SEMICONDUCTOR CERAMIC APPLICATION GUIDE
## Semiconductor Manufacturing Components & Materials

CoorsTek, with the addition of Covalent Materials Corporation, offers a broad spectrum of materials for key semiconductor applications. To ensure optimal product performance, CoorsTek engineers offer assistance through every phase of the design and manufacturing processes, including component design assistance, material selection, and production expertise.

<table>
<thead>
<tr>
<th>Category</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alumina</strong></td>
<td>AD-995 Alumina, ADS II Alumina, Fine-grained Alumina, PlasmaPure-UC™ Alumina, RF Pure Alumina</td>
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<tr>
<td><strong>Quartz</strong></td>
<td>T230, T240, Synthetic, Standard</td>
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<tr>
<td><strong>Boron Carbide</strong></td>
<td>CeraSic B SiC, CeraSic B Sintered SiC, PAD SiC, PureSiC CVD SiC, SC-DS Sintered SiC, Siliconized UltraSiC™, Siliconized SiC “TPSS”, SiC CVD Coatings</td>
</tr>
<tr>
<td><strong>ESD-Safe Ceramics</strong></td>
<td>SiC coated graphite, Fine grain, Clear carbon</td>
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<tr>
<td><strong>Graphite</strong></td>
<td>PAD Si3N4, PAD ALN, ALN Cold Pressed</td>
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<tr>
<td><strong>Nitrides</strong></td>
<td>PAD Si3N4, PAD ALN, ALN Cold Pressed</td>
</tr>
<tr>
<td><strong>Silicon</strong></td>
<td>Yttria Bulk, Yttria Plasma Coating</td>
</tr>
<tr>
<td><strong>Silicon Carbide</strong></td>
<td>Dura-Z™ Zirconia</td>
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</tbody>
</table>
Etch Components
- Shower heads
- Windows
- Focus rings
- Domes
- Shields
- Nozzles

CVD, PVD, ECP Components
- Gas distribution plates
- Chamber liners
- Domes
- Plating insulators
- Cover rings
- Heaters

Wafer Inspection & Lithography Components
- Wafer tables
- Ceramic filters
- Vacuum break filters
- Photomask substrates
- Stage components

Implant Components
- Air-bearing guideways
- Air bearings
- Interferometer reference mirrors
- Scale mounts

Planarization - CMP Components
- CMP Tables

Single Silicon Pulling Components
- Crucibles

Thermal Batch Diffusion & LPCVD Components
- Wafer boats
- Pedestals
- Liners & process tubes
- Cantilever paddles
- Baffles & holders
- Back fillInjectors

High Temperature RTP & EPI Components
- RF shields
- Insulators
- Susceptors
- Rings
- Diffusers

General Application Components
- End effectors
- Lift pins
- Heaters
- Multi-layer channeled ceramic substrates
- Insulators
For over 100 years, industry leaders have relied on CoorsTek for solutions to the world’s most perplexing engineering and manufacturing challenges. Since the inception of the semiconductor and electronics industries, CoorsTek has served the world’s most respected OEMs by producing exceptionally durable, reliable, and high-purity ceramic components.

With the 2014 acquisition of Covalent Materials Corporation, CoorsTek became the world’s largest manufacturer of engineered ceramics. CoorsTek now offers an extensive portfolio of over 300 materials, including silicon carbides, aluminas, zirconias, graphite, quartz, and custom blends adapted for specialized applications.

CoorsTek employs the world’s leading ceramics engineers and is supported by the industry’s largest and most sophisticated research and development infrastructure, with centers in North America, Europe, and Asia.

With over six thousand employees and nearly six million square feet of manufacturing space, CoorsTek has unparalleled manufacturing capacity. We offer a variety of forming processes including injection molding, dry pressing, isostatic forming, and extrusion to ensure high-quality, low-cost manufacturing.

As best-practice manufacturers, we take quality very seriously. All CoorsTek facilities comply with internationally recognized manufacturing and quality standards, such as ISO-9001.

With over 100 facilities across four continents, CoorsTek is the international partner of choice for high-performance semiconductor components. For more information, contact a CoorsTek materials expert today at +1 800 821 6110.