



H-LINER[®] M bushings

SELF-LUBRICATING POLYMER BUSHINGS

Thanks to a special woven structure, these sliding bushings made of composite material insure excellent friction properties and improved wear resistance without external lubrication even under high loads.

Examples of applications

Offshore cranes – Harbor equipment – Rear and front hitches – Harvester – Food industry – Hydropower equipment – Wagon gates – Butterfly gates – Turbine – Chains – Wicket gates – Operating ring – Actuator – Bogie – Brake rigging – Coupling – Car step – Air spring –etc...

Product characteristics

H-Liner[®] M products are manufactured with an homogeneous woven sliding polymer, on the complete wall thickness. Mechanical characteristics are similar to brass and don't require any greasing.

H-Liner[®] M are completely re-machinable and also available as flanged bushings, washers and slides. They are also widely used when low water absorption or misalignment resistance are required

Conditions of use

Static pressure max (MPa)	350
Dynamic pressure max (MPa)	80
Speed (m/s)	0,5
Max PV factor (MPa.m/s)	1
Dry friction coefficient	0.05 – 0.1
Temperature range (°C)	-40°C to 130°C
Thermal expansion coefficient (/K)	4 E⁻⁵
Water absorption (24h)	0.07%

Standard tolerances

Housing	H7 /H8
Shaft tolerances	h7/h8
Optimal shaft roughness	Ra < 0.2 – 0.6

- Nitrocarburising specialist, owner of QPQ[®], TENIFER[®], ARCOR[®], SURSULF[®], TUFFTRIDE[®]...
- Low friction, anti-corrosion coatings: lamellar zinc, PTFE & MoS₂ coatings...
- PVD & CVD coatings expert: DLC (aC:H, TaC), hard coatings (CrN, TiN,...): CERTESS[®]
- Anti-seizure treatment: STANAL[®] 400 (for stainless steel), DELSUN[®] (for bronze and copper alloys)

Advantages of H-Liner® M

- Maintenance free
- Enable machining of pieces with complex shape
- Low water absorption
- Low weight
- Misalignment resistance properties



Assembly instructions

H-Liner® M bushings are best assembled by press fitting or by nitrogen mounting. Other assembly techniques can also be used, (ex: bonding...).

For further information, please contact HEF DURFERRIT prior to use.



Available basic forms

Different forms are available with H-Liner® M technology: cylindrical or flanged bushings, sliding plates, thrust washers...

Mating shaft

H-Liner® M were developed to run without lubrication. Therefore, counter shafts should be treated against corrosion.

For optimal performances, special HEF DURFERRIT shafts are available from HEF: PEL® OX, PEL® OXC...

H-LINER® M for abrasion resistance

- H-Liner® with lips: Patented bushings with integrated seals
- Abrasion resistance higher than standard composite, even without integrated nylon seals



Large testing capabilities and strong R&D

- 60 tribologists and R&D engineers
- More than 30 test benches, customizable tribometers
- Studies in special environment: Cryogenic, high temperature, water, oil, grease, dust ...
- More than 2 500 studies in various industries
- More than 600 patents



The H-Liner® M bushing is based on our experience in the field of tribology. Therefore, it should be tested and validated in your real working conditions before being adopted for permanent use.

