

# BREOX SL RANGE

## INTRODUCTION

The **BREOX SL GRADES** consist of a range of ISO VG lubricants formulated to provide the user with superior performance under demanding operating conditions. Water soluble polyalkylene glycol base stocks, known to provide outstanding micropitting and EP characteristics are used to manufacture these lubricants. With the addition of a high performance, food approved additive package these products are able to offer excellent thermal stability, high wear reduction rates, high micropitting resistance and load carting ability as well as good corrosion protection.

## SUITABLE APPLICATION AREAS

The **BREOX SL** range have been specially formulated for use as industrial gearbox lubricants within the food manufacturing environment. As such they have achieved approval within a number of different gear designs, these include:

- Helical
- Bevel Helical
- Planetary
- Worm Gears

In addition, the versatility exhibited by the **BREOX SL GRADES** means that the materials find use in a number of different applications, these include:

- Fill for life, disposable gearboxes
- Compressors – Both rotary screw and reciprocating
- Textile lubricants
- Chain and conveyor lubricants
- Kiln and oven lubricants

## PHYSICAL AND PERFORMANCE DATA

	BREOX SL 68	BREOX SL 150	BREOX SL 220	BREOX SL 320	BREOX SL 460	BREOX SL 680	BREOX SL 1000
Viscosity @40°C (ASTM D445)	68	150	227	339	477	725	1000
Viscosity @ 100°C (ASTM D445)		25	41.9	60.6	83	122.2	725
VI (ASTM D2270)	214	232	242	252	262	272	284
Pour Point (ASTM D97)	-51	-47	-42	-39	-36	-33	-30
Flash point (COC)	284	284	284	282	284	287	296
Density @ 15°C (Kg/L)		1.057	1.057	1.062	1.067	1.072	1.089
TAN (Mg KOH g-1)	0.2 max	0.2 max	0.2 max	0.2 max	0.2 max	0.2 max	0.2 max

Test attribute		Result	Tested product	Test attribute		Result	Tested product	
4-Ball wear scare (40 Kg 1 Hr)		0.32mm 0.33mm	SL 150 SL 320	Flender Foam	Clean	<5%	SL320	
					2% Tribol 800	<5%		
					4% Tribol 800	<10%		
					2% Tribol 1390	<5%		
					4% Tribol 1390	<5%		
					2% Alphasyn SP 200	<10%		
					4% Alphasyn SP 200	<5%		
Oxidation stability (ASTM D2893)		0.09 % increase V <sub>k</sub> 40°C	SL 320	Paint Compatibility (P22-8050 Anthrazitbraun)		Pass	SL220	
Falex Pass load stage		1000 lb 1000 lb	SL 150 SL 320	Seal test	Static	FKM 585	Hardness +1	SL 220
							Swell +0.5	
						NBR 902	Hardness +2	
					Dynamic 1000 hr	FKM 585	Swell -0.3	
							Leakage Nil	
						NBR 902	Load change -11.4	
FZG load stage	A/8.3/90	>12	SL 220 SL 460	Flender Worm Gear test		Load L3	SL 1000	
				T59		Speed S5		
	A/16.6/90	>12	SL 220			Load L3	SL 460	
	A/16.6/140	12	SL 220	T60		Speed S5		
Loctite sealant test		Pass	SL220					
FZG micropitting @90°C	Load stage	10	SL 220	Foam generation (ASTM D892)	Seq I Seq II Seq III	20:0	SL 320	
	Endurance	10	SL 220			0:0		
FZG micropitting @60°C	Load stage	10	SL 220	Air Release @ 75°C		22 min	SL 320	
	Endurance	10	SL 220	Radicon worm gear efficiency		86%	SL 320	
Evaporation loss (ASTM D972)		0.8 %	SL 320	FE-8 roller bearing		Roller 3 mg Cage 7 mg	SL 320	

## **APPROVALS**

The **BREOX SL GRADES** are fully approved and listed as such by the following gearbox OEM's.

David Brown	Type G Lubricant.
Flender (SL 150 – SL1000)	For use in Helical, Bevel Helical, Planetary and Worm gearboxes.

Further details concerning these approvals can be provided on request.

## **FLUSH PROCEDURE**

When changing from a mineral oil or PAO based product to one of the **BREOX SL GRADES**, the following procedure should be followed:

The system should be run until the old oil is warm, then drain as fully as possible, particular attention being paid to reservoirs, lines etc., where oil may be trapped. The system should be cleaned of residual sludge.

Flush the system with the minimum quantity of **BREOX SL** by operating under no load, then drain the system whilst the fluid is warm. Repeat if necessary.

Seals, etc., should be inspected and if deteriorated then replaced. Seals previously exposed to other oils may shrink when exposed to **BREOX SL** fluids, therefore it may be advantageous to replace them however this is not mandatory, careful inspection of the system for leaks will often suffice. It is useful to inspect the lubricant after one or two days in use to make sure that it is free of extraneous materials. Contamination with significant quantities of other lubricants can, in some cases, lead to sludging, foaming and other problems.

## **MATERIALS COMPATIBILITY**

Polyurethane based elastomers, leather, cork, asbestos, paper and board should be avoided. Common seal and gasket materials are unaffected by Breox Industrial Lubricants. Nitrile Rubber (NBR), Fluoro-Silicone or Vinyl-Methyl Polysiloxane (Q) are recommended especially where high temperatures are involved.

Ordinary industrial paints soften in the presence of these products. Internal gearbox surfaces should ideally be unpainted, or coated with resistant materials, for example a resistant two-pack epoxy formulation.

These products must never be mixed with mineral oil or PAO based products.

## **Remarks**

### **Handling & Safety:**

For all relevant health and safety data and handling information, reference is made to the Material Safety Data Sheet (MSDS) for this product, additional copies of which are available on request.

### **Storage:**

## **Revision-No.**

1.6-08.2004 Effective August 18, 2004

The product can be stored for at least 2 years at ambient storage conditions and temperature without any deterioration.

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