and the same contractual relationship. § 10 Data processing § 10 Data processing

We shall have the right to store and/or process in accordance with data protection law all data received relating to the customer § 11 Salvation clause

Should any of the provisions of these Terms and Conditions be or become invalid, this shall have no effect on the validity of any other provision or on the validity of the agreement between the customer and ourselves.

#### B) Special provisions relating to business entities

In relations with business entities, the following provisions shall additionally apply:  $\S$  1 Warranty

1.Defects in items of delivery including the handbooks and other documents will, in response to 1.Defects in items or delivery including the nanobooks and other documents will, in response to corresponding notification by the user, be remedied by the supplier within the statutory period of two years from delivery. Remedy will be done at buyer's option by either cost-free repair or replacement. In the case of replacement, the buyer shall have a duty to return the defective item.
2. If the defect cannot be remedied within a reasonable period of time or if replacement must be deemed for other reasons to have failed, the buyer may, at his option, claim a reduction in price or repudiate the contract. Remedy may not be deemed to have failed if the supplier has been granted sufficient opportunity to effect repair or replacement without the desired effect having been achieved, if repair or replacement is impossible. impossible, if repair or replacement is refused or unreasonably delayed by the supplier, if justified doubts regarding the likelihood of success exist or if unreasonableness must be assumed on other grounds. § 2 Duty to examine and give notice of defects

In the case of bilateral mercantile transactions, the warranty rights of the customer shall be dependent upon his having duly fulfilled his duties to examine and give notice of defects pursuant to §§ 377, 378 HGB (German Commercial Code). Notice of defects must be made in writing. § 3 Liability

Liability on our part for unforeseeable loss or damage shall be barred except on grounds of wilful breach of duties, damage or injury to life, limb or health, guarantees or claims under the Product Liability Act. § 4 Reservation of title

In addition to the provisions of A) § 8, the following shall also apply: a) We reserve title to items supplied by us until such time as all of our claims against the customer arising on any legal grounds whatsoever have been fulfilled. b) In deviation from A) § 8, the taking-back of items of purchase from registered traders shall not constitute repudiation of the contract unless expressly stated by us in writing as doing so. We shall have the right, irrespective of the claim to performance due to us on expiry of a period of time allowed to the customer fails to fulfil his obligation towards us or to do so punctually and/or if the customer acts in an inadmissible manner on items delivered to him subject to reservation of title. If the customer fails to fulfil his obligation towards us or to do so function of title. delivery if the customer fails to fulfil his obligation towards us or to do so punctually and/or if the customer acts in an inadmissible manner on items delivered to him subject to reservation of title. If the customer has fulfilled the contract, we shall have a duty to release the items to him. c) If items have been delivered for a commercial pursuit carried on by the customer, the items may be resold in the normal course of business. In this case, however, the customer already hereby assigns to us, in the amount of the total invoice value (including VAT) of our claim, all claims accruing to him against his customers or third parties from resale of the items of purchase, regardless of whether they have been resold with or without any prior further processing. Where the items are resold on credit, the customer shall reserve title to the items to purchase, regardless of whether they have been resold with or without any prior further processing. Where the items are resold on credit, the customer shall reserve title to the items to wards his customer from such reservation of title. d) Any processing of items which are subject to our reservation of title ("reserved goods") by the customer shall be deemed done on our behalf but without giving rise to any costs for us. Where reserved goods are processed, combined or mixed with other goods at the time of processing, combination or mixing. Where the customer acquires sole ownership to a new item, it is agreed that the customer shall grant us co-title thereto in the same proportion as taforesaid and shall keep the item on our behalf without this giving rise to any costs for us. Where reserved goods, whether with or without any prior processing, combination or mixing, the anticipatory assignment agreed in Fig. 3 Letter c shall only apply up to the invoice value of the reserved goods are resold together with the other goods. e) Where reserved goods are incorporated as an integral part into the real property of the customer hereby already assigns to us the claims arising nore than 10 %, whereby the choice of securities to be released shall lie with us § 5 Passing of risk

 Unless indicated otherwise in the order confirmation, it is agreed that delivery will be effected "ex works".
 The risk shall pass to the customer as soon as the consignment has been delivered into the custody of the person effecting transport or has left our works for the purpose of shipment. If, on the request of the customer, shipment is delayed or is not effected, the risk shall pass to the customer on our notification of readiness for shipment. 3. Deliveries will, on the request of the customer, be insured in his name and for his account. § 6 Applicable law, legal venue, place of performance

 These Terms and Conditions and the entire business relationship between the custon and ourselves shall be governed by the law of the Federal Republic of Germany.
 The legal venue shall be the courts having jurisdiction for our place of business The regar vertices analyze an above encoder a narrow parabove for our place of basiness in Münster. We shall, however, also have the right to bring legal action against the customer at the courts having jurisdiction for his place of domicile.
 Unless indicated otherwise in the order confirmation, our place of business in Münster shall also be the place of performance

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# DANLUBE A/S "Så ved du det holder"

V<sup>~</sup>}^ÁÚæi\ç^bÁ ÖSË €H€Á⁄<sup>~</sup>}^ V^|ÈXÉÁIÁ€ÁGÍÁFG€ TæäµKág-{Oåæ)|ĭà^Èā\ Y^àKÁ,, Èãæ)|ĭà^Èā\

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Assembly Pastes and Lubricants