Cupola Melt Zone Technology
Allied Mineral Technical Services (AMTS) offers technical assistance in the critical areas of Blast Furnaces, Hot Blast Stoves and Cupolas. The AMTS team of experts has decades of experience in the industry and support of Allied Mineral Products, a worldwide leader in refractory technology and production.

Technology Benefits

- **Savings** - AMTS melt zone technology reduces the amount of refractory lining material and improves your maintenance schedule.
- **Defer Shell Replacement** - Maintaining refractory in the melt zone defers shell replacement by 3 to 5 years.
- **Coke reduction** - A stable melt zone diameter will reduce coke requirements and provide a more consistent melt process.
- **Increased production rate** - A balanced cupola operates more efficiently and produces iron at a consistent temperature and chemistry.

AMTS Engineering and Design Services

- Data collection analysis
- Melt Zone monitoring and modeling
- Failure diagnostics of Melt Zone
- Problem analysis and integrated solutions
- Comprehensive engineering design capability
- Advanced refractory and cooling systems

AMTS Field Services

- Emergency responsiveness
- Placement of data collection equipment
- On-site supervision and assistance for:
  - Installation
  - Core drilling
  - Grouting
  - Maintenance
- Refractory properties and behavior
- Analysis of melt practices
- Training on best practices

Melt Zone Monitoring

Melt Zone Thermocouples aligned with wear pattern
## Hotface Monolithic Products

<table>
<thead>
<tr>
<th>Area</th>
<th>Products</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melt Zone</td>
<td>STACKGUN 90</td>
<td>High alumina, low-clay gun refractory</td>
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<tr>
<td></td>
<td>STACKGUN 85 SiC</td>
<td>85% silicon-carbide, low-clay gun refractory</td>
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<td></td>
<td>CW GUN 519</td>
<td>Silicon-carbide based gun refractory</td>
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<td></td>
<td>DuraLast</td>
<td>Medium Conductivity Brick — Nitride Bonded SiC</td>
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<tr>
<td></td>
<td>DuraMeltz®</td>
<td>High Conductivity Brick</td>
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## Key Products

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<tr>
<td>Preheat Zone</td>
<td>STACKCRETE 608</td>
<td>Mullite based, silicon-carbide shotcrete</td>
</tr>
<tr>
<td></td>
<td>STACKCRETE 65</td>
<td>Alumina based, abrasion resistant shotcrete</td>
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<tr>
<td></td>
<td>GUNCAST 28 LI</td>
<td>Abrasion resistant gun mix</td>
</tr>
<tr>
<td></td>
<td>DuraLast</td>
<td>Medium Conductivity Brick — Nitride Bonded (NB) SiC</td>
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DuraMeltz® - Melt Zone
High Conductivity Brick

DuraMeltz® Melt Zone shotcreted with Allied Mineral Product Monolithic

DuraLast NB SiC - Melt Zone
Medium Conductivity Brick

DuraLast NB SiC - Upper or Lower Stack
Contact us:

Allied Mineral Technical Services
2700 Scioto Parkway, Columbus, Ohio 43221 USA
614-876-0244 • amts@alliedmin.com

Refractory support from Allied Mineral Products