

# Klübersynth GE 44-50, 44-51, 44-52

Special gear greases for robots, power tools and industrial gears



## Your benefits at a glance

- High scuffing protection also under shock loads
- Longer maintenance intervals due to excellent wear protection in gears and rolling bearing contacts
- Reduced wear due to special liquid-molybdenum additive without solid matter
- Reduced energy consumption due to exceptionally low breakaway torque also at low temperatures
- Low base oil viscosity optimises lubricant flow to the friction point to extend component life
- Carefully designed seal compatibility protects against leakage throughout gearbox life

## Your requirements - our solution

As a manufacturer or operator of industrial robots as are employed in production or packaging lines you are facing challenging requirements with regard to the robots' precision gears. Compact gearbox design is often paired with increasing requirements calling for the selection of a matching lubricant. Klübersynth GE 44-50, Klübersynth GE 44-51 and Klübersynth GE 44-52 were especially developed for high-precision gears, such as those used in robots and machine tools. The special greases consist of synthetic hydrocarbon oil and a special lithium soap. They also contain a special liquid-molybdenum additive free of solid matter for a long service life and protection against fatigue damage. The Klübersynth GE 44 series was also tested for compatibility with elastomers such as NBR and FKM - good compatibility was confirmed. Due to the wide variety of elastomers, however, compatibility should be checked, especially prior to series application.

## Application

Klübersynth 44-50, Klübersynth GE 44-51 and Klübersynth GE 44-52 can be used for the long-term lubrication of precision gears, for example in robots in the automotive industry, in electronics or other industrial sectors. Since most of these sectors are reluctant to use

silicone-containing products, this substance is not part of the formulations of the Klübersynth GE 44 series.

Offering the lowest consistency class, Klübersynth GE 44-50 was especially developed for the relubrication of precision gears in industrial robots. The Klübersynth GE 44 series may also be used for the lubrication of power tools and industrial gears.

## Application notes

You can apply Klübersynth GE 44 products by grease gun, spatula, brush or automatic lubricant dispensers. We recommend testing the pumpability of these products in automatic lubrication systems. Please do not hesitate to contact our specialists in this matter.

The great variety of paint systems as well as customer-specific testing criteria for paint compatibility require a paint compatibility test to be conducted by the user prior to every series application.

## Material safety data sheets

Material safety data sheets can be requested via our website [www.klueber.com](http://www.klueber.com). You may also obtain them through your contact person at Klüber Lubrication.

Pack sizes	Klübersynth GE 44-50	Klübersynth GE 44-51	Klübersynth GE 44-52
Can 1 kg	+	+	+
Bucket 23 kg	+	+	
Drum 160 kg	+	+	

# Klübersynth GE 44-50, 44-51, 44-52

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Characteristics	Klübersynth GE 44-50	Klübersynth GE 44-51	Klübersynth GE 44-52
Article number	012385	012336	012357
Composition, thickener	lithium soap	lithium soap	lithium soap
Composition, type of oil	synthetic hydrocarbon oil	synthetic hydrocarbon oil	synthetic hydrocarbon oil
Appearance	transparent	transparent	transparent
Colour space	green	red	red
Texture	homogeneous	homogeneous	homogeneous
Service temperature, lower limit	-40 °C	-40 °C	-40 °C
Service temperature, upper limit	120 °C	120 °C	120 °C
Density, Klüber method: PN 024, 20°C	approx. 0.86 g/cm <sup>3</sup>	approx. 0.86 g/cm <sup>3</sup>	approx. 0.86 g/cm <sup>3</sup>
Worked penetration, DIN ISO 2137 / ASTM D217, 25°C, lower limit	355 0.1 mm	290 0.1 mm	255 0.1 mm
Worked penetration, DIN ISO 2137 / ASTM D217, 25°C, upper limit	385 0.1 mm	320 0.1 mm	285 0.1 mm
Shear viscosity, Klüber method: PN 008@DIN 53019-1, equipment: rotational viscometer, 25°C, 300 s <sup>-1</sup>	≤ 2500 mPas	≤ 4000 mPas	approx. 4000 mPas
Kinematic viscosity of the base oil, DIN EN ISO 3104 / DIN 51562-1 / ASTM D445 / ASTM D7042, 100°C	approx. 8 mm <sup>2</sup> /s	approx. 8 mm <sup>2</sup> /s	approx. 8 mm <sup>2</sup> /s
Kinematic viscosity of the base oil, DIN EN ISO 3104 / DIN 51562-1 / ASTM D445 / ASTM D7042, 40°C	approx. 50 mm <sup>2</sup> /s	approx. 50 mm <sup>2</sup> /s	approx. 50 mm <sup>2</sup> /s
Copper corrosion, DIN 51811, 24 h, 120°C	≤ 2 - 120 - 24 corrosion degree	≤ 2 - 120 - 24 corrosion degree	≤ 2 - 120 - 24 corrosion degree
FZG scuffing test, DIN ISO 14635-3, A / 2.8 / 50, failure load stage	≥ 12		
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	24 months

## 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 90 years.

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