

# BLUESIL GRS 33 NG

<b>Description</b>	<b>BLUESIL GRS 33 NG</b> consists of a silicone fluid thickened with a lithium soap. It is especially designed for use in lubrication of ball-bearings and bearings operating at high or low temperatures (from - 70°C up to + 200°C).
<b>Examples of applications</b>	<ul style="list-style-type: none"> <li>• Greasing of ball bearings or moving parts operating under severe weather conditions or working at extreme high or low temperatures: ski lift-carrier shafts, freezing equipment, electric motors, windscreen wipers, motor gears, rotating beacons for airport runways, valves in the petroleum industry.</li> <li>• Greasing of precision equipment in which the grease consistency must be nearly constant: aircraft switches, geo physical instruments, cameras, photographic equipment.</li> <li>• Lubrication of ball-bearings which must operate at the same speed under very low to very high temperatures: clockwork mechanisms, x-ray equipment, synchronized motors.</li> </ul>
<b>Key benefits</b>	<ul style="list-style-type: none"> <li>• Resistance to heat: slight lowering of viscosity with increasing temperature but does not decompose and gives a long service life.</li> <li>• Very little change in consistency with temperature: does not stiffen when cold, does not thin out at high temperatures.</li> <li>• Resistance to oxidation, moisture and corrosive atmospheres.</li> <li>• Good shear stability.</li> <li>• Compatible with many plastics.</li> </ul>

## Typical properties

<i>Properties</i>	<b>BLUESIL GRS 33 NG</b>
<b>Composition</b>	Polysiloxane and Lithium soap
<b>Colour</b>	Off white
<b>Specific gravity (At 25°C, approx.)</b>	0,97
<b>Penetration worked (1/10e mm, approx.)</b>	280
<b>Penetration after 24 hours (1/10e mm, approx.)</b>	250
<b>Bleed after 24 hours (At 150°C, %, approx.)</b>	1
<b>Volatiles after 24 hours (At 150°C, %)</b>	< 3
<b>Minimum drop point (°C, approx.)</b>	226
<b>Low temperature limit (°C, approx.)</b>	-70
<b>High temperatures limit (°C, approx.)</b>	+ 200

Please note: The typical properties are not intended for use in preparing specifications. Please contact our local Sales Department for assistance in writing specifications.

<b>Instruction of use</b>	<p>Best results are obtained in using <b>BLUESIL GRS 33 NG</b> if the following precautions are observed.</p> <p><b>a) Cleaning</b> Generally, <b>BLUESIL GRS 33 NG</b> is not compatible with mineral greases; so, in case of use on bearings already working, it is advised to carefully remove old grease before packing with <b>BLUESIL GRS 33 NG</b>.</p> <p><b>b) Processing</b> <b>BLUESIL GRS 33 NG</b> can be applied by using conventional grease methods: brushing, grease gun or automatic application.</p>
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**BLUESIL GRS 33 NG** is soluble in aromatic and aliphatic hydrocarbons. This allows its application by spraying or by dipping.

### **c) Amounts of grease to be used**

As for mineral greases, the optimum efficiency of the grease is obtained with a predetermined level of filling. In practice it is found that bearing must be packed as follows taking into account their sizes:

- Size less than 75 mm: the bearing should be packed with grease between one third and half the capacity.
- Size more than 75 mm: the bearing should be packed with grease between one half and three quarters of capacity.

### **d) Rotational speed**

The performance of **BLUESIL GRS 33 NG** depends not only on the rotational speed but also on the size of the bearing. It is therefore useful to take into account the speed factor which is; bore size in mm x r.p.m. **BLUESIL GRS 33 NG** is especially designed for lubrication of bearings running at a speed with the following maximum speed factors:

- 200 000 for small diameters
- 150 000 for large diameters.

Good results have been obtained for small bearings running at 70 000 r.p.m. thus showing its good resistance to centrifugal force.

### **e) Load**

**BLUESIL GRS 33 NG** does not give good results under high loads. A bearing lubricated with **BLUESIL GRS 33 NG** must not be used under a load higher than one third of its normal loading so as to assure a long service life.

### **f) Expansion effect**

It is found that the service life of **BLUESIL GRS 33 NG** is by an increase in the load caused by difference in the expansion of the inner cage compared with the outer especially when the bearing works at high temperature. It is therefore necessary to make allowance for the difference in expansion. It is obviously not the case for bearings manufactured from special steels.

### **g) Behavior at low temperatures**

**BLUESIL GRS 33 NG** is highly recommended for use at low temperature. It does not stiffen and therefore the bearing will have low torque. The table below gives some typical low temperature torque. The table below gives some typical low temperature torque properties measured as described in specification ASTM-Method D 1476 when using **BLUESIL GRS 33 NG** having an average consistency.

Temperatures	Starting torque (Nm)	Running torque (Nm)
-70°C	164 x 10 <sup>-3</sup>	22 x 10 <sup>-3</sup>

### **Notes:**

1. **BLUESIL GRS 33 NG** should not be applied to surfaces which are to be painted.

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2. **BLUESIL GRS 33 NG** is not recommended for the lubrication of taps and valves for oxygen systems. This is because silicones in contact with oxygen under pressure may cause explosions.
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**Regulation** Please consult your local ELKEM SILICONES sales office.

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**Limitations** Please consult your local ELKEM SILICONES sales office.

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- Packaging**
- BLUESIL GRS 33 NG is available in
    - Box of 5 KG (11.03 LB)
    - Pail of 25 KG (55.13 LB)
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**Storage and shelf life** When stored in its original packaging:  
BLUESIL GRS 33 NG may be stored at a temperature below 40°C / 104°F for up to 60 months from its date of manufacturing.  
Comply with the storage instructions and expiration date marked on the packaging. Beyond this date, Elkem Silicones no longer guarantees that the product meets the sales specifications.

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**Safety** Please consult the Safety Data Sheet of:  
BLUESIL GRS 33 NG

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**Warning to the users**

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