

Marine lubricants.

## Rada XMP



**Mineral lubricant with extreme sulfur-phosphorus additives, developed for all types of steel gears in marine environments, in a closed sump with special protection against micropitting.**

### > Use

- Rada XMP is especially recommended for all types of steel gears in marine environments in sealed gearboxes operating under harsh service conditions and subject to high impact loads or high constant or intermittent forces, such as those operating at very high loads and speeds.
- Its excellent properties for withstanding extreme pressures make it indispensable for certain heavily loaded gearboxes at low speeds, where there is a risk of micropitting as can occur in certain marine gearboxes.

### > Benefits

- Excellent lubricant properties. Reduces the coefficient of friction under thin film lubrication conditions.
- Special protection against micropitting events.
- Excellent demulsibility properties.
- Extraordinary thermal and oxidation stability. Prevents sludge from forming at high temperatures.
- Good anti-corrosive and antioxidant properties in the presence of moisture.
- High resistance to the formation of foams and emulsions with water.
- Facilitates controlled operation and prevents localized corrosion of gear teeth.
- Limits friction losses. Gears have uniform, silent operation.
- It increases the gear life by minimizing the presence of oxidized compounds, wear particles, and deposits in general.
- Excellent compatibility with seal materials

### > Specifications

- DIN 51517 Part 3 CLP
- AIST 224
- MÜLLER WEINGARTEN
- IBERCISA (ISO 220 and 320)
- ISO 12925-1 Type CKC / CKD
- DAVID BROWN S1.53.101 Type E
- AGMA 9005-F16 AntiScuff
- FIVES CINCINNATI P-Specs
- SIEMENS FLENDER AG Rev. 13
- SCHOTTEL (ISO 100 and 150)

### > Physical and chemical properties

Parameter	Units	Method	Rada XMP					
			68	100	150	220	320	460
ISO Grade	-	-	68	100	150	220	320	460
Density at 15 °C	Kg/l	ASTM D-4052	0.886	0.892	0.896	0.899	0.904	0.907
Flash Point, C.O.C.	°C	ASTM D-92	217	229	256	265	245	257
Pour point, max.	°C	ASTM D-5950	-24	-21	-24	-21	-18	-15
Viscosity at 40 °C	cSt	ASTM D-445	65.1	98.1	147.3	215.5	312.7	449.1
Viscosity at 100 °C	cSt	ASTM D-445	8.6	11.2	14.7	18.9	24.2	30.2
Viscosity Index	-	ASTM D-2270	103	100	99	98	98	96
FZG Scuffing Test, Failure Stage	-	DIN 51354-2	>12	>12	>12	>14	>14	>14
FZG Micropitting test, failure stage	-	FVA 54	>10	>10	>10	>10	>10	>10
Corrosion to copper (3h., 100 °C)	-	ASTM D-130	1B	1B	1B	1B	1B	1B
Rust protection	-	ASTM D-665	Pass	Pass	Pass	Pass	Pass	Pass

### > Health & safety and environment

A Material Safety Data Sheet providing information on product hazards, handling precautions, first aid measures, and relevant environmental data is available for this product as per applicable legislation.

The typical values of the characteristics appearing in the table are average values given for guidance purposes only and do not constitute a guarantee. These values may be modified without any prior warning.