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Zirconia Cera Foam DMX Powder

Ideal for Casting Stabilized-Zirconia Porous Foam Parts

Zirconia Cera Foam DMX Powder is a ready-to-use, powdered refractory mixture to which water is added to form a slurry. The slurry can then be poured/cast into silicone or metal molds to form free-standing ceramic foam pieces; or, the slurry can be applied by troweling/spatulating onto ceramic surfaces to fill cracks/crevices or provide a more insulating surface layer.

This formulation is quite easy to use for making ceramic foam anytime a porous ceramic is desired.

Key Attributes

- Unique dry mixture that, on adding water and stirring to a uniform slurry, allows the formation of a high-porosity refractory ceramic foam
- After firing, circa 94% stabilized Zirconia, the most thermally insulating oxide
- Refractory ceramic foam usable to over 1600 C
- Allows making free-standing foam parts or making a slurry that forms porous foam where it is applied

Use Notes

1. Stir the dry powder mixture to make it uniform (i.e., some separation may have occurred).
2. Put the mix into container; add 16% water and stir until a uniform slurry occurs.
3. Cast the slurry into a silicone mold and place into 60 C dryer overnight.
4. Demold, invert and dry a few hours more.
5. Put into furnace and heat at a slow rate to 1300 C.

Parchment paper or zirconia powder bed can prevent sticking to support pieces.
Example: 0.5 C/min to 200 C and hold for 0.1 hour, followed by heating at 1 C/min to 1000 C and holding for 2 hours, followed by firing at 1 C/min to 1300 C. Slow heating improves the bonding of the free-standing foam and reduces any tendency of cracking during the evolution of vapors.

NOTE: the fired/sintered foam part will typically have 50-60% porosity, 5% maximum shrinkage from the cast part, and be well-bonded. Since Zirconia is the lowest thermal conductivity oxide, the foam will have excellent thermal insulation.

Specifications

Active Ingredients	Proprietary Refractory Materials
Max Use Temperature with All Atmospheres	>=1600 C / >=2912C
Fired Composition	Proprietary Mixed Phases, circa 94% stabilized ZrO_2
Color	White
Shelf Life (months)	Indefinite … but avoid getting wet before use
H F R Ratings	1-0-0

Sizes and colors

Zirconia Cera Foam DMX Powder is a mostly white colored dry mixture.

Standard Size: Pint or Quart

Ideal Use

- Making free-standing ceramic foam pieces
- Repairing and patching refractories in furnaces
- Providing a high-thermal-insulation surface

Safety Information

- Consult SDS before use.
- For industrial use only

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