

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.



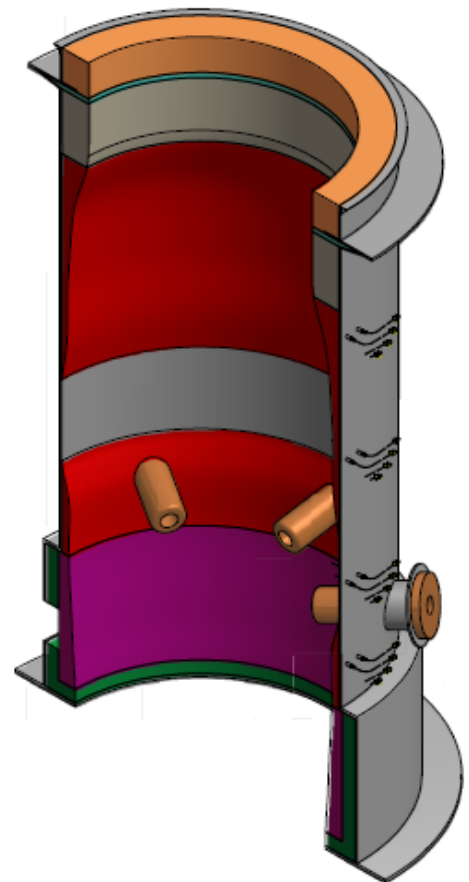
Melt Zone Monitoring

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 Thermocouples aligned with wear pattern

Hotface Monolithic Products

Area	Products	Comments
Melt Zone	STACKGUN 90	High alumina, low-clay gun refractory
	STACKGUN 85 SiC	85% silicon-carbide, low-clay gun refractory
	CW GUN 519	Silicon-carbide based gun refractory
	DuraLast	Medium Conductivity Brick — Nitride Bonded SiC
	DuraMeltz®	High Conductivity Brick

Key Products

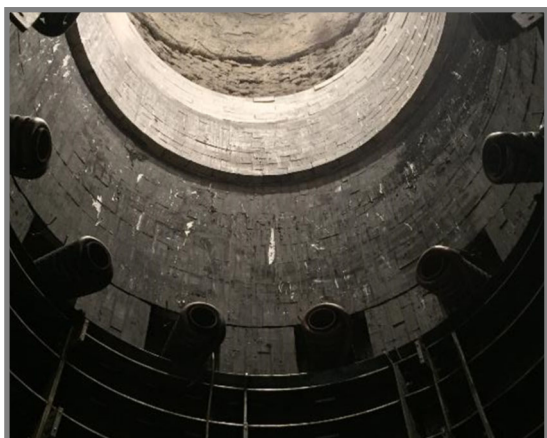
Area	Products	Comments
Preheat Zone	STACKCRETE 608	Mullite based, silicon-carbide shotcrete
	STACKCRETE 65	Alumina based, abrasion resistant shotcrete
	GUNCAST 28 LI	Abrasion resistant gun mix
	DuraLast	Medium Conductivity Brick — Nitride Bonded (NB) SiC



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



Fast → Flexible → Focused



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Refractory support from Allied Mineral Products

