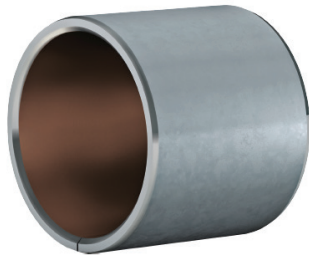
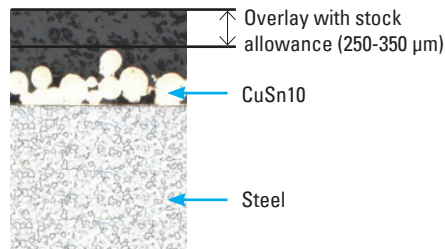


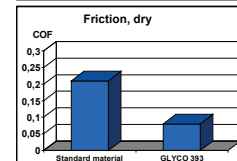
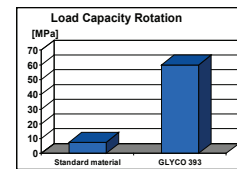
Advanced machinable dry bearing material for high loads and precision requirements



GLYCO® 393 bushing



Photomicrograph of the 3-layer material
(steel back + sliding layer of porous bronze +
compound of thermoplastic (PPS), PTFE and additives)



Challenge

A high number of fluid lubricated applications need to be fit with self lubricating composite material bushings due to mixed friction conditions.

Increasing precision requirements (reduced misalignment or shaft clearance) needs to be achieved.

Increased specific loads are placed on the bearings.

Solution

GLYCO® 393 is a thermoplastic based material with a stock allowance between 150 µm and 250 µm enables the machining of the lining after installation in the housing.

The increased lining thickness without machining can be used in dry applications for extended service life.

Temperature range from -50 to 220 °C

Key Features

- Thermoplastic based material for high load capacity and wear resistance under lubricated and non lubricated conditions.
- High PTFE content for significant friction reduction and for allowing use in unlubricated applications
- Best in class material in performance and enabling of multiple application cases (dry, greased, oiled, machining after assembly).

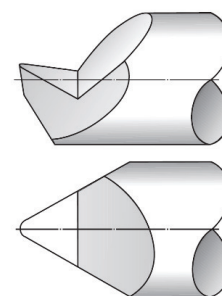
Benefit	Details
High Load capacity	static: max. 250 MPa dynamic: max. 140 MPa
High p.v max. value	p.v max. = 7.5 MPa x m/s under dry running conditions* *Standard F-M test conditions p.v max. can be significantly higher under oiled lubricated conditions
Low Friction coefficient	unlubricated: from 0.05 to 0.10 oil lubricated: from 0.03 to 0.06 grease lubricated: from 0.03 to 0.08

Additional Information

GLYCO® 393 is a three layer composite material. A porous tin bronze sinter structure is applied on a steel back, which is impregnated with a PPS sliding material with friction improving and wear reducing additives. An overlay of the same sliding material is located above the filled bronze structure.

Surface roughness of $R_z = 4 - 6 \mu\text{m}$ achievable through machining of the top layer with the proper process parameter (3000 – 5000 rpm, feed rate of 0,02 mm/rpm) and optimized tool.

Applications: Pumps, transmission, compressors, utility vehicles, etc.
Other applications with risk of high bearing wear



Blade out of PCD
(Polycrystalline diamond)
used in turning centers
for precision machining
of the GLYCO® 393 sliding
surface.