

Where Can Advanced Ceramics Be Found?

NEARLY EVERYWHERE...



... WHEREVER PEAK PERFORMANCE IS KEY.

WHETHER AT HOME, IN THE OFFICE, IN INDUS-TRIAL MANUFACTURING, IN HOSPITALS OR ON THE ROAD:

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We are surrounded by products made from technical ceramics that deliver peak performance – and we usually don't even realize it.

They are used where other materials reach their limits: under enormous stress, in extreme temperatures, under current – and even in the human body. They provide reliable solutions in all types of industrial production and high-tech applications. Technical ceramics get us safely and comfortably to where we are going and provide us with clean energy using more efficient technologies. We communicate digitally on smaller devices and benefit from improved quality of life. Take a look at our brochure and discover all the places you can find advanced ceramics.

IN ENVIRONMENTAL APPLICATIONS



AT HOME



IN THE OFFICE



IN EVERYDAY LIFE



IN INDUSTRIAL MANUFACTURING



IN METAL PROCESSING AND MACHINING



IN MEDICINE









IN ENVIRONMENTAL **APPLICATIONS**

Antifriction bearings for wind turbines







Burner nozzles for flue gas desulfurization

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	Filters for water treatment	
0	Piezo-ceramic sensor elements in biogas plants	
0	Seal rings, bearing bushes and shells in pumps for hydroelectric power plants	
٢	Plasma chambers for coating solar cells	
1	Ceramic mill linings for processing raw materials for glass	
0	Bearings and bushings in drives for photovoltaic systems	
0	Insulation rings for thermal decoupling in solar systems	
	Wire drawing cones for the production of power lines; rolls for rolling flat wires in photovoltaic systems	ACCENT MAL
1	Piezo-ceramics for energy harvesting	
•	Pipe linings and components for transporting abrasive bulk materials such as coal dust	
1	Tensiometer cells for soil analysis	



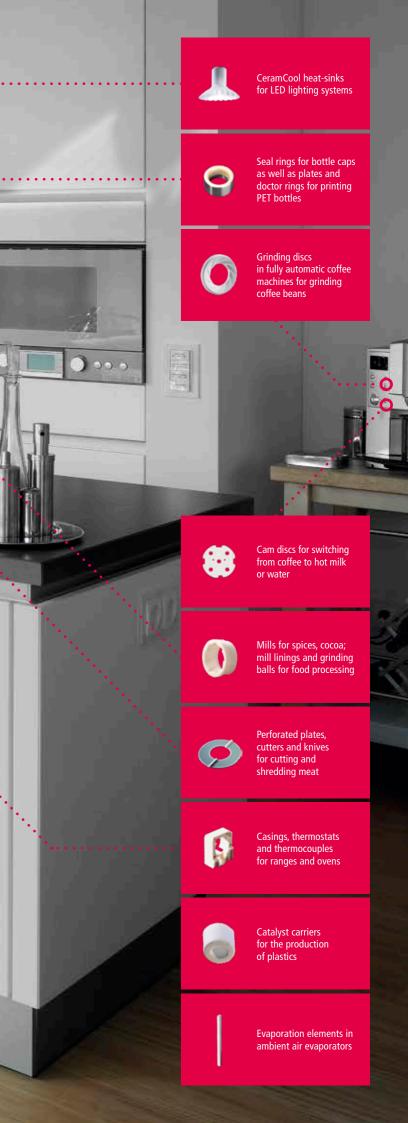
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AT HOME







IN THE OFFICE

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Resistor cores, fuse bodies, coil bodies and ceramic circuit boards for electronic circuits in PCs, cell phones, monitors and printers

> Surge arresters for telecommunications systems

Ceramaseal vacuum-tight products in telecommunications systems

Rolls, cleaner cones and dewatering blades for paper manufacturing



CeramCool heat-sinks for mainframe systems



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IN EVERYDAY LIFE

Plates for coloring contact lenses



Piezo-ceramics as perfume atomizers

Thread guides, eyelets and friction discs for textile production

Catalyst carriers for the production of vitamin C

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BIOLOX® hip replacement elements





Resistor cores, fuse bodies, coil bodies and ceramic circuit boards in consumer electronics such as notebooks, cell phones and MP3 players





Substrates for circuits in hearing aids and pacemakers



Piezo-ceramics for plaque removal

Ceramic experts

IN INDUSTRIAL MANUFACTURING

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Gas nozzles, centering standard molds, welding rollers in welding applications and nozzles for laser processes

	٢	Integrated membranes for measurement and control technology in temperature and pressure sensors	
		Seal rings, bearings, bearing shells, insulat- ing rings and valves in mechanical engineering and robotics	
		Substrates as circuit carriers for electronic machine control	
		Cutting materials and tool systems for machining cast iron, hardened steels and hard- to-machine materials	
		Thermally and dimen- sionally stable guide elements and moving components for precision measuring machines	
		Wire drawing components for wire and cable production	
	Î	Ceramic screws and bolts	
	6	Components for bending and forming metal as well as punching stand- ards and positioning jaws for sheet metal	
	0	Piezo-ceramic sensor elements in equipment and mechanical engineering	
A		Piezo ceramics for ultrasonic cleaning and ultrasonic welding	
•		Ceramic heat-sinks – also with liquid cooling – for high electronic power densities, e.g. in UV-LED systems for drying paints	
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IN METAL PROCESSING AND MACHINING

	۲	Components for bending and forming metal as well as punching stand- ards and positioning jaws for metalworking
	$\overline{\ }$	Protection tubes for temperature measurement
	0	Cores for the production of cavities in casting components
	Ĩ	Tubes, slide valves and nozzles for guiding molten masses
	0	SPK cutting materials and tool systems for machining cast iron, hardened steels and hard- to-machine materials
	<i>~</i>	Sliding blocks for heat treatment plants
		Metal matrix composite (MMC) preforms for material reinforcement and light-weight construction
	-	Ceramic wear linings for transporting abrasive bulk materials
		Gas nozzles, centering standard molds, welding rollers in welding applications and nozzles for laser processes
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		CeramCool as a heat-sink for OR lighting based on LED technology
	/	Ceramic tubes for endoscopic devices
		Accelerators in ball mills for the production of pharmaceuticals
	0	Piezo-ceramics for ultrasonic scalpels
		Ceramaseal vacuum- tight ceramic-metal components for analysis and sensor technology
	3	Ultrasonic flow and bubble sensor
		BIOLOX® knee replacement elements
	Ň	Dipping formers for the production of surgical gloves
		BIOLOX® hip replacement elements
		Seal discs, valves, seal rings in medical device and equipment engineering
		Coil bodies, fuse bodies, resistor cores and circuit boards in electronic medical devices
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