



# Durable Solutions made from MgPSZ & Al<sub>2</sub>O<sub>3</sub>

*Complex properties of Advanced Ceramics*



## About Refractron

Refractron is a technical ceramic component manufacturer for over 30 years making durable solutions for a wide variety of demanding applications used to process chemicals, treat wastewater, analyze emissions, drill for oil, dewater minerals, draw wire, waterjet cutting and making aluminum cans.

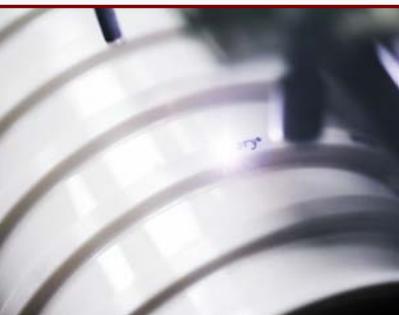
Durable porous and structural ceramic solutions are customized to your specifications by Refractron's experienced and responsive service team.

Refractron is ISO 9001:2008 and ITAR certified. To service the needs of our customers, our facility is outfitted with an array of advanced equipment to produce one-off prototypes or high-volumes. Examples include a materials testing lab and a comprehensive machine shop containing advanced CNC equipment. Parts are customized with laser marking for traceability and efficient inventory control.

## Engineering & Quality Manufacturing

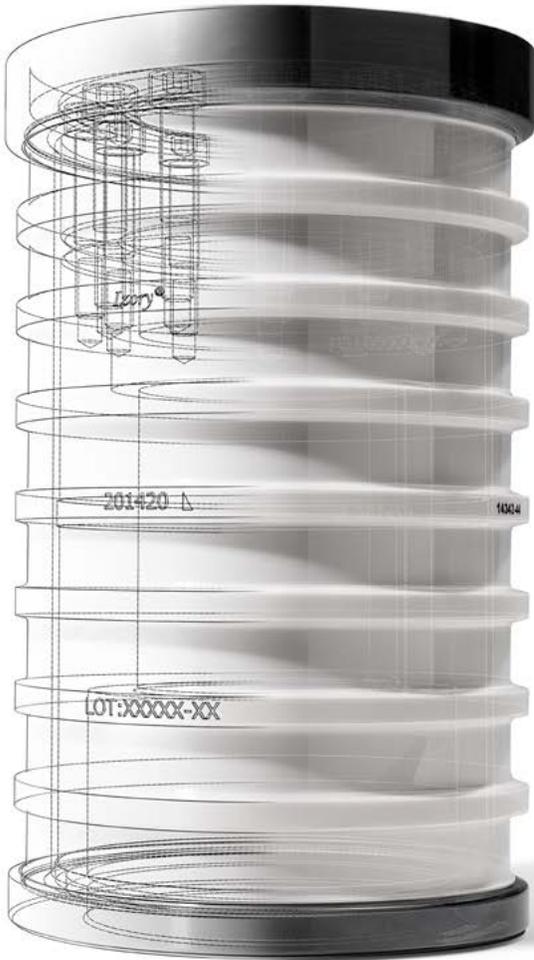
We can reverse engineer replacement components for any machine. If drawings are available, the fit and function of components can be verified at the customer's site to minimize risk and machine downtime. If drawings are not available, Refractron can measure components via a portable CMM, create drawings, modify designs if required, and provide a detailed report with insight from our experienced designers.

Refractron customizes the complex properties of the material and firing conditions to meet the requirements of each application. We are a quality focused manufacturer. The development of the heating and cooling cycle is crucial as all our kiln fired parts must attain the same unique microstructure and resulting properties.



## Refractron Porous Ceramics

Refractron's porous alumina is the material of choice for fine bubble diffusers. For a given pore size, our hydrophilic alumina diffusers produce finer bubbles that lead to better gas transfer efficiency than rubber diffusers or membranes. Refractron ceramic diffusers produce lower DWP (dynamic wet pressure) resulting in lower energy costs for our customers.



## Refractron Structural Ceramics

*Izory*® and *Izory*®*X* are Magnesia Stabilized Zirconia (Mg-PSZ), also known as “transformation toughened zirconia”. *Izory*®*X*, our latest development in Mg-PSZ, boasts near theoretical density and outstanding strength, hardness, and toughness. *Izory*®*X* is simply the best commercially available Mg-PSZ. *Izory*® and *Izory*®*X* products have the proper hardness providing for improved ceramic surface finish by machining and polishing operations. In turn, finer surface finish means less friction between the ceramic and moving components resulting in longer service life for your machinery.



## Testimonials

*“Refractron sales was able to see an opportunity with ceramics for a high-pressure application. With their understanding, we were able to work with confidence.”*

Dieter Tischler, Engineering & Business Development Manager, **Jetstream**

*“The cost-quality relationship, which is critical to completing projects on budget and fulfilling long-term expectations for continued profitability, has been excellent.”*

Dave Sherwood, Project Engineer, **International Wire Group, Inc.**

*“We have been a Refractron customer for several years. They accommodate our changing needs and provide products on time and with excellent quality.”*

Guillermo M. Tellez, Mechanical Engineer, **Orbital Technologies Corporation**

*“Refractron’s response is very quick—often same day. Delivery times are faster than other suppliers I’ve worked with. I have always been happy with the customer service.”*

Tim Walter, Spare Parts Sales & Service Manager - **SAMP USA**