

iglidur® A200

Very Appetising

Suited for direct contact
with foods and pharmaceuticals

Approved by the
FOOD AND DRUG ADMINISTRATION of the USA

Excellent wear resistance

Suited for slow rotating, oscillating
and linear motion

Very Appetising

iglidur A200 bearings have been approved for direct contact with food and pharmaceuticals. They are therefore the ideal solution for bearing locations in machines for the foods and pharmaceutical industry, medical equipment, for small household appliances and many more.

The high level of abrasion and dirt resistance, and the capability to operate under dry conditions make it possible to perform without the expensive complex housings required for lubricated bearings.

iglidur A200 is based on a thermoplastic alloy, which is specifically designed for high abrasion resistance, because the possibility of food contact requires that it must operate without added solid lubricants. (Illustration 6.1) Additionally, iglidur A200 resists dirt ingress and is capable of very quiet operation.

Special Characteristics of iglidur A200

- Suited for direct contact with food and pharmaceuticals
- Approved by the FOOD AND DRUG ADMINISTRATION
- Impact resistant
- Excellent abrasion resistance
- Heavy wall thickness for arduous duties
- Resistant to dirt ingress
- Quiet operation
- Suited for slow rotating and oscillating as well as all linear motion
- Cost effective

p · v Values

iglidur A200 bearings are suited for low and medium loads during continuous operation. Illustration 6.3 shows the permissible p · v values for dry operation. iglidur A200 has a maximum load capacity of 0.3 N/mm² x m/sec. Significantly higher operating speeds are possible for A200 if lubricated (water).

Table 6.1
Maximum surface speeds for iglidur A200 during dry operation

in m/ust	Rotating	Oscillating	Linear
Continuous	0,8	0,8	2
Short duration	1,5	1,5	3

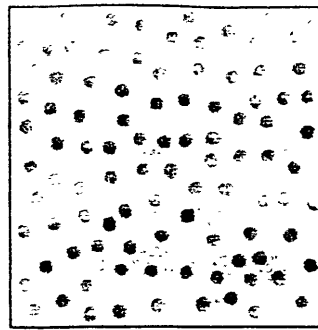


Illustration 6.1
Structure of iglidur A200
Abrasion and impact resistant thermoplastic alloy



Illustration 6.2.
iglidur A200 – Very Appetising
iglidur A200 plain bearings are approved for direct contact with food and drugs.

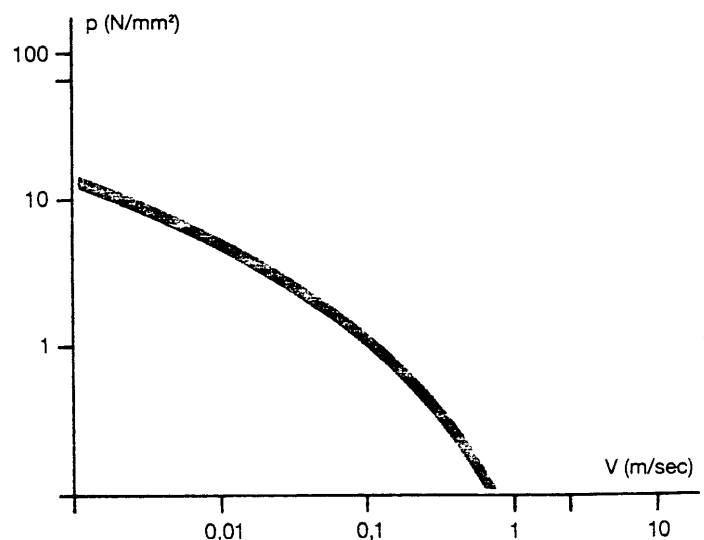


Illustration 6.3
Permissible p · v values for iglidur A200

Compressive Strength

During normal temperatures, iglidur A200 can withstand radial pressures up to 20 N/mm².

During operating temperatures up to 115 °C 12 N/mm² is possible. For limited short duration, load capacity is maintained up to 200 °C. (Illustration 6.4)

igidur A200 flanged bushings are capable of absorbing the same axial pressure. The flange is also used as a start-up disk.

Coefficients of Friction

During dry operation with hardened steel, the dynamic friction value for iglidur A200 falls between 0.30 and 0.40. Lower friction values are reached at slower speeds. Permanent lubrication with water and oil results in a reduction of the friction value to 0.04. (Table 6.2)

Table 6.2

Coefficient of friction for iglidur A200 with steel

	Dry	Grease	Oil	Water
igidur A200	0.30–0.40	0.09	0.04	0.04
Steel shaft: Hardness 50 HRC, Hrms = 1 µm				

igidur A200 features excellent “start-up” characteristics during dry operation.

Operating Temperatures

igidur A200 reaches its highest performance with operating temperatures of 80 °C. The recommended temperature for continuous operation is 115°C. Load carrying capability is maintained during cold temperature operation of -40 °C. (Table 6.3)

Table 6.3

Operating temperatures for iglidur A200

Wear limit °C	Continuous operation °C	Short duration °C
80	115	200

Vibration Dampening Characteristics

igidur A200 features good vibration dampening characteristics due to the thickness of the walls giving quiet operation even with larger tolerances.

Electrical Characteristics

igidur A200 is electrically isolating. The specific resistance is 10¹² Ω cm.

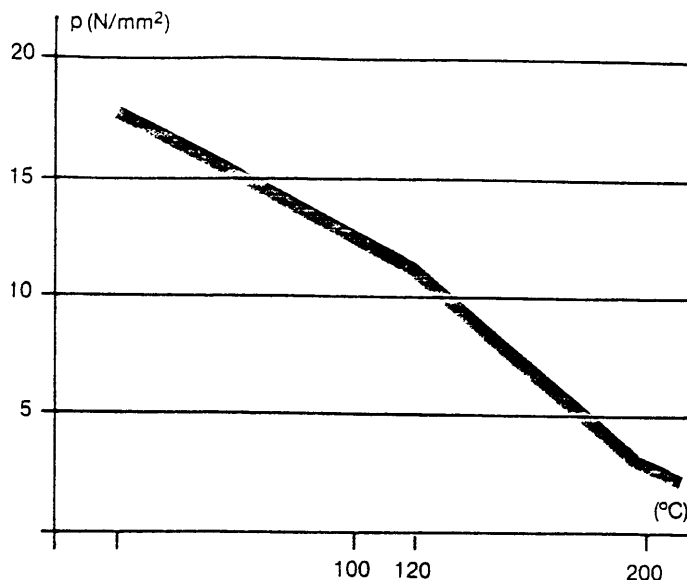


Illustration 6.4

Permissible static unit pressure P as a function of the operating temperature °C for iglidur A200

Radiation Resistance

Certain restrictions must be observed if iglidur A200 is to be used in radioactive environments. Radiation of 10 MRad will affect the material and can result in a 50% reduction of significant mechanical properties.

Vacuum

igidur A200 plain bearings can only be used in a vacuum to a limited degree.

Weather Resistance

igidur A200 is resistant to UV radiation.

Chemical Resistance

igidur A200 is resistant to cleaning agents, benzene, oil, grease, alkaline solutions and acid solution of weak concentration. Refer to page 1.22 for detailed information on resistance values.

Shaft Materials

igidur A200 shows optimum results relative to friction value and wear in conjunction with hardened steel, 50 HRC with average shaft surface finish of Hrms = 1.5 to 3 µm.

igidur A200 bearings may be used in conjunction with stainless steel shafts if surface stresses are relatively low.

Table 6.4 provides an overview of installation dimensions.

Table 6.4
Tolerance fields for iglidur A200

Diameter d1		Shaft (h9)	igidur A200 (D11) ¹⁾
from	1 mm	0	+ 80
to	3 mm	-25 μm	+ 20 μm
over	3 mm	0	+105
to	6 mm	-30 μm	+ 30 μm
over	6 mm	0	+130
to	10 mm	-36 μm	+ 40 μm
over	10 mm	0	+160
to	18 mm	-43 μm	+ 50 μm
over	18 mm	0	+195
to	30 mm	-52 μm	+ 65 μm
over	30 mm	0	+240
to	50 mm	-62 μm	+ 80 μm

¹⁾ After being press-fitted into housing bore H7

igidur A200 bearings require relatively high tolerances for optimum performance. The tolerances ensure reliable performance of the bearings even during temperature deviations and water absorption, 3% in the case of iglidur A200.

igidur A200 bearing bushings are very suitable for being mechanically reworked by boring or turning if the application requires this.



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