Technical Information

Product : **Tikal HP-MG** High Pressure Marine Grease
Date : **06 / 2025** (This document supersedes all older versions.)

Productdescription

Lubricant and corrosion protection in seawater atmospheres and under pressure.
Tikal HP-MG is a mineral oil-based lubricant with calcium soap and extreme pressure additives (EP). It provides long-lasting corrosion protection for components in direct seawater contact.

The EP additives form a hydrophobic reaction layer on the metal surface. This prevents corrosion and repels water.
Tikal HP-MG improves the tribological properties of a material. It reduces friction, reduces wear, and protects against welding.

At high pressures, sulfur (a phosphoric acid derivative) is released from the EP additives.

The released substance immediately reacts on the surface to form metal sulfides/phosphates, forming a layer that prevents welding between two rubbing metallic materials.

- Very good resistance to salt water
- Excellent corrosion protection
- Extreme pressure resistance
- Prevents welding of workpieces
- Wear protection thanks to EP (Extreme Pressure) additives
- Corrosion protection for up to 2 years when stored indoors
- Corrosion protection for up to 1 year when stored outdoors

Applications

Tikal HP-MG is ideal for lubricating moving parts in seawater atmospheres.

Particularly suitable as a lubricant for the following applications exposed to seawater or aggressive environmental conditions:

Steel cables, winches, mooring lines, and cranes
Screws and threaded spindles
Offshore facilities and marinas
Yachts and commercial shipping
Conductor rails and power distributors
Rolling and plain bearings
Pumps and turbines
Winches and reefing systems

Restrictions for applications

Tikal HP-MG conducts very well, no protection against galvanic corrosion.

Pre-treatment and post-treatment

Surfaces should be free of dirt, grease, and dust.
When using the 400ml spray can, shake vigorously and continuously before use.
When using the spray, the solvent evaporates after application, leaving behind a protective film containing the EP additives.
Spray application should be carried out outdoors or with forced ventilation.

Packing

400 g cartridge (grease gun)
400 ml spray can
80 g tube

Technical Data

General	Remarks	Value
Thickener		Calcium soap
Base oil		mineral oil
Color / Appearance		brown
Type of protective film		Pasty
Kin. viscosity base oil 40°C	DIN51562/ASTM D 7042	Ca. 100
Kin. viscosity base oil 100°C	DIN51562/ASTM D 7042	Ca. 9
Walk penetration	[1/10mm] DIN ISO 2137	285-315
Dropping point	IP396 [°C]	>100
Operating temperature	[°C]	-25 and 80
Corrosion test (EMORC) with 3% NaCl solution	Degree of corrosion DIN 51802	0 and 1
VKA welding force	[N] DIN 5130-4	>3000

Certifications / Testing

Four-ball tester (VKA)

To allow surface pressure in the mixed friction range. For the good and welding load, the four-ball tester value is given in [N]. The higher the four-ball tester value of an oil or grease, the better its lubricating effect under pressure load. A conventional industrial gear oil has a viscosity of approximately 2200 N, while the best synthetic high-performance oils of the same viscosity class can reach 3600 N. Alternatively, the test can be conducted to test the anti-wear behavior of a lubricant at lower forces and over a longer operating time.

Dropping point

The dropping point is the temperature at which a lubricant liquefies and begins to "drop." The dropping point does not describe the maximum operating temperature of a lubricating grease. This should always be well below the dropping point to ensure that the dropping point is never reached.

Worked penetration

A method for determining the consistency of lubricating greases. It measures the penetration depth of a standardized cone into a grease sample and is expressed in tenths of a millimeter. Worked penetration is an important parameter for classifying lubricating greases and is used to determine the NLGI grade.

Extended Metal Oxidation Resistance Coating

Test with 3% NaCl solution, which simulates the resistance of metals to salty environments. The metal is exposed to a 3% sodium chloride (NaCl) solution to test how well it is protected against corrosion by salt water or salty air.

Warranty / Liability

Tikal Marine Systems GmbH guarantees that all products conform to specifications within the minimum shelf-life indicated. All technical information and processing information are based on our experience and our tests. We are not liable for consequential damage during application. The user is responsible for checking the suitability of the material for the intended application.

Safety notes

A safety datasheet can be accessed under **www.tikal-online.de**