

RocCera

Advanced Ceramic Manufacturing & Machining



– Plus –

**Precision Machining of
Polyurethane, Steel, Aluminum & Plastics**

Advanced Ceramics



The World's Toughest Ceramic Material

High temperature, corrosion and abrasion restrict the life of your manufacturing components. With RocCera Ceramics, we can improve your product or process by extending component life and reducing the frequency of service.

Imagine a scenario where your critical components and products are made from structural ceramics that are cheaper to produce, and far superior to steel in hardness and durability.

Advantages of RocCera's Ceramic

RocCera's ceramic molecular structure gives **our material properties** like those of a diamond, the hardest substance known to man. It is harder than steel, resists corrosion and has superior abrasion and wear resistance.

- Stronger than steel (flexural strength: 145,000 psi)
- Harder than steel (1300 VHN w/500g. Load)
- Superior wear and abrasion resistance
- No corrosion EVER
- Competitive cost
- Superior thermal behavior
- Withstands extreme temperatures - subzero to over 1000°C
- Thermal expansion comparable to that of steel (10.5 x10⁻⁶/°C)
- Very low coefficient of friction against itself and steel (<0.3) vs. 1.0 to steel

Net Shape Manufacturing

Our unique production methods and quality control techniques will greatly extend the life of your product while reducing service calls and downtime.

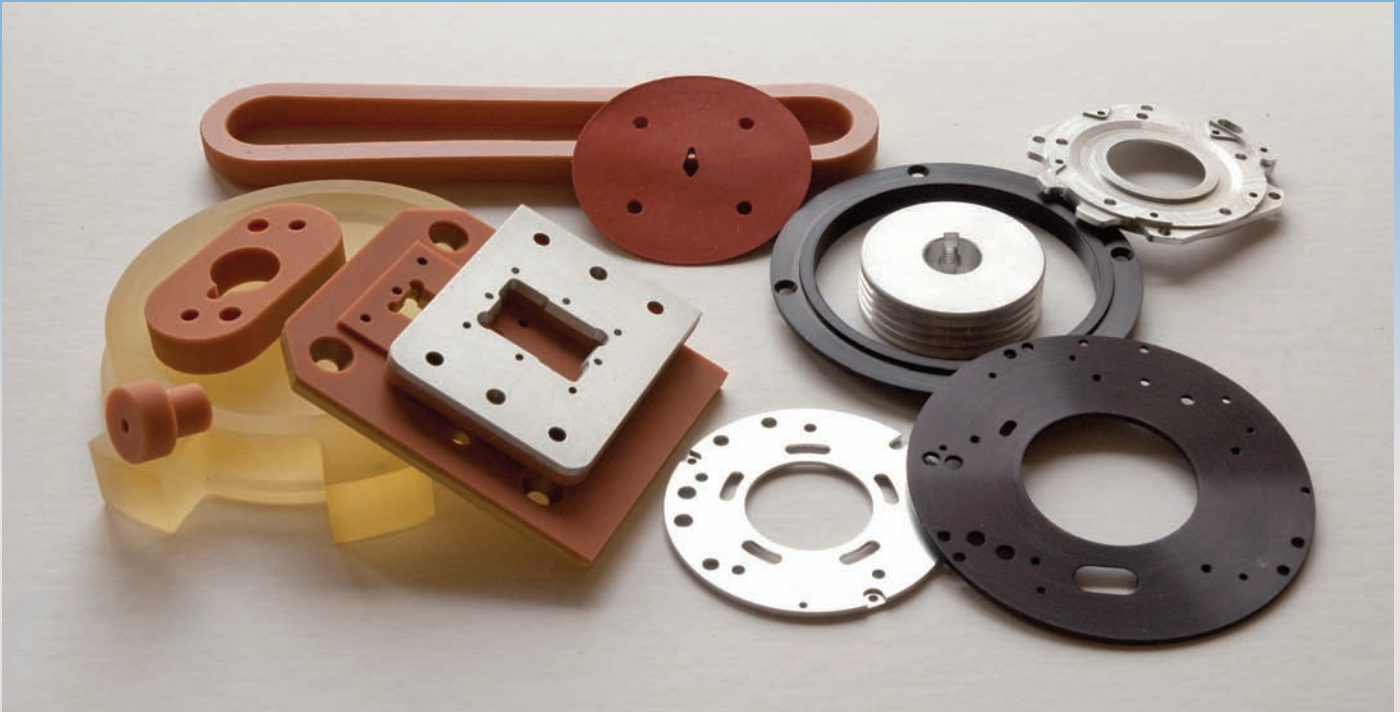
Net shape manufacturing focuses on the manufacture of discrete parts to net or near net dimensions.

In the past, a ceramic component has been 2x to 5x more expensive than a comparable steel component. Traditional ceramic machining requires diamond tooling and longer processing time. That constitutes about 80% of the cost.

Net-shape ceramic manufacturing, however, can significantly lower the cost. For example: a ceramic roller for film perforators costs \$20 vs. a chrome plated steel roller at \$45.

For many applications, RocCera Ceramic components can be molded by a patented "net-shape" process to within + 0.05% of final dimensions. However, when they must meet tight dimensional specifications, they can be machined to within one fifty-millionth of an inch. In fact, RocCera Ceramics can be honed to razor sharpness, and can maintain that edge from seven to ten times longer than hardened stainless steel under comparable conditions.

Polyurethane & Steel



Precision Machined Polyurethane

We'll let you in on a secret that Ford, Xerox, Parker-Hannifin, ITT, Borg Warner, GM, Kodak and many other customers have learned: machined polyurethane parts can save you time and money.

No one is better at machining polyurethane than we are. With our CAD/CAM System, 35 years of machining expertise and our multi-material experience, we can machine your parts precisely to your specifications.

Typical parts/specifications include:

- 60 Durometer nest for commutator - electrical test fixture
- 57A Durometer test seal
- Flexible pneumatic tip to help locate and position parts for pressure testing
- Vacuum feed role for dispensing tape (type 316 stainless steel hub with 40A Durometer Polyurethane)
- Mass air flow QV handler -50-60 Durometer EPDM
- Tube cushion made from closed cell silicon rubber so soft it can't be measured on a standard Durometer scale

Bonding Rubber to Metal

Do your specifications require bonding rubber or polyurethane to a metal substrate? Twenty years ago the subject was regarded as a 'black art'. Now with our advanced technology we can produce a uniform, high quality product that is free from failure.

Machining Steel

Our Precision Machining Center can process small-sized, large-sized, small-quantity or large-quantity jobs with high precision and speed. We specialize in the manufacturing of high precision, complex machined components, as well as prototype and medium volume production. With our modern quality control system and state of the art equipment, we can machine the parts to very tight tolerances and maintain superior surface finish.

Steel Machining Capabilities

Turning	Heat treating / surface modification
Drilling & Boring	Bonding - rubber to metal, ceramic to metal
Surface Grinding	Shrink fitting by induction heating
Jig Grinding	Brazing

Machining Center Resources

- **Milling Operation:** Ocuma Vertical Milling Center, Moore Boring Mill, Trak Mill, Bridgeport Prototrak Knee Mills (2), Matsuura Milling Centers (2)
- **Turning Operation:** Ocuma, Mazak & Hass Turning Centers
- **Grinding Operation:** Moore Jig Grinder, DoAll Grinder, Okamoto Surface Grinder, Chavelier Grinder
- **Prototrak CNC Lathes (2)**
- **CNC Router Table**
- **Induction Heating Center**

RocCera

Company Profile

RocCera, LLC is a manufacturer and fabricator of advanced ceramic, polyurethane and steel components based in Rochester, New York. RocCera's advanced ceramic technology was developed in Kodak under the leadership of Dr. Sam Ghosh, who founded RocCera in 2006.

Advanced Ceramics

Advanced ceramic technology helped Kodak improve photographic manufacturing processes around the world. Implementation of this technology greatly improved manufacturing productivity, enhanced product quality thereby reducing product rejection, and drastically reduced manufacturing cost. Since his retirement from Kodak, Dr. Ghosh has focused on developing the benefits of advanced ceramic technology for a wide range of applications.

RocCera designs, consults, manufactures and markets customized advanced ceramic components for industrial, commercial and domestic applications. Most of these products focus on providing the end user with specialized components to meet demands of higher wear and resistance to corrosion and oxidation leading to longer life (average ten to twenty times longer than steel), low maintenance and greater reliability.

Expansion and Growth

In 2008, RocCera moved its headquarters to The Rochester Technology Park to provide increased space for offices, manufacturing, research and development. The Rochester Technology Park is the premier Upstate New York 288 acre campus, consisting of 4,000,000 square feet of office, industrial, research, distribution and manufacturing space located within Rochester New York's hot "Technology Corridor."

Polyurethane and Steel

In 2010, RocCera acquired T.C. Service, a leading upstate New York provider of precision machining for polyurethane and steel components. Today, with the 35 years of machining experience and multi-material fabrication expertise, RocCera is truly your one stop source for precision manufacturing and machining of advanced ceramics, steel and polyurethane components.

Contact RocCera today - for design, fabrication, prototypes, or full production...for low volume or high volume...for the flexibility of polyurethane, the economy of steel, or the strength and reliability of advanced ceramics. We'll work with you to develop the best possible design, material, and production plan to meet your part and process specifications.

RocCera, LLC

771 Elm Grove Road, Rochester NY 14624

Tel: 585.426.0887 • Fax: 585.426.0884

Web: www.roccera.com • eMail: info@roccera.com

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Experienced and professional tool makers



Precision manufacturing and machining



Rochester Technology Park



35 years of multi-material fabrication expertise