

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



**SELF-LUBRICATING  
BEARINGS**  
for steel industry

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# CERAMET

## About us

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**Ceramet manufactures maintenance free, self lubricating bearings, wear plates and bushings. We produce a material that combines graphite and bronze to form a single self-lubricating metal compound.**

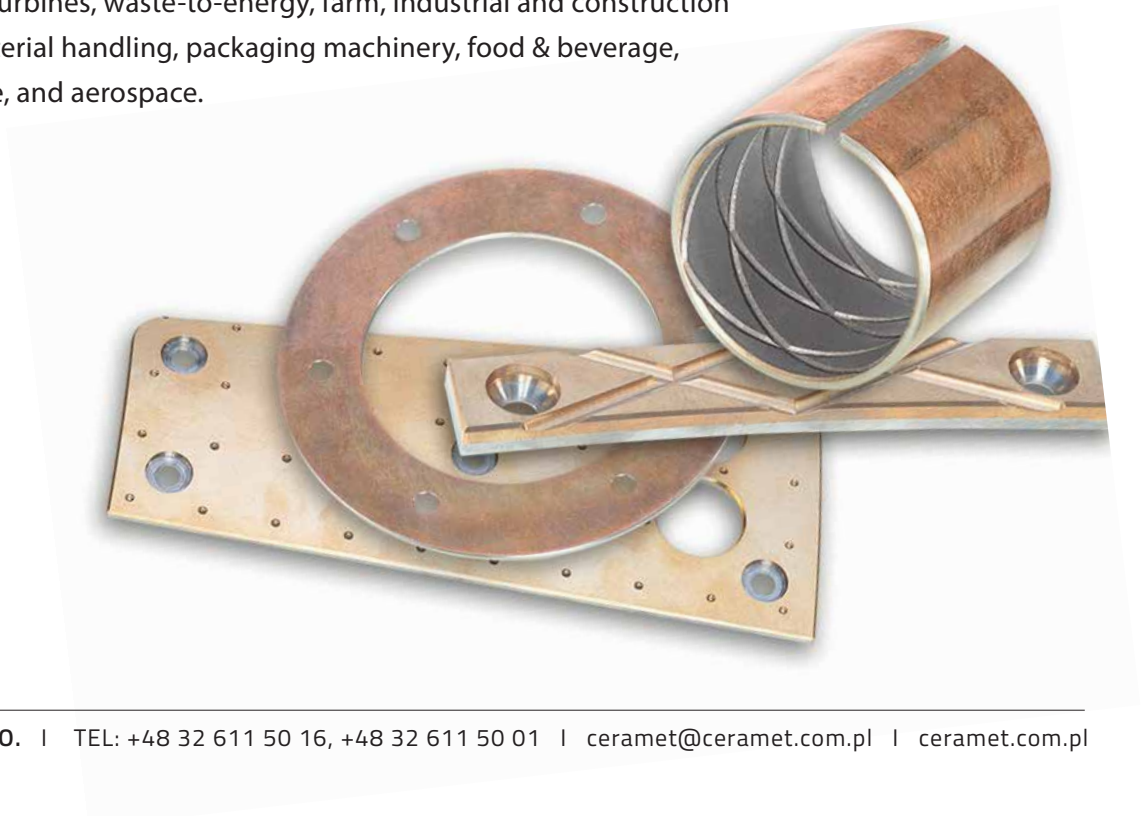
Ceramet, trusted manufacturer of plain bearings, bushings, sliding plates and wear parts made of sintered self-lubricating material containing graphite as solid lubricant uniformly distributed throughout the metallic matrix. Ceramet, a well-known specialty powder metallurgy manufacturer, was founded in 1965 in Poland.

Ceramet 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

Ceramet 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.



# CERAMET Cooperation Benefits

## BENEFITS FROM TEAMING UP WITH CERAMET

- 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
- Suitable for higher loads
- Allowing for enormous variability in shapes and sizes, solutions taking less space possible
- Great emergency running properties
- Performing particularly well in high temperature environments up to 650°C
- No moisture absorption, maximum dimensional accuracy and stability
- Suitable for wide range of operating speeds



# CERAMET For Steel Industry

Ceramet self-lubricating plain bearings are produced using powder metallurgy. Ceramet offers both solid and bimetallic solutions. Solid solutions (CER.SM) consist of bronze based metal or iron and nickel alloys. Bimetallic products (CER.BM) 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. Powder metallurgy based materials provide reliable and high-performance no-grease solutions for demanding industrial applications.

## MECHANICAL PROPERTIES & APPLICATION DATA

CER.SM MATERIAL CHARACTERISTICS		CER.BM 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/cm <sup>3</sup> ]	6 - 6.7	Density [g/cm <sup>3</sup> ]	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/mm <sup>2</sup> x m/s]	0.5 - 1.5	Max. PV dry [N/mm <sup>2</sup> 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 CERAMET BEARINGS IN STEELWORK EQUIPMENT

- Tap hole drilling equipment
- Torpedo and tundish cars
- Ladle turrets and tilting chairs
- Continuous casting equipment
- Dummy bar chains
- Shear machines
- Hot & cold forming
- Cooling beds
- Material handling devices
- Cranes