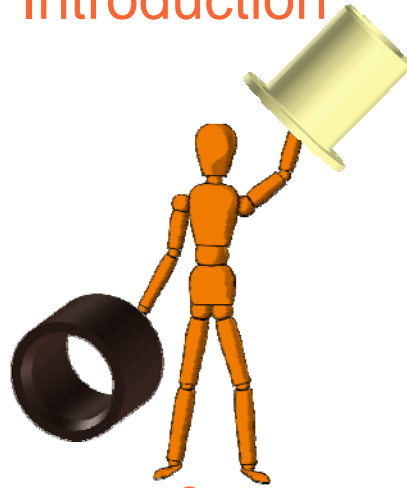


iglidur® Introduction



iglidur® bearings

- what is so special about them?

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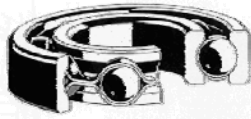
- what is so special about them?
- Where do we see our role in the market?
- Who else is there?



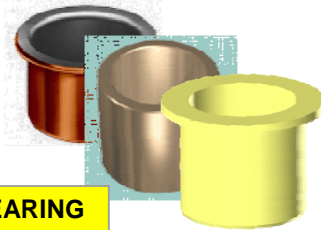
... a first approach

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BEARING



ROLLER BEARING

PLAIN BEARING

- + low friction
- + low clearance
- + high dynamic load

- cost
- dirt sensitive
- not vibration dampening
- lubrication inevitable
- noise
- hardened shaft necessary

- + dry operation
- + dirt/dust resistant
- + vibration dampening
- + short linear strokes possible
- + high static load
- + simultaneous linear and rotating movements possible
- + low weight
- + cost-effective
- + „soft“ shafts possible

- higher friction
- higher clearance

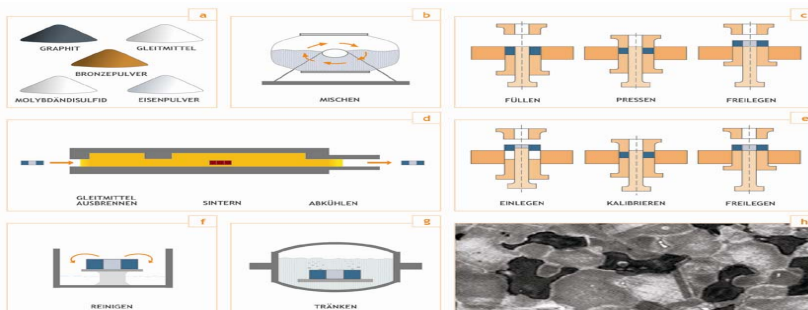
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iglidur® Introduction Sinter-bronze bearings



Manufacture

- Mixing of powdered raw materials (bronze, iron as carrier material, graphite and molybdenum sulphide as lubricants)
- Pressing (by the intensity of the pressure the porosity is determined)
- Sinter: the pressed part gains its hardness in this process (heat treatment)
- calibration of the bearing to assure the dimensional stability and the desired surface
- The bearing is soaked with oil under vacuum
- This manufacturing process is very cheap especially for very big quantities.



tbH 2006

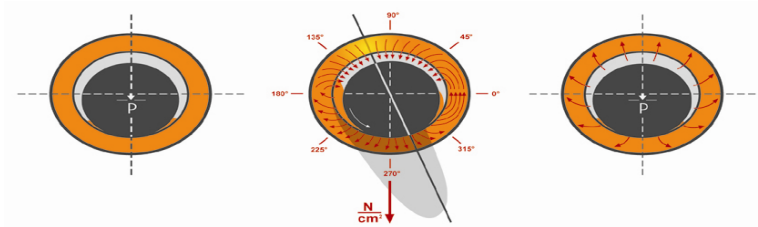
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Sinter-bronze bearings



How they work

- in resting position, the shaft lies directly on the metal wall of the bearing
- at a rotating movements an oil-film is built up which is under a high pressure (so this is a bearing that works with a hydrodynamic film!)
- if the movement stops, the oil partly is being drawn into the porous structure of the sinterbronze (capillary effect)



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Sinter-bronze bearings



• Advantages:

- + low coefficient of friction
- + high precision
- + high rotational speeds possible
- + high PxV value (due to high speeds)

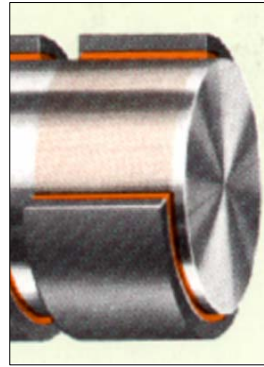
• Disadvantages

- low radial load
- very limited application temperatures
- low chemical resistance
- very sensitive to dust/dirt
- low edge pressure susceptibility
- not suitable for linear or oscillating movements
- vibration- and impact sensitive

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iglidur® Introduction

Composite bearing



Manufacture

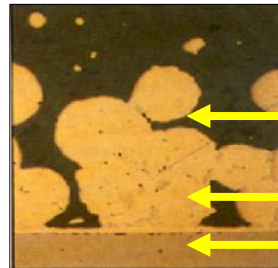
- Production of a sheet material (PTFE-coated metal)
- Punching to the desired dimension
- Bearings: form to give round bushings with a butt joint

Structure

PTFE / lead sliding film
soaked bronze
steel / bronze back

Characteristics

PTFE is transferred to the shaft



sliding film

support

back material

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Composite bearings



• Advantages:

- high specific loads
- good thermal conductivity
- for high ambient temperatures

• Disadvantages

- thin sliding film of only 0,02mm
- coefficient of friction rises with service time
- sensitive to dust/dirt
- sensitive to edge pressure
- corrosion
- not vibration dampening

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iglidur[®] / iglide[®]

self lubricating bearings made from engineered polymers

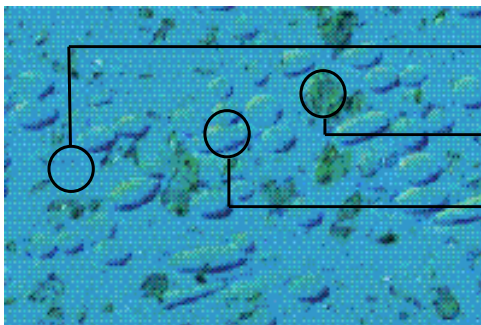


self lubricated
maintenance-free
abrasion resistance
low friction – low wear
corrosion free
good for dirty and dusty
environments
vibration dampening

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What makes iglidur[®] so good?



Thermoplastic
polymer

+ reinforcing
compounds

+ solid lubricants

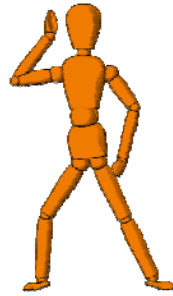
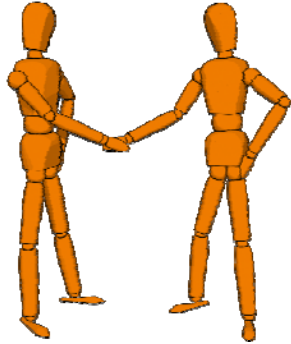
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- **Universal and tailored solutions**
- **Advantages of Polymers are maximized**
- **Disadvantages of Polymers will be minimized or eliminated**

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Questions?
Answers?
Comments?



**Thank you
for your
attention.**