

CERIUM OXIDE

Cerium Oxide is an off-white to yellow colored powder sometimes called cerium dioxide, cerium(IV) oxide, ceric oxide, ceria. Its trade or hobby names can also be "Jeweler's Rough" or "Opticians Rough". CeO₂ is a natural compound most commonly used in ceramics, to polish glass and gems, to sensitize photosensitive glass and in a variety of other applications. Cerium Oxide can be mixed with water to form a paste or slurry. Compatible with most polishing pads it can be used in both low and high speed equipment with recirculating systems.

CERIUM OXIDE CHEMISTRY

	CeO 99	CeO 99	CeO 65
Total Rare Earth Oxide (TREO)	99%	99%	98%
CeO ₂	99.90 % Min	99.90 % Min	65 % Min
Al	0.055% Max	0.055% Max	-
Fe	0.02% Max	0.02% Max	-
CaO	0.01 % Max	0.01 % Max	0.07 % Max
SiO ₂	0.01 % Max	0.01 % Max	-
La2O3	-	-	29.5 % Typical
Pr6011	-	-	4.3 % Typical
Nd2O3	-	-	0.1 % Typical
MgO	-	-	0.03 % Typical
ZnO	-	-	0.002 % Typical
Fe2O3	-	-	0.009 % Typical
Loss on Ignition	0.30 Max	0.30 Max	0.6 Typical

TYPICAL PARTICLE SIZE DISTRIBUTION

	CeO 99	CeO 99	CeO 65
Sizing	< 6.0 µm	0.5 µm	
Median (d50 %)	< 1.5 microns	0.5 µm	1-2 microns
d ₁₀	< 1.0 microns	0.1 µm	< 1.0 microns
d ₉₀	5.0 microns	1.4 µm	3-4 microns
d ₁₀₀	6.0 microns	< 2.0 µm	≤ 5 microns

TYPICAL PROPERTIES

High Hardness

High Oxygen Ion Conductivity

Absorbs Ultraviolet RadiationPrecision

TYPICAL APPLICATIONS

Polishing

Lapping

Ceramic Parts

www.panadyne.com

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sales@panadyne.com

Phone 215-444-9315 • Fax 215-444-9317 516 Stump Road • Montgomeryville • Pennsylvania 18936



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