



# glebusalloys

## SELF-LUBRICATING BEARINGS FOR FOOD AND BEVERAGE PROCESSING INDUSTRY

Taming friction and wear for smooth and  
efficient operation of your machinery

Revision: October 2022

# GLEBUS ALLOYS

## About us

# glebusalloys

Glebus Alloys manufactures maintenance free, self lubricating bearings, wear plates and bushings. We produce G-Metal®, a material that combines graphite and bronze to form a single self-lubricating metal compound.

The Glebus Alloys technology of sintered metallic graphite impregnated self-lubricating materials originates from a well-known specialty powder metallurgy manufacturer Ceramet founded in 1965 in Poland. Adding up of more than 25 years of own industrial application experience Glebus Alloys manufactures and supplies reliable low friction self-lubricating components, advanced tribological solutions and provides professional application engineering support services. We are proud of our heritage and our manufacturing mastery.

## REFERENCES

Glebus Alloys track record includes successful long term cooperation and partnership with many global leaders in various industrial areas, including manufacturing of tires, presses, calenders, metallurgy, fluid power, gear pumps and compressors, wind and hydropower clean energy, steam and gas turbines, waste-to-energy, farm, industrial and construction equipment, material handling, packaging machinery, food & beverage, marine, offshore, and aerospace.



# GLEBUS ALLOYS

## Cooperation Benefits

### BENEFITS FROM TEAMING UP WITH GLEBUS ALLOYS

- Own manufacturing plant based in the EU
- New state of the art production line
- Successful track record since 1965
- Integrated supply chain and short lead-times
- Application engineering customer support
- Own R&D and testing
- Focus on sintered self-lube parts
- Competitive pricing
- Global footprint

### SELF-LUBRICATING PLAIN BEARINGS, BUSHINGS & SLIDING PLATES PROVIDE THE GREATEST ADVANTAGE IN CRITICAL APPLICATIONS

- Maintenance-free service
- Inexpensive, easy and fast to replace
- Maximal uptime and reduction in maintenance cost
- Allowing for enormous variability in shapes and sizes, solutions taking less space possible
- Great emergency running properties
- Suitable for wide range of operating speeds and temperatures
- No moisture absorption and corrosion, suitable for water washing
- Greaseless
- Unleaded and RoHS compliant



# G-METAL®

## For Food & Beverage Industry

G-Metal® self-lubricating plain bearings are produced using powder metallurgy. Glebus Alloys offers both solid and bimetallic solutions. Solid solutions (GSM) consist of bronze based metal or iron and nickel alloys. Bimetallic products (GBM) are made of stainless or low carbon steel backing covered with a sintered sliding layer. Sintering technology allows for construction and manufacturing of wide range of complex shapes with consistent self-lubricating properties throughout the whole lifecycle of the critical moving parts. G-Metal® based materials provide reliable and high-performance no-grease solutions for demanding industrial applications.

### MECHANICAL PROPERTIES & APPLICATION DATA

GSM MATERIAL CHARACTERISTICS		GBM MATERIAL CHARACTERISTICS	
Tensile Strength [MPa]	55 - 90	Tensile Strength of steel carrier [MPa]	-
Compressive Strength [MPa]	250 - 640	Compressive Strength [MPa]	300 - 320
Hardness [HB 2.5/62, 5/15], min.	40 - 80	Hardness [HB 2.5/62, 5/15], min.	40
Density [g/cm³]	6 - 6.7	Density [g/cm³]	6.5
Type of solid lubricant	C (+MoS <sub>2</sub> )	Type of solid lubricant	C
Max. static load [MPa]	70 - 250	Max. static load [MPa]	260 - 320
Max. dynamic load [MPa]	30 - 130	Max. dynamic load [MPa]	80 - 150
Max. sliding speed, dry [m/s]	0.2 - 0.5	Max. sliding speed, dry [m/s]	0.3 - 0.5
Max. PV dry [N/mm² x m/s]	0.5 - 1.5	Max. PV dry [N/mm² x m/s]	0.5 - 1.0
Typical coefficient of friction, dry	0.11 - 0.5	Typical coefficient of friction, dry	0.1 - 0.2
Typical coefficient of friction, wet	0.11 - 0.18	Typical coefficient of friction, wet	0.1 - 0.15
Service temperature min/max [°C]	-200 / 650	Service temperature min/max [°C]	-150 / 280

Important remark: the above mentioned material properties, in particular friction coefficients, are not assured properties. They are to be used only as guideline for selection of materials.

### BEST FIT OF GLEBUS BEARINGS IN FOOD & BEVERAGE EQUIPMENT

- Filling and cleaning machines
- Sealing and labeling lines
- Mixers and agitators
- Pumps
- Packaging and manipulation
- Conveyors

