

Klüberplex GEM 11-700, 11-700 Arctic

Multipurpose heavy-duty greases for mining and quarrying equipment



Your benefits at a glance

- Meet or exceed all OEM specifications for electric rope shovels and draglines
- Very good wear protection, even at temperatures down to – 45 °C
- Reduced total cost of operation due to lower consumption and increased component life

Your requirements - our solution

As an operator of mining equipment you expect high machine availability, reduced downtime and low maintenance costs. There is a growing trend for the extraction of raw materials to take place in extremely cold climates.

Klüberplex GEM 11-700 and GEM 11-700 Arctic have been designed to protect components on electric rope shovels and draglines operating in the harshest conditions. With very good wear protection, good low-temperature pumpability and excellent adhesion, Klüberplex GEM 11-700 and Klüberplex GEM 11-700 Arctic will keep your equipment running and lower your total cost of operation. Both greases exceed the requirements outlined by P&H 464 and Bucyrus SD 4713. Additionally, Klüberplex GEM 11-700 exceeds the requirement as a multi-service lubricant outlined in the P&H 520 standard.

Application

Typical applications for Klüberplex GEM 11-700 on a shovel or dragline include:

- Open gears found in hoist, crowd, and swing mechanisms
- Dipper handles
- Wire ropes
- Multi-row slewing bearings
- Low to moderate-speed rolling element bearings

- Bushings
- Walk and propel mechanisms

Due to its special composition, Klüberplex GEM 11-700 Arctic is preferably used for the lubrication of gears and plain bearings, however not for rolling bearings.

Application notes

Klüberplex GEM 11-700 and GEM 11-700 Arctic can be applied to the lube point by brush, spatula or industrial metering systems. Single-point lubrication by lever grease gun or lubricant dispensers is also possible. The ambient temperature must be considered when opting for convenient application via central lubrication systems and automatic grease pumps. If you wish to optimise the service life of your equipment or have any other questions regarding your application, our sales engineers will be pleased to provide advice.

Material safety data sheets

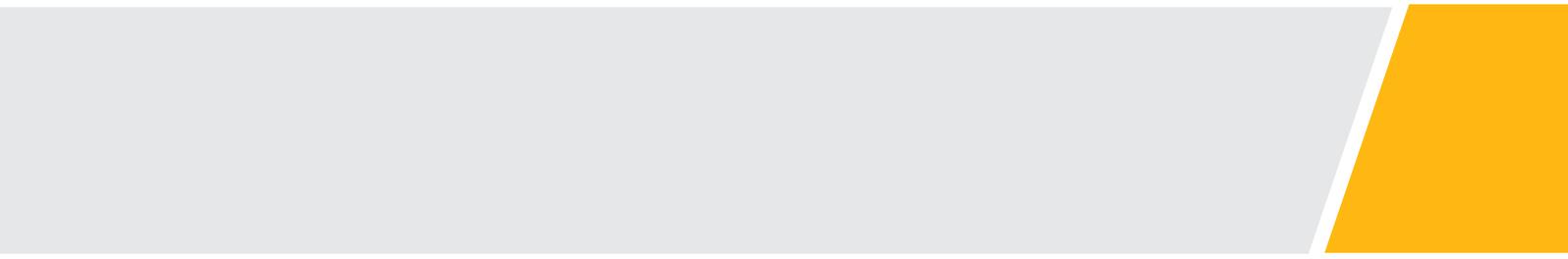
Material safety data sheets can be requested via our website www.klueber.com. You may also obtain them through your contact person at Klüber Lubrication.

Pack sizes	Klüberplex GEM 11-700	Klüberplex GEM 11-700 Arctic
Cartridge, 400 g	+	+
Bucket 25 kg	+	+
Bucket 50 kg	+	+
Drum 180 kg	+	+

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Product data	Klüberplex GEM 11-700	Klüberplex GEM 11-700 Arctic
Article number	017196	017195
Chemical composition, type of oil	semi-synthetic oil	semi-synthetic oil
Chemical composition, solid lubricant	Special composition of solid lubricants	Special composition of solid lubricants
Chemical composition, thickener	aluminium soap	aluminium soap
Lower service temperature	-35 °C / -31 °F	-50 °C / -58 °F
Upper service temperature	50 °C / 122 °F	50 °C / 122 °F
Colour space	black	black
Density at 20 °C	approx. 0.93 g/cm ³	approx. 0.90 g/cm ³
Worked penetration, DIN ISO 2137, 25 °C, lower limit value	355 x 0.1 mm	not measurable x 0.1 mm
Worked penetration, DIN ISO 2137, 25 °C, upper limit value	385 x 0.1 mm	not measurable x 0.1 mm
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 40 °C	approx. 680 mm ² /s	approx. 680 mm ² /s
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 100 °C	approx. 40 mm ² /s	approx. 40 mm ² /s
Copper corrosion, ASTM D4048, (lubricating grease), 24h/100 °C	1b corrosion degree	1b corrosion degree
Four-ball tester, welding load, ASTM D 2596	>= 800 kgf	>= 800 kgf
Four-ball tester, wear factor, based on ASTM D 2266, 75 °C, 1200 rpm, 40 kg, 60 min, wear scar diameter	<= 0.7 mm	<= 0.8 mm
US Steel Retention Test, US Steel DM51 (4g, no refill, 33lbs, 30min)	passed	
Load wear index ASTM D 2596	>= 120	>= 120
Low-temperature pumpability (Lincoln Ventmeter), 30 s, -15 °C	<= 600 psi	
Low-temperature pumpability (Lincoln Ventmeter), 30 s, -40 °C		<= 600 psi
Flow pressure of lubricating greases, DIN 51805-2, test temperature: -35 °C	<= 1 000 mbar	not measurable mbar
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	24 months	24 months



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Klüber Lubrication – your global specialist

Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 80 years.

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