

FULL-SERVICE CERAMIC SOLUTIONS FOR YOUR WIRE DRAWING PROCESS

**Tailor-made ceramic solutions for high-performance
mechanical engineering – Your one-stop source**



MAXIMUM RELIABILITY FOR MECHANICAL ENGINEERING

In demanding mechanical engineering applications, top performance and absolute reliability are essential. High-performance ceramics are key to significantly increasing the service life and efficiency of machines and systems.

Tribological Excellence with Rauschert

As an experienced development partner, we provide holistic solutions precisely tailored to your individual requirements and the specific application of your machines.

Our products are aimed at both **mechanical engineers**, whom we supply as original equipment manufacturers, and **end users**, for whom we can accommodate individual requirements.



„Rely on our expertise to make your machines more powerful and durable!“

Our experienced Sales Manager, Dieter Mangold, and his team are here to assist you.

Your Challenge. Our Technology.

Rauschert develops and manufactures complex products, components, and parts from high-performance ceramics with high precision and quality for a wide range of industrial applications.

We create specifically designed products for

- mechanical engineering
- textile and medical technology
- electrical engineering
- mobility
- food production
- high-temperature applications

We bring together the best professionals in the industry within our company to provide our customers fit-for-purpose options.

Our company has gained an excellent reputation for eyelets and wire-guiding products and has been well established in the market for many years.





MAXIMUM PERFORMANCE

For us, long-term cooperation with our partners is our absolute priority. We place the highest value on quality to help you overcome challenges such as wire breaks in wire processing.

IN WIRE DRAWING

BENEFITS WITH RAUSCHERT

- ✓ Longer machine lifespan & reduced costs
- ✓ Higher process security & less downtimes
- ✓ Maximum wear resistance
- ✓ Customized solutions for your needs
- ✓ Extended tool use
- ✓ Over 60 years of experience

SPECIAL MATERIALS FOR DEMANDING NEEDS

To prevent permanent damage to the wire surface, the tools used must be precisely matched to the requirements of the drawing process – with surfaces that offer high contact areas and optimal roughness. By precisely controlling the particle size of the ceramic materials used, excellent surface quality and roughness of the tools are ensured. Rauschert continuously advances in this field with its TechCenters.

With our advanced manufacturing methods, we ensure under demanding operating conditions:

- Thermal
- Hydrothermal Stability

	Zirconia	Alumina	
Colour	Yellow, White	Ivory, Pink, Red	
Forming Process	Pressing, Extrusion, Injection Moulding	Pressing, Extrusion, Injection Moulding	
Main Constituent Content	> 95 (inkl. HfO ₂)	> 99.6	%
Bulk Density/Density	5.74	> 3.90	g/cm ³
Water Absorption	0	0	%
Flexural Strength 3 P.B.	500	> 300	N/mm ²
Fracture Toughness SEVNB	8	4.7	MPa m ^{1/2}
Vickers Hardness	1200	1700	HV 1
Elastic Modulus	205	380	GPa
CTE 30-600°C	10.1	7.5-8.5	10 ⁻⁶ K ⁻¹
CTE 20-1000°C	10.7	8 - 9	10 ⁻⁶ K ⁻¹
Thermal Conductivity	3 (20°C)	30	W/(m K)
Specific Volume Resistivity at 20°C	10 ¹³	10 ¹⁴	Ω·cm
Thermal Shock Resistance	250	150	K

Zirconia – MgO-Stabilized

All drawing tools are generally made from MgO-stabilized zirconia, as this proven construction material offers excellent resistance to crack propagation and good tribology with wire materials. The relatively large grain size results in a (microscopically) cobblestone-like surface. This surface allows the lubricant used in the process to be transported into the gap between the wire and the ceramic. This enables a well-defined slip without damaging the wire.

Our zirconia materials are stabilized with magnesium and are characterized by:

- high fracture toughness
- strength

Due to their similar thermal expansion coefficient, zirconia components are particularly suitable in combination with steel components. We offer zirconia in both common colours, **white** and **yellow**.

Alumina with purity levels up to 99.9% (Rapal® 100/200/1000)

Alumina is a very hard high-performance ceramic material that remains stable at high temperatures and in aggressive chemical environments. Depending on material purity and grain size, we use it for a broad range of demanding technical applications. We offer alumina in purity levels between 90% and 99.9%.

For drawing very thin wires (some customers draw down to 0.003 mm), the ring must be made of alumina.

Our wire drawing solutions, developed to your specifications



Drawing rollers, yellow



Rings & wire guide elements



Drawing Cones



Drawing rollers, white

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