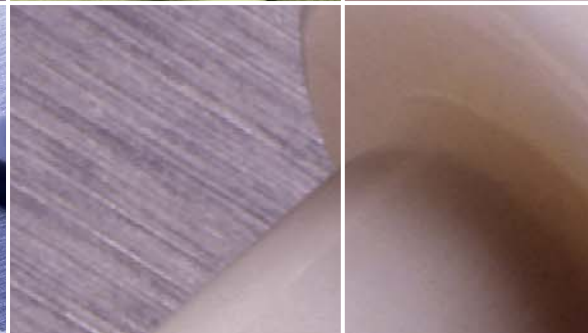


COORSTEK
Amazing Solutions:



CERAPURE™

**MEDICAL
CERAMICS**

CERAPURE™ HIGH-PURITY CERAMICS COMPONENTS FOR HIGH-PERFORMANCE MEDICAL DEVICES

Developed Specifically for Medical Applications

CeraPure technical ceramics are designed to work well in medical device applications requiring:

- Strong resistance to thermal shock
- High strength
- Compatibility
- Superior chemical resistance
- Excellent high-temperature electrical resistivity

Typical Applications Include:

- Electro-surgical devices
 - High stiffness
 - Dielectric strength
- Electro-mechanical devices
 - High stiffness
 - MRI transparent
 - Lightweight
- Rotary valve components
 - Low-friction seal-less designs
 - High precision/repeatability
 - Excellent wear resistance
- Fluid handling devices
 - Pump and valve components
 - Precision clearances to 0.000075"
 - Low friction/long wear characteristics

USP Class VI Approved Materials

CoorsTek offers a broad range of high-performance ceramic materials approved to USP Class VI for medical applications. See chart below for a sample of compatible materials.



Manufacturing Capacity and Expertise

With over two million square feet of manufacturing capacity worldwide, CoorsTek is one of the world's largest technical ceramics manufacturers. We develop our own materials and work with class-leading medical device OEMs to ensure optimal product performance.

Superior Quality

Our signature OpX™ quality and manufacturing excellence system combines best-practice methods including lean manufacturing, six-sigma, and ISO-certification to ensure high-quality products, on-time delivery, and exceptional service.

Call our medical ceramics experts today at +1.303.277.4116 for more information.



Property	Units	Test	CeraPure™ Alumina FG	CeraPure™ Alumina Plus	CeraPure™ ZTA	CeraPure™ YTZP
			Nom. 98.5% Al ₂ O ₃	Nom. 99.8% Al ₂ O ₃	Zirconia-Toughened Alumina	Y ₂ O ₃ Partially Stabilized Zr
Density	gm/cc	ASTM-C 20	3.80	3.92	4.01	6.07
Color	-	-	Ivory	Ivory	White	Ivory
Flexural Strength (MOR), 20° C	MPa (psi X 10 ³)	ASTM-F417	375 (54)	375 (54)	450 (65)	1720 (250)
Elastic Modulus, 20° C	GPa (psi X 10 ³)	ASTM-C848	350 (51)	370 (54)	360 (52)	210 (30)
Compressive Strength, 20° C	MPa (psi X 10 ³)	ASTM-C773	2500 (363)	2500 (363)	2900 (421)	2500 (363)
Hardness	GPa (kg/mm ²)	Knoop 100 gm	13.7 (1400)	14.1 (1440)	14.4 (1475)	14.1 (1440)
Fracture Toughness, K (I c)	MPa m ^{1/2}	Notched Beam	4-5	4-5	5-6	13
Thermal Conductivity, 20° C	W/m °K	ASTM-C408	27.5	30.0	27.0	2.2
Coefficient of Thermal Expansion, 25-1000° C	1X 10 ⁻⁶ /°C	-	8.2	8.2	8.3	10.3
Thermal Shock Resistance, ΔTc	°C	NOTE 3	200	200	300	200
Maximum Use Temperature	°C	NO-LOAD COND.	1700	1750	1500	1500
Volume Resistivity, 25° C	Ohm-cm	ASTM-D1829	<10 ¹⁴	<10 ¹⁴	<10 ¹⁴	<10 ¹³

Note: Engineering data is representative. Product dimensions and performance values vary somewhat with method of manufacture, size, and shape of part. Any suggested applications are not made as a representation or warranty that the product will ultimately be suitable for such applications. The customer is ultimately responsible for all design and product suitability decisions. Data contained herein is not to be construed as absolute and does not constitute a representation or warranty for which CoorsTek assumes legal responsibility. Any warranty or representation for which CoorsTek is responsible shall be subject to a separately negotiated agreement. CoorsTek, and Amazing Solutions are registered trademarks of CoorsTek, Inc. OpX and CeraPure are trademarks of CoorsTek, Inc.