

A Presentation on

Thermal Grade of Zirconia Products & Applications

Attributes	Unit	CUMITHERM-Z	CUMITHERM-Z-HP
Zirconia Content	Wt%	95.00 min	95.00 min
Fired Bulk Density	gm/cc	5.15 min	4.20 min
Apparent Porosity	%	6.00 max	25.00 max
Rockwell Hardness	R45N	50	30
MOR at Room Temperature	kg/cm ²	1250 min	650 min
MOR after Spalling (1000degC to air, 10 Cycles)	kg/cm ²	1250 min	650 min

Salient Features :

- 1) Good Erosion resistant
- 2) Good corrosion resistant
- 3) High Spalling resistant
- 4) Adequate Flexural Strength

This chart is intended to illustrate typical Properties of CUMITHERM-Z materials. The designer should recognize that exact properties may vary according to product configuration and can sometimes be tailored to meet specific requirements. The information set forth herein not to be construed as absolute engineering data or constituting a warranty or representation for which we assume legal responsibility.

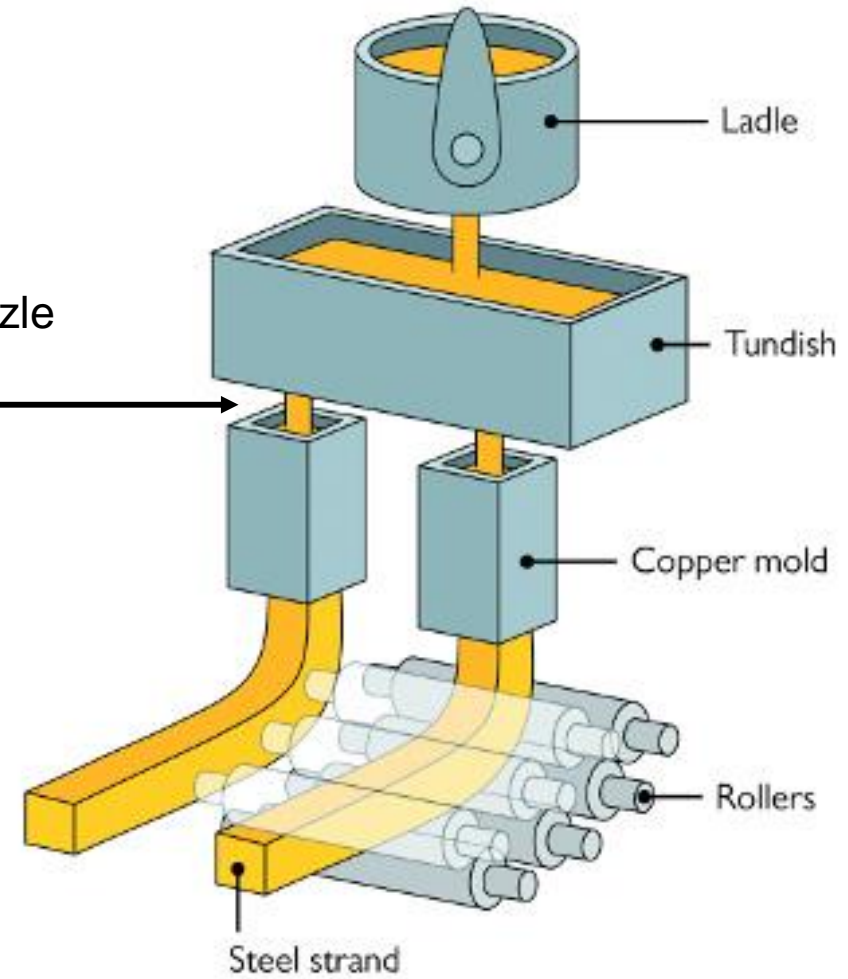
- Zirconia Inserts for Continuous Casting of Molten Steel
- Zirconia Atomization Nozzle for Metal Powder Atomization
- Zirconia Ceramic Ferrule for Air Preheater in AFBC Boilers
- Zirconia Crucible for Melting & Handling of Molten Steel, Super Alloys & Noble Metals.



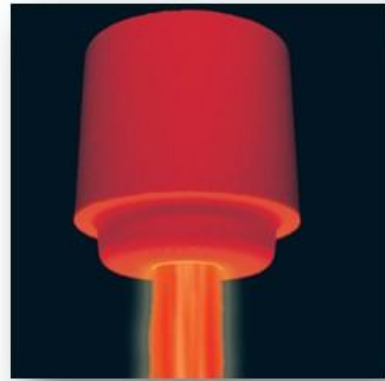
Zirconia Inserts for Continuous Casting of Molten Steel



Tundish Zirconia Nozzle
Inserted Assembly

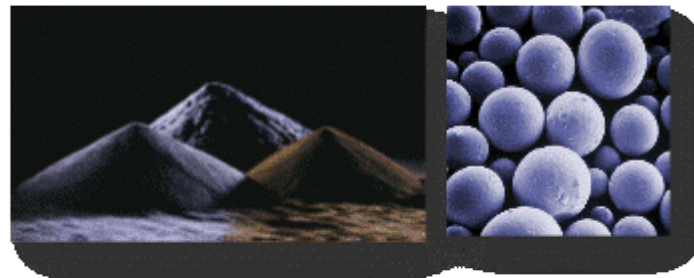
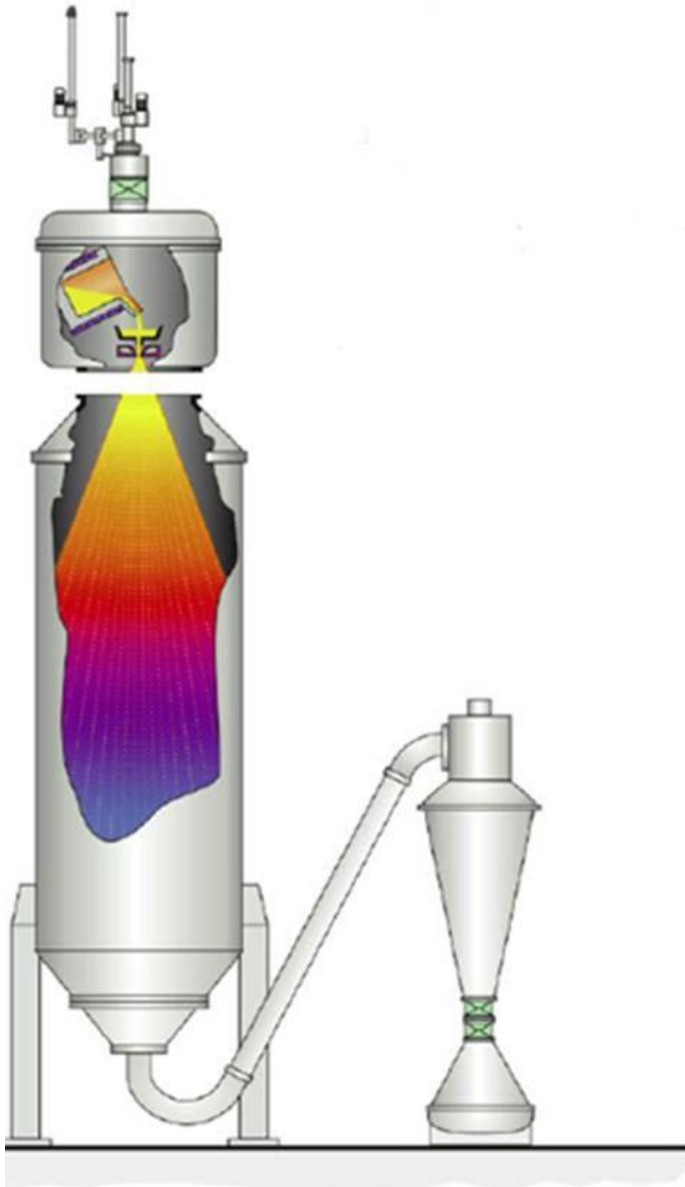


Zirconia Inserts for Continuous Casting of Molten Steel

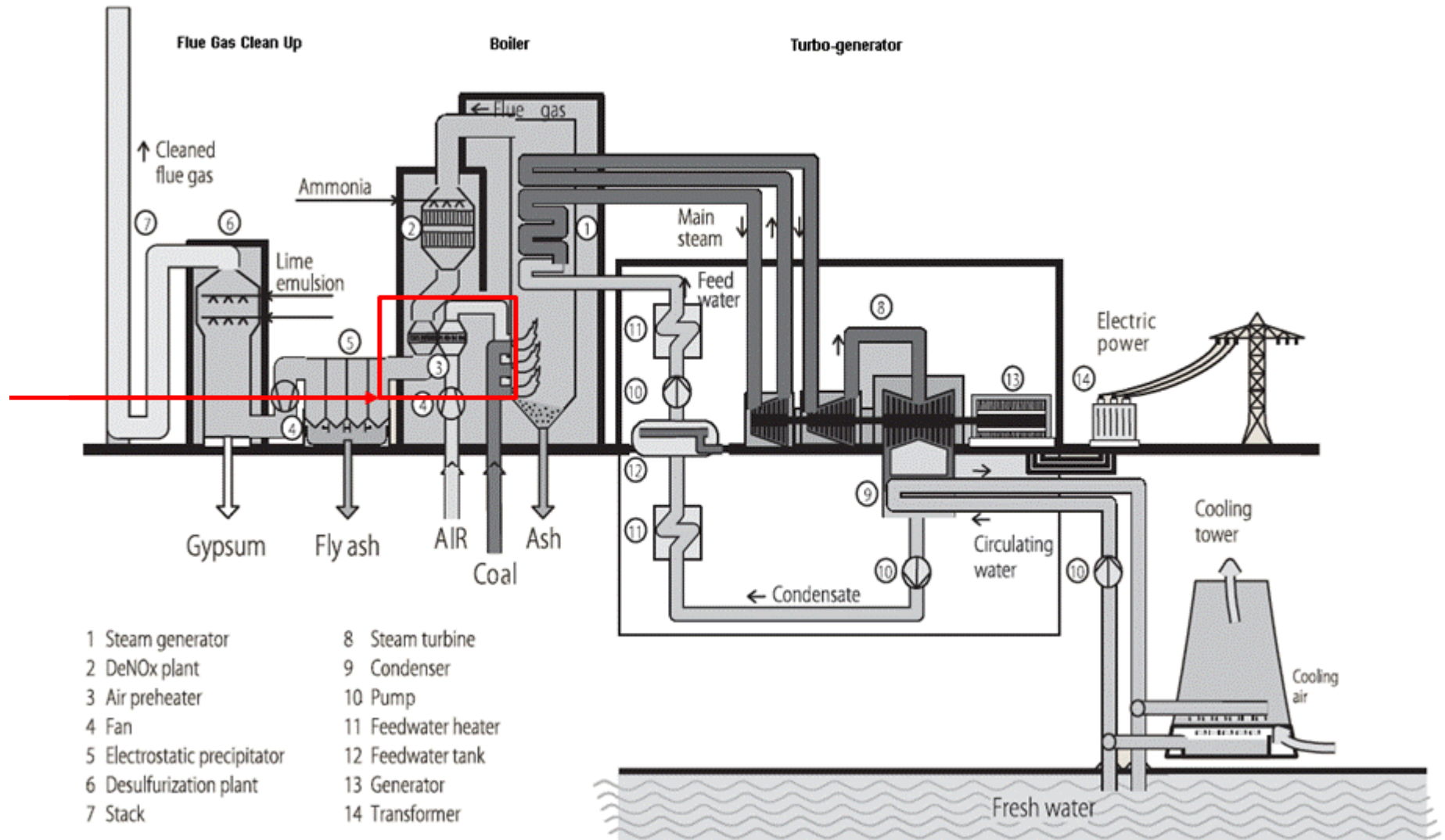


Features :

- Close dimensional accuracy for steady flow characteristics.
- Very good thermal shock resistance.
- Excellent abrasion & erosion resistance.
- Chemically stable and non-wetting in contact with steel alloys.



Air Preheater in a Coal Power Plant



Features :

- High erosion resistant against combustion flues.
- Excellent thermal stability.
- Good thermal shock resistance.
- Excellent wear resistance



Benefits :

- Effective protection of APH (Protection of Tubesheet and Tubesheet welds against wear & corrosion.)
- Reduction of Boiler downtime.
- The Ceramic Ferrules enables the maintenance free operation of the APH for one year and more, through effective protection of the APH.
- Prevention of combustion air and flue gas mix up and thus increasing combustion efficiency.
- Ceramic Ferrule offers a cost-benefit to the Customers.

Zirconia Crucible for Melting & Handling of Molten Steel, Super Alloys & Noble Metals.

Features :

- Isostatically pressed crucibles.
- Tailor made to the required dimension and shape.
- Advantage to operate at high temperature for longer duration.

