

Ceramic cores for extrusion dies

for brick and tile production



Benefit from our know-how and experience with ceramic cores for productivity increase in your brick and tile manufacturing.

The openings in the brick are formed by cores in the extrusion die. The cores are subject to high wear when the clay passes around the cores through the extrusion die under pressure.

Since extrusion die cores are subject to high loads, their design and manufacture require comprehensive experience in terms of defining core shape, material selection and manufacturing process. Our experience and reliability in processing technical ceramics makes us your competent partner for ceramic cores.

Our ZTA oxide ceramics provide a lifetime up to 20 times longer than chromated steel cores. Make us your partner for increased performance in your business!

Properties:

- very good wear resistance
- high hardness
- optimum flow properties

Why Metoxit oxide ceramics?

- very long service life
- productivity increase
- less tool changes
- cost saving
- high dimensional accuracy and reproducibility of your products

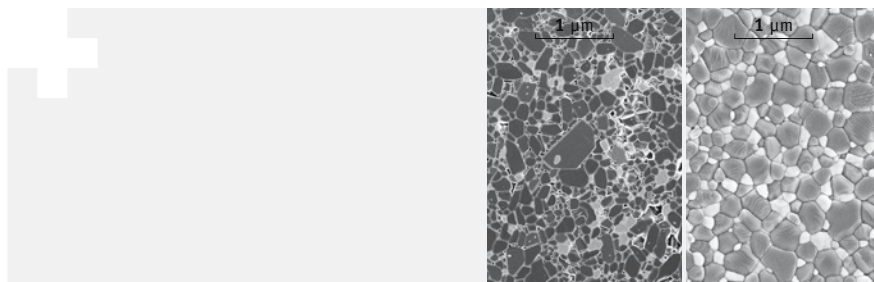
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Proven millions of times!
If only the best is
good enough

Oxide ceramics



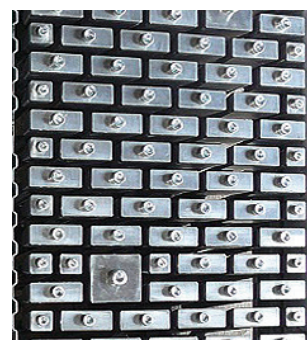
Designation		ZTA white	ZTA pink
Components		Al ₂ O ₃ /ZrO ₂	Al ₂ O ₃ / ZrO ₂ /Y ₂ O ₃
Purity	%	88/12	75/23/2
Density	g/cm ³	4.10	4.40
Open porosity	%	0	0
Grain size	µm	< 1	0.7
Hardness Vickers	Hv	1800	1700
Hardness Mohs		8.5	8.5
Compressive strength	MPa	2600	2300
Flexural strength	MPa	900	900
Young's modulus	GPa	360	270
Fracture toughness K _{1c}	MN/m ^{3/2}	5.1	5.3
Poisson ratio		0.24	0.26
Max. operating temperature	°C	1000	1000
Thermal expansion (20-1000°C)	10 ⁻⁶ /K	8.3	8.5
Thermal conductivity	W/mK	25	22
Specific heat	J/kg K	700	800
Electrical resistivity (20°C/1000°C)	Ω cm	10 ⁹	-
Shaping procedures:			
Isostatic pressing		✓	✓
Die pressing		✓	✓
HIP		-	✓
Suggested applications			
		For coarse clay, heavy-duty wear resistant parts, high precision parts	For fine clay, heavy-duty wear resistant parts, high precision parts

By using of our oxide ceramics you can achieve a long service life of your extrusion die, a productivity increase, and thereby a significant cost saving!

Together with the customer we clarify the clay properties and production parameters in your factory and then recommend the correct core material.



Our ZTA oxide ceramic material provides an up to **20 times** longer lifetime compared to chromated steel cores.



All information and data correspond to the present state of our knowledge concerning properties and applications. They do not guarantee certain properties for products designed for specific applications utilizing material(s) described herein. We guarantee, however, first rate quality described in our terms of delivery.

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