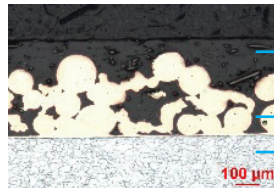


Advanced bearing material for grease and oil lubricated applications under high loads

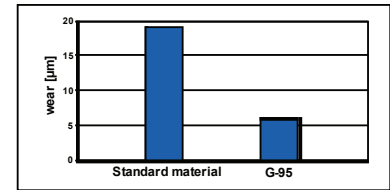


GLYCO® 95 bushing



Compound (30-80 µm)
CuSn10
Steel

Photomicrograph of the 3-layer material (steel back + sliding layer of porous bronze + compound of thermoplastic (PEEK), PTFE, C-fibres and graphite)



- Comparison of abrasive wear performance on GLYCODUR® materials under fluid lubrication showing highest wear resistance of GLYCO® 95

Challenge

Some particular greased or fluid lubricated applications need to be able to endure for long periods very high loads at elevated temperatures.

These operating conditions are reducing significantly the service life when standard materials are used, inducing a risk of material seizure before the application end of life.

Solution

GLYCO® 95 is based on the high performance thermoplastic material PEEK, which has excellent mechanical properties maintained at high temperatures. In combination with other additives, very high wear resistance and load carrying capacity can be reached.

An increased overlay thickness of 30-80 µm offers additional wear reserve, extending service life compared to PTFE-based materials. Temperature ranges from -150 to 250 °C, higher than common thermoplastics.

Key Features

- Usable under severely loaded fluid lubricated or greased conditions
- High pv-value
- Very high wear resistance
- Very high load capacity
- High thermal strength
- Rotating, oscillating and axial motion possible

Benefit	Details
High Load capacity	static: max. 250 MPa dynamic: max. 120 MPa
High wear resistance as well greased as oil lubricated under heavy load	Wear rate < 0.25 µm/km at 60 MPa at 0.125 m/s in greased rotation* *Standard Tenneco test conditions pv max = 40 MPa m/s under lubricated conditions in rotation** **Tenneco specific pump rig test conditions
Friction performances	Grease lubricated: from 0.06 to 0.09

Additional Information

GLYCO® 95 is a three layer composite material. A porous tin bronze sinter structure is applied on a steel back, which is impregnated with a PEEK sliding material with friction improving and wear reducing additives. An overlay of the same sliding material is located above the filled bronze structure.

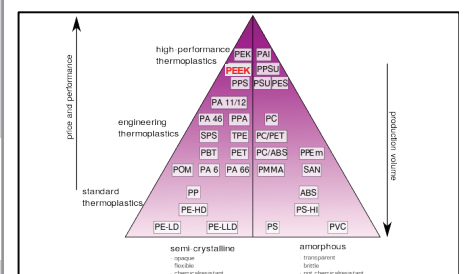
Maximum sliding velocity of 2.5 m/s under greased operation.

In oil lubricated applications, higher values up to 10 m/s or more depending on lubricant supply conditions are possible.

Applications:

- fluid lubricated like pumps, shock absorbers, EGR-valves
- industrial applications

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GLYCO® 95 is using PEEK (Polyether-Ether-Ketone) offering 160 MPa tensile strength as one of the highest performance thermoplastics available today.

