



REFRACTORIES

— FOR —

WASTE INCINERATION

Municipal - Industrial - Hazardous



ALLIED
MINERAL
PRODUCTS

Global **Refractory** Solutions



ABOUT ALLIED

Allied Mineral Products is a world leader in the design and manufacture of monolithic refractories and precast shapes. With strong sales and service teams in the foundry, aluminum, steel, heat treat/forge and industrial markets, our success is based on our dedication to *Being There Worldwide with Refractory Solutions*.

Producing quality, consistent products is top priority at Allied and we have the products to meet your refractory needs. Our extensive product line includes innovative refractory technology and longstanding refractory alternatives.

Allied's focus on quality at every stage in the production process is unparalleled. A stringent raw material standard and global quality control testing before and after each batch is produced, provides customers with consistent products. We provide quick response times to any urgent request through flexible manufacturing systems at all our manufacturing facilities.

Global **Refractory** Solutions



12 MANUFACTURING FACILITIES
OVER **145** INTERNATIONAL SALES REPRESENTATIVES
3 RESEARCH AND TECHNOLOGY FACILITIES
SALES ACTIVITY IN MORE THAN **130** COUNTRIES
7 PRECAST SHAPES FACILITIES



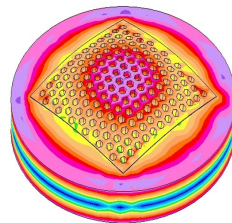
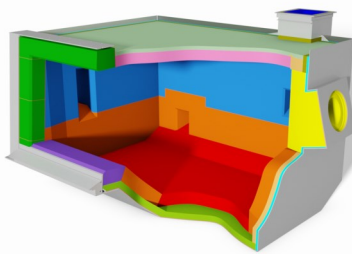
RESEARCH & ENGINEERING

After gaining a detailed understanding of your specific needs, our team evaluates operating criteria and physical design parameters to create a detailed engineered design encompassing:

- Patented technologies
- Optimized product zoning
- Thermal models to optimize and validate designs
- Proven safety lining system designs
- Unique installation properties and techniques
- Leading edge refractory system designs

We're focused on developing new products, improving existing products and perfecting installation techniques. Our product development and testing is conducted in our state of the art research and technology center. We have an on-site gunning and shotcreting lab allowing extensive testing of installation properties.

As an innovative, technology-driven supplier we're devoted to providing customized refractory solutions for various industry operations. We offer a wide variety of high performance refractory products with superior raw material quality.



FEA Thermal Analysis



Flow Testing



Contact Tests



Strength Tests





HAZARDOUS WASTE INCINERATION

Rotary Kiln Incineration System

KILN HEAD

TUFFCRETE® ARZ
TUFFCRETE® 65 M
TUFFCRETE® 608
INSULMIX® 2460 LI

ROTARY KILN

TUFFCRETE® 60 M ARZ
TUFFCRETE® 65 M
TUFFCRETE® AZS 5R
DURACON 3450CR
DURACON 35 LS
INSULMIX® 2460 LI

SECONDARY COMBUSTION CHAMBER - FLUE

TUFFCRETE® 65 M
TUFFCRETE® 60 M
TUFFCRETE® 608
INSULMIX® 2035 LI

SECONDARY COMBUSTION CHAMBER

TUFFCRETE® 608
INSULMIX® 2035 LI

BURNER

DURACON® 34
TUFF-FLO 60A

KILN HEAD HOOD

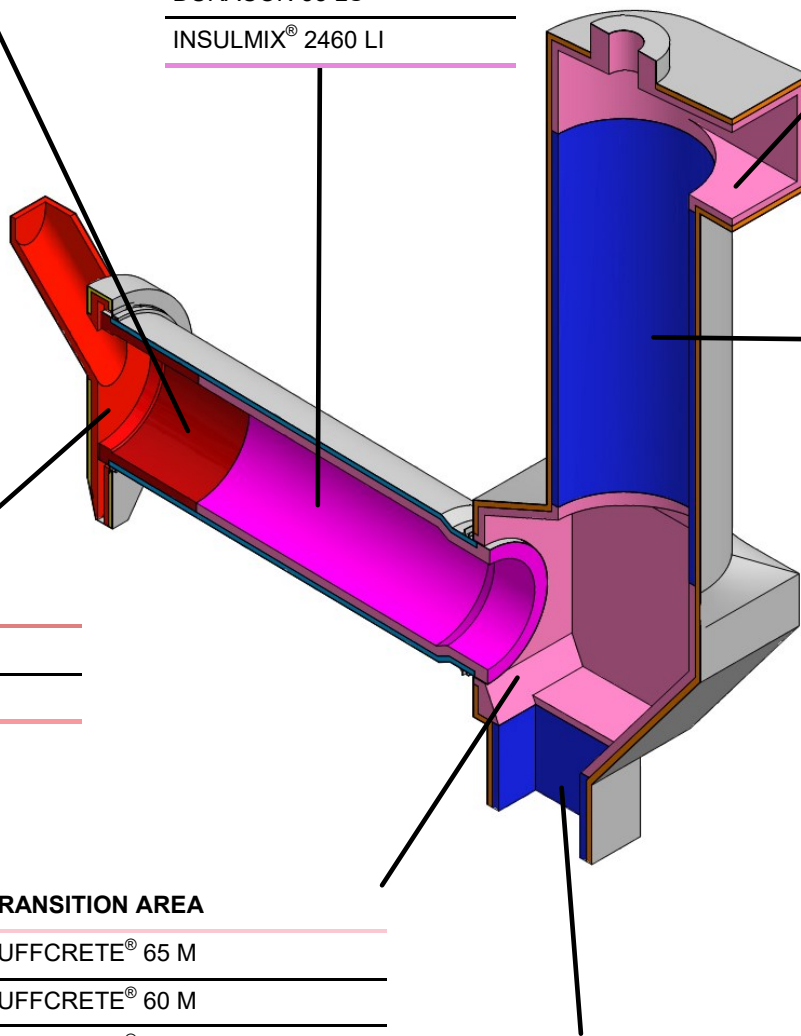
TUFFCRETE® 60 M
TUFFCRETE® 608

TRANSITION AREA

TUFFCRETE® 65 M
TUFFCRETE® 60 M
TUFFCRETE® 608
INSULMIX® 2035 LI

SLAG DISCHARGING AREA

TUFFCRETE® 608
INSULMIX® 2035 LI



Liquid Waste Incinerator

UPPER AREA

TUFFCRETE® 60MARZ

FAST-TURN® 65M

TUFFCRETE® 608

NANOTEK® FS ULTRA

GUNCAST® 28 LI

INSULMIX® 2460 LI

INSULMIX® 2035 LI

LOWER AREA

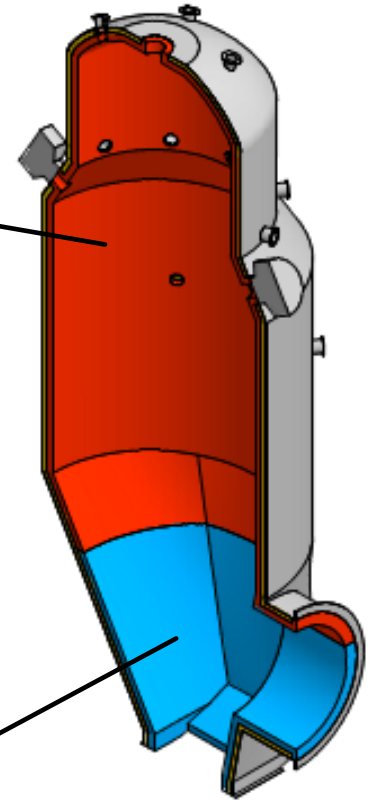
TUFFCRETE® 608

TUFFCRETE® 20SIC

TUFFCRETE® ARZ

INSULMIX® 2460 LI

INSULMIX® 2035 LI



Cooling Tower

UPPER AREA

TUFFCRETE® FS

STACKLINE B PC

NANOTEK® FS ULTRA

INSULMIX® 2035 LI

MIDDLE/LOWER AREA

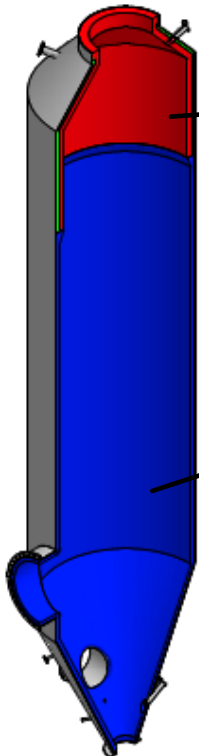
We recommend precoating the furnace shell with anti-corrosion paint.

STACKLINE B PC

NANOTEK® FS ULTRA

TUFFCRETE® 608

GUNCAST® 26 LI



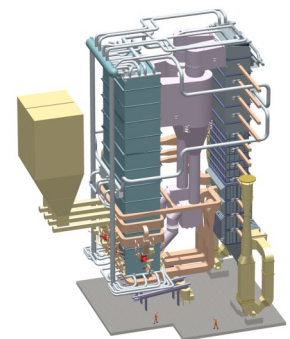


POWER GENERATION

Innovative, solution driven products designed to meet the unique needs of power plants. We offer refractory solutions for cyclones, burner covers, ash hoppers and cricket walls. At Allied, power means energy. This industry encompasses many diverse fields with unique equipment and needs and we aim to support and optimize them.

Our frontline products for power include ARMORGUN®, FAST-TURN®, TUFFCRETE® and precast refractory shapes.

Location	Product Name	Description	Installation Method
Fluidized Bed	TUFFCRETE® 65 M	Alumina based, low cement castable	Vibration, pumping, shotcrete, self-flow
	TUFF-FLO 32 SA	Alumina based, low cement, self-flowing castable	Vibration, pumping, shotcrete, self-flow
	ARMORGUN® 70	Low cement	Pneumatic gunning
Cyclone Separator	TUFFCRETE® 60 SiC	High SiC, abrasion resistant	Vibration, shotcrete
	TUFFCRETE® 70 ABR	Alumina based, abrasion resistant castable	Vibration, shotcrete
	ARMORGUN® 80 SiC	High SiC, low cement	Pneumatic gunning
Return Feeder	TUFFCRETE® 60 M	Alumina based, low cement castable	Vibration, pumping, shotcrete, self-flow
	TUFFCRETE® 608	Mullite based, low cement castable	Vibration, pumping, shotcrete
	ARMORGUN® 50	Low cement	Pneumatic gunning
High-temperature Flue	TUFFCRETE® 70 ABR	Alumina based, abrasion resistant castable	Vibration, pumping, shotcrete
	TUFFCRETE® 65 M	Alumina based, low cement castable	Vibration, pumping, shotcrete, self flow
	MINIRO-AL PLASTIC A89	Alumina based, phosphate-bonded	Ramming
Partition	METAL-ROK® 70 M	Metal ceramic composite materials	Metal fiber reinforced precast shape
	TUFFCRETE® 60 M	Alumina based, low cement, high purity castable	Vibration, pumping, shotcrete, self-flow





Product Name	Al ₂ O ₃ %	SiO ₂ %	Cr ₂ O ₃ %	SiC %	ZrO ₂ %	Density g/cm ³ (lb/ft ³)	Maximum Temperature
TUFFCRETE® ARZ	41.3	46.7	-	4.1	1.5	2.32 (145)	1650°C (3000°F)
TUFFCRETE® FS	10.5	86.8	-	-	-	2.00 (125)	1315°C (2399°F)
TUFFCRETE® 60 M	64.6	30.2	-	-	-	2.53 (158)	1700°C (3090°F)
TUFFCRETE® 608	59.3	28.3	-	7.9	-	2.60 (162)	1650°C (3000°F)
TUFFCRETE® 65 M	65.8	28.1	-	-	-	2.58 (161)	1700°C (3090°F)
TUFFCRETE® 60 M ARZ	54.0	38.5	-	4.2	1.5	2.48 (155)	1700°C (3090°F)
TUFFCRETE® 70 ABR	71.6	21.9	-	-	-	2.64 (165)	1650°C (3000°F)
TUFFCRETE® 20 SIC	41.8	31.7	-	21.4	-	2.32 (145)	1650°C (3000°F)
TUFFCRETE® 60 SIC	21.3	12.1	-	63.6	-	2.59 (162)	1650°C (3000°F)
TUFFCRETE® AZS 5R	49.8	18.2	-	-	22.6	2.85 (178)	1540°C (2800°F)
DURACON® 3450CR	89.2	-	9.2	-	-	3.29 (205)	1870°C (3400°F)
DURACON® 34	98.6	0.1	-	-	-	3.12 (195)	1870°C (3400°F)
DURACON® 35 LS	98.5	0.1	-	-	-	3.12 (195)	1870°C (3400°F)
INSULMIX® 2460 LI	40.0	39.1	-	-	-	1.18 (74)	1315°C (2400°F)
INSULMIX® 2035 LI	36.7	42.5	-	-	-	0.60 (37)	1100°C (2010°F)
STACKLINE B PC	0.2	98.1	-	-	-	2.10 (131)	815°C (1500°F)
NANOTEK® FS ULTRA	0.1	99.8	-	-	-	1.98 (124)	1650°C (3000°F)
FAST-TURN® 65 M	64.8	30.5	-	-	-	2.58 (161)	1700°C (3090°F)
GUNCAST® 26 LI	45.9	41.1	-	-	-	2.07 (129)	1425°C (2600°F)
GUNCAST® 28 LI	48.0	41.4	-	-	-	1.99 (124)	1540°C (2800°F)
ARMORGUN® 70	69.7	23.4	-	-	-	2.39 (149)	1650°C (3000°F)
ARMORGUN® 50	48.8	44.9	-	-	-	2.18 (136)	1650°C (3000°F)
ARMORGUN® 80 SIC	13.0	-	-	79.3	-	2.31 (144)	1500°C (2730°F)
MINRO-AL® PLASTIC A89	85.3	9.1	-	-	-	2.93 (183)	1700°C (3090°F)
TUFF-FLO 60A	59.6	36.2	-	-	-	2.58 (161)	1700°C (3090°F)
METAL-ROK® 70 M*	70.2	25.4	-	-	-	3.06 (191)	1350°C (1500°F)

*Stainless Steel Fibers are not included in the chemical analysis.

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