



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

 **Ceramet**

## **SELF-LUBRICATING BEARINGS**

for waste to energy industry

# 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 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 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
- 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**

- Lifetime maintenance-free service
- Where grease-based lubrication is not possible due to risk of contamination or heat
- Inexpensive to repair or replace
- Intermittently moving
- When flexion, dump absorption, or greater tolerances are required
- Working at high heat and loads conditions



# CERAMET For Waste to Energy

## WASTE INCINERATION

Ceramet spherical plain bearings and bushings are especially suitable for continuous operation of moving grate (municipal waste) incinerators. The high heat combustion chamber conditions (850 to 950°C) require maintenance free, durable and highly reliable components. Powder metallurgy based solutions provide high-performance no-grease moving parts.

## MECHANICAL PROPERTIES & APPLICATION DATA

<b>CER.SM 105</b> for temperature < 300°C		<b>CER.SM 701</b> for temperature > 300°C	
Tensile Strength [MPa]	85	Tensile Strength [MPa]	90
Compressive Strength [MPa]	350	Compressive Strength [MPa]	640
Hardness [HB 2.5/62, 5/15], min.	65	Hardness [HB 2.5/62, 5/15], min.	80
Density [g/cm <sup>3</sup> ]	6.4	Density [g/cm <sup>3</sup> ]	6.1
Type of solid lubricant	C	Type of solid lubricant	C
Max. static load [MPa]	230	Max. static load [MPa]	80
Max. dynamic load [MPa]	115	Max. dynamic load [MPa]	50
Max. sliding speed, dry [m/s]	0.35	Max. sliding speed, dry [m/s]	0.2
Max. PV dry [N/mm <sup>2</sup> x m/s]	1.5	Max. PV dry [N/mm <sup>2</sup> x m/s]	0.5
		Typical coefficient of friction, dry	0.25 - 0.45
Typical coefficient of friction, wet	0.11 - 0.17	Typical coefficient of friction, wet	-
Service temperature min/max [°C]	-50 / 200	Service temperature min/max [°C]	-50 / 650
Min. hardness counter material [HB]	>HRC 35	Min. hardness counter material [HB]	>HRC 45
Rec. surface roughness, counter material Ra [µm]	0.2 - 0.8	Rec. surface roughness, counter material Ra [µm]	0.2 - 0.8

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

- Grate incinerators
- Rotary kiln incinerators
- Liquids, gases and fumes incinerators
- Cremation furnaces
- Industrial furnaces
- Gas & wastewater treatment equipment
- Solid and liquid medical waste incineration