

FOCUS

CERAMIC BUSHES FOR ZINC BATH/CGL LINE



Concerning Zinc Bath in Continuous Hot Dip Galvanizing Line, ceramic bushes from [FOCUS](#) are an unbeatable choice. We have been supplying **ZrO₂+MgO**, **Si₃N₄** or any other composition of ceramic bushes/stoppers according to customer requirements.

Here below are some of the advantages of ceramic bushes ;

- One of the reasons is ceramic bushes are durable. All materials have their own set of weaknesses,
- Ceramic bushings also have excellent thermal conductivity, meaning they dissipate heat quickly,
- Excellent Wear resistance,
- Electrical insulation properties,
- It can resist breaking or cracking when subjected to high temperatures since they are made of dense material with a low melting point,
- They are resistant to corrosion or aggressive ambient in Zinc Bath,
- Ceramic bushings also have a longer lifespan than other bushes materials, which makes them a preferred choice for long-term applications.
- Another advantage of ceramic bushings is that they are inexpensive and easy to replace. This makes ceramic bushings an ideal choice for applications where downtime is a concern

Specifications of ZrO₂+MgO, Si₃N₄ ceramics are indicated at following table;

		ZrO ₂ +MgO	Si ₃ N ₄
Mechanical Properties	Density (g/cm³)	5,9	3,1
	Hardness Vickers (kgf/mm²):	12	13,5
	Water absorption (%)	0	0
	Flexural strength (20 °C) (Mpa)	585	590
	Elastic modulus (20 °C) (Gpa)	220	285
	Compressive strength (20 °C) (Mpa)	2600	2400
	Fracture Toughness (MPam^{1/2})	6	6
	Poisson`s Ratio (20 °C):	0,3	0,27
	Colour	White or Yellow	Black

		ZrO ₂ +MgO	Si ₃ N ₄
Thermal Properties	Thermal conductivity (20 °C) (W/m °K)	2,2	28
	Coefficient of thermal expansion (40-800 °C) (1x10⁻⁶/°C)	10,2	2,3-3,5
	Specific heat (100 °C) (J/kgK)	100	0,68
	Thermal shock resistance (°C)	350	430
	Maximum use temperature (°C)	1000	1250

		ZrO ₂ +MgO	Si ₃ N ₄
Electrical Properties	Dielectric strength (6,35mm) (kV/mm)	0,0	11,5
	Volume resistivity (25 °C) (Ohm-cm)	10 ¹⁴	>10 ¹⁴
	Volume resistivity (250 °C) (Ohm-cm)	2x10 ⁴	10 ¹²
	Volume resistivity (500 °C) (Ohm-cm)	<10 ³	<10 ¹²

You can find the details on our website www.focus-ed.com or contact us via focus@focus-ed.com

With our more than 20 years experiences in galvanizing line process, not only supplying the bushes and sleeves but also we can give technical support to our valued customers.

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