

Klübersynth® BR 46-82

Low and high-temperature grease for drive-by-wire technology in the automotive sector

Benefits for your application

- Low-cost alternative to greases based on perfluorinated oils for high-temperature applications
 - Reliable operation over a wide temperature range
 - Lifetime lubrication also at permanent high temperatures
 - Good wear protection in steel-steel material pairings allowing reliable component operation
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Application

Klübersynth BR 46-82 is a special grease development for the long-term lubrication of automotive brake system components. The product ensures problem-free operation at temperatures from -40 °C to $+180\text{ °C}$, with short-term peaks up to 250 °C .

For the development of this new lubricant, the special requirements of drive-by-wire technology were taken into account, e.g. operation in ball screws, vertically mounted rolling bearings and drive gears. As a result, lubrication of several points in a module can be accommodated via the application of a single grease type.

Description

Klübersynth BR 46-82 consists of a mixture of polyglycol and ester oil and a lithium complex soap with good media resistance. Due to the low viscosity of the base oil, components run smoothly also at low temperature.

The lubricant also contains highly effective antiwear additives.

The base oil can be mixed with brake fluid DOT 3, 4 and 5.1. It is compatible with EPDM elastomer materials.*

Application notes

The lubricant is applied by spatula, brush or grease gun. If automatic lubrication systems are to be used, please check pumpability beforehand.

We suggest compatibility checks be undertaken with contact materials in particular prior to series application.

Minimum shelf life

The minimum shelf life is approx. 24 months if the product is stored in its unopened original container in a dry, frost-free place.

Pack sizes

1 kg can
25 kg bucket
50 kg bucket

Material safety data sheets

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



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Product data	Klübersynth BR 46-82
Classification of lubricating greases K acc. to DIN 51825 and DIN 51502	KPE/PG1/2 N -40
Base oil, thickener	PAG oil / ester oil lithium complex soap
Color	beige
Minimum service temperature**, [°C], approx.	-40
Maximum service temperature** for rolling bearings acc. to DIN 51825, [°C], approx.	+140
Maximum service temperatures** for applications other than rolling bearings*, [°C], approx.	+ 180
Base oil viscosity, Ubbelohde DIN 51562, at 40 °C, [mm ² /s] approx.	82
Base oil viscosity, Ubbelohde DIN 51562, at 100 °C, [mm ² /s] approx.	13
Worked penetration after 60 double strokes, DIN ISO 2137, [0.1 mm]	280-310
Drop point, DIN ISO 2176, [°C]	> 250
Density at 20 °C, [g/cm ³], approx.	1
Flow pressure of lubricating greases at -40 °C, DIN 51805, [mbar]	<1000
Anticorrosive effect, DIN 51802 (SKF-EMCOR), Test duration: 1 week, distilled water, corrosion degree	0
Copper corrosion (lubricating grease), DIN 51811, after 24 h / 100 °C, corrosion degree	1-100
Water resistance, 3h, 90 °C, DIN 51807, rating	≤1-90
Speed factor *** (n x dm), [mm x min ⁻¹], approx.	1 x 10 ⁶

* It should be noted that elastomers supplied by one or different manufacturers may perform differently in practice. Consequently, a general compatibility with the materials used cannot be assumed and must be checked individually.

** Service temperatures are guide values which depend on the lubricant's composition, the intended use and the application method. Lubricants change their consistency, apparent dynamic viscosity or viscosity depending on the mechano-dynamical loads, time, pressure and temperature. These changes in product characteristics may affect the function of a component.

*** Speed factors are guide values which depend on the type and size of the rolling bearing type and the local operating conditions, which is why they have to be confirmed in tests carried out by the user in each individual case.


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With more than 2000 products available around the world, you can be sure that Klüber has the right product for your application. Please contact Klüber Lubrication specialists worldwide to assist you in all matters regarding lubrication.

www.klueber.com

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