

## Recommendations Regarding Lubricants for Marine Gearboxes

B198283 Rev.08 in 06-2021

The below mentioned lubrication oils are suitable for use in the marine gearboxes by RENK Rheine. The recommendation is based on a theoretical verification of the test results furnished by the lubricant manufacturers. RENK does not accept any responsibility in the event that the delivered lube oils deviate from these 'technical properties'.

It may be possible that the technical properties of the used lubricant change over the time. Continuous monitoring and analyses of the lubricants are the responsibility of the operator. RENK recommends an oil analysis (e.g. ICP) done via lubricant supplier every 3 month.

Lube oils that are not listed below have not been verified for suitability by RENK.

If the lubricant will be changed for a different one listed below the gearbox must be flushed in a suitable manner. The lubricant manufacturer will provide appropriate procedure.

The details contained in the product data sheets or safety data sheets issued for the lubricants must be complied with. The latest version of such data sheets is always available with the lubricant producer.

General requirements made by RENK and theoretically proved based on manufacturer information:

- Observance of values given in DIN 51517-3 – CLP
- High FZG failure load stage / DIN 51354 A/8,3/90  $\geq 12$
- GFT class (micro-pitting resistance) / FVA-54  $\geq 10$  (High)
- Suitable for the roller bearings built into the gearbox / FE8 Test DIN 51819-3  $< 30$  mg
- Suitable for use in slide bearings
- Compatible with the seals (NBR type)
- Compatible with the inside painting applied by RENK (2K-EP based)
- Filterable with the filtration system of the gearbox
- Low tendency to foaming (foaming characteristics) and good air separation capability
- Low pour point
- Only for gearboxes with build in multiple disc clutch: Suitable with multiple disc clutch Test Ortlinghaus ON 9-2-10:  $\mu_{\text{dynamic}} \geq 0,08$  /  $\mu_{\text{static}} \geq 0,12$



### Attention!

Using not recommended oils can affect the gearbox due to failure of toothing or bearings or clutches! Using an oil out of table 1 for gearboxes without multiple disc clutch(es) can destroy the clutch due to low friction value! Please keep care!



### Attention!

Mixing different lubricants changes their properties and is not allowed. It affects the gearbox due to failure of toothing or bearings or clutches!



### Attention!

Alternative lubricants based on given general requirements can be checked by the lubricant manufacturer. Please contact your local representative!

Table 1: lube oil recommendation table

Revision 06.2021		Viscosity Range The needed viscosity class is documented inside order related manual and also on gearbox name-plate.			Suitable for gearboxes with multiple disc clutch	
Manufacturer	Type	VG 100 SAE 30	VG 150 SAE 40	VG 220 -	YES VG 100	NO
	CLP	ECO GEAR			X	-
		100 M	150 M	220 M		
	PAO	ALPHASYN			X	-
		HG 100	HG 150	HG 220		
	CLP	ALPHA			-	X
		SP 100	SP 150	SP 220		
	PAO	SHC			X	-
		627	629	630		
	CLP	Mobilgear 600			-	X
		XP 100	XP 150	XP 220		
	CLP	RENOLIN			-	X
		100	150	220		
	CLP	Omala Oil			-	X
		S2 G 100	S2 G 150	S2 G 220		
	PAO	Omala Oil			-	X
		-	S4 GXV 150	S4 GXV 220		
	EO	Gadinia S3			X	-
		30	40			
	CLP	Carter EP / (EPONA Z)			-	X
		100	150	220		
	CLP	MEROPA			-	X
		100	150	220		
	CLP	MEROPA MG			X	-
		100	150	200		
	CLP	Klüberoil GEM 1 N			-	X
		100	150	220		
	PAO	Klübersynth GEM 4 N			-	X
		100	150	220		
	CLP	GulfSea Gear Oil			X	-
		100	150	220		

PAO = poly- $\alpha$ -olefine / CLP = mineral oil / EO = engine oilActual revision: <https://www.renk-group.com/goto/cd-7e105e>

Revision	Item	Cause	Approved by
08		- add Shell Omala S4 GXV - add GulfSea Gear oil	RTE-He 08.06.2021