

TechCera™ Ceramic

When Strength Meets Reliability

TechCera™ ceramic is Hi-Tech Seals' family of superior performing advanced ceramic materials. Ceramic components are lightweight and exhibit excellent mechanical properties and extreme hardness. They offer remarkable resistance to corrosion, wear, chemicals, and abrasion. TechCera™ ceramic compounds are ideal for a range of demanding applications as they can retain their properties in extreme environments.

The TechCera™ ceramic family is comprised of alumina and zirconia compounds. Alumina, also known as aluminum oxide (Al₂O₃), is a well-known and frequently used advanced ceramic. TechCera™ alumina compounds offer a combination of exceptional properties that make them the ideal material for a wide scope of industrial applications. Zirconia, also referred to as zirconium oxide (ZrO₂), is excellent for use in extreme environments as it has a high resistance to wear, corrosion, crack propagation, and high temperatures. Zirconia based compounds are hard and durable, with low thermal conductivity and high flexibility. They offer increased strength and fracture toughness over alumina ceramics. *Other ceramic materials available upon request.*

We offer both hot isostatic pressed (HIP'd) and cold isostatic pressed (CIP'd) TechCera™ ceramic compounds. HIP'd compounds offer improved mechanical properties while CIP'd compounds allow for production of closer tolerance parts. TechCera™ is a great solution for tough and highly corrosive environments.

TechCera™ ceramic advantages:

- Extreme hardness
- Excellent electrical properties
- Great resistance to erosion and wash
- Exceptional mechanical properties
- Superior wear resistance
- Exceptional thermal properties
- High mechanical strength
- Low coefficient of friction

TechCera™ ceramics are used to manufacture a wide range of components including wear sleeves, balls, burst discs, inserts, seats,



bearings, and more. They are utilized in numerous critical applications across an endless number of markets and industries, including:

- Oil & Gas
- Mining
- Automotive
- Medical
- Food Processing
- Semiconductor

We work with customers from design to production to ensure TechCera™ ceramic components meet and exceed our customer's application requirements. To learn more, contact our engineering department at engineering@hitechseals.com.

**The above information is correct based on our knowledge at the date of its publication. To ensure this material meets customers' final requirements and safety demands, we recommend customers conduct their own testing.*

