Ceria polishing powders

Products	TREO(%)	CeO_2/TREO(%)	D50(um)	Concentration (Wt. %)	PH	Suspension
CA1603			1.0-2.0	100%	6-8	Yes
TJP621	91-97	65-72	1.8-2.2	100%	6-10	Yes
TJW001	≥95	≥98	0.6-1.1	100%	6-9	Yes
TJW002	≥95	≥98	1.2-1.4	100%	6-8	Yes
TJP905	≥90	≥98	2-3	100%	6-8	Yes
TJP685	＞85	＞60	0.4-0.6	100%	6-9	Yes
TJP824	＞85	＞60	0.4-0.6	100%	6-9	Yes
TJP825	＞85	＞60	1.2-1.6	100%	9-10	Yes

CERIUM OXIDE FOR PRECISION OPTICS

Precision optics covers a wide variety of glass types and processes. Demeter Technologies offers a wide selection of cerium oxide for precision optics powders and slurries which will meet your needs. Starting with custom designed raw materials, the particles are formed in a manner which produces consistent particle shape and hardness. Particle size reduction and classification is carried out to produce powders of very narrow particle size distribution which eliminates oversize particles which cause scratches and defects.

The benefits are:

- High polishing rates
- Defect–free surface finish
- Easy mixing and robust particle suspension
- Long slurry life
- Easy cleaning from all types of surfaces
- Low cost per finished unit
- No freezing restrictions

CA1603

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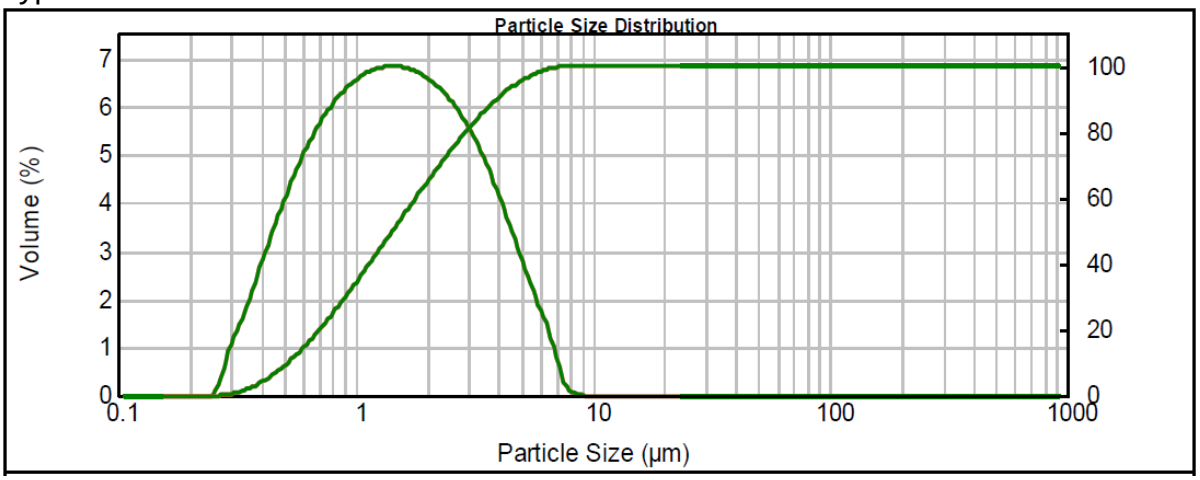
CA1603 is high quality ceria designed to polish glass optical lenses and ophthalmic lenses to achieve high polishing efficiency and high surface quality at a reasonable cost. Its greatest advantage is high stock removal.

Parameters	Unit	Typical data	LSL	USL
D50	um	1.43	1.0	2.0
D97	um	5.45	--	7
Bulk density	g/cm^3	1.64	1.4	1.8
PH	--	7	6	8

Typical PSD



Polishing parameters for reference：

Polisher	Polishing pad	Presure (MPa)	Slurry flow rate	Glass polished	Principal axis (rpm)	Swing frame (rpm)	Slurry Concentration (wt%)	Surface finish	Polishing time (Min)	Typical stock removal(mg)
JPX012.2A	LP66	0.3	Fixed	K9 (ϕ 65.0*1.04cm)	1000	34.96	2%	Good	3	54.7

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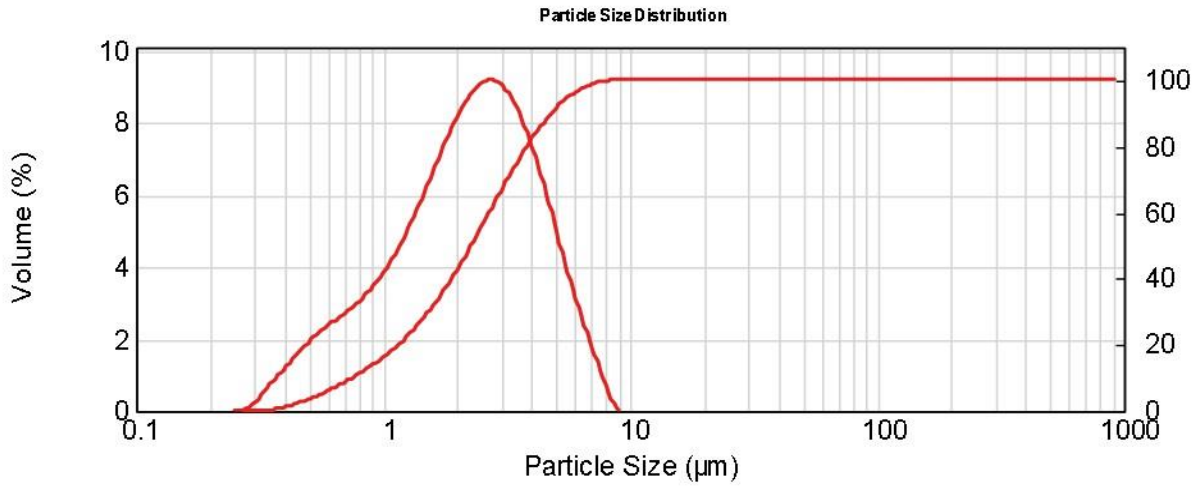
TJP621

A premium cerium oxide polishing powder formulation designed for precision optical lens polishing and ITO glass. Easy dispersed, high removal rate, long service life and high surface quality.

Parameters	Spec
CeO_2/TREO	65-72%
D50	1.8-2.2um
D97	＜10um
Suspension	Yes
PH	6-9
Recommended polishing concentration	40-200g/L
Package	20Kg per carton

Typical PSD



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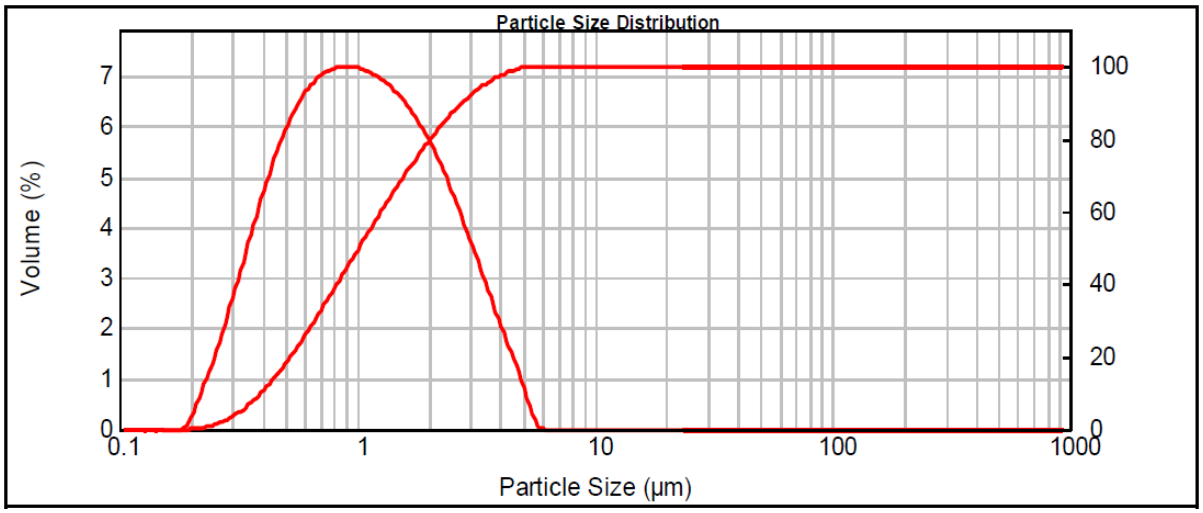
TJW001

TJW001 is specifically suitable for all kinds of mobile phone glass(2.5D/3D)light sweep and surface polishing with fast and high brightness polishing. This product conforms to ROHS 2.0, Envirement Friendly material.

Parameters	Spec
CeO_2/TREO	⩾98%
D50	0.6-1.1um
D97	＜4.5um
Suspension	Yes
PH	6-9
Recommended polishing concentration	250-330g/L
Package	20Kg per carton

Typical PSD



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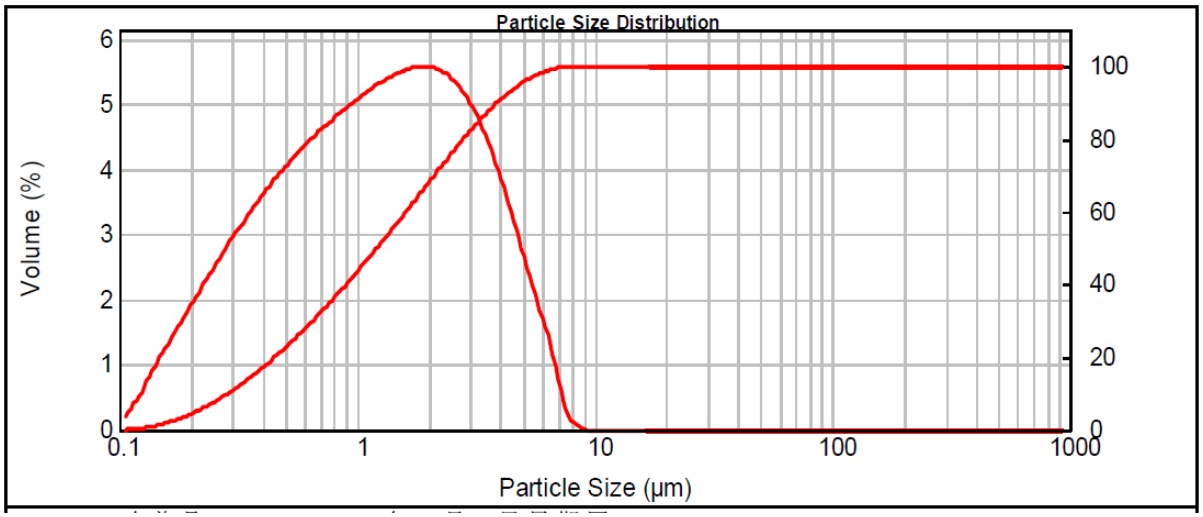
TJW002

TJW002 is derived from our TJW001 product for all kinds of mobile phone glass(2.5D/3D)light sweep and surface polishing with fast and high brightness polishing, the powder specially designed to improve cut rate without sacrificing the surface quality. This product also conforms to ROHS 2.0 and Chinese ROHS.

Parameters	Spec
CeO_2/TREO	⩾98%
D50	1.2-1.4 um
D97	＜6 um
Suspension	Yes
PH	6-8
Recommended polishing concentration	250-330g/L
Package	20Kg per carton

Typical PSD



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TJP905

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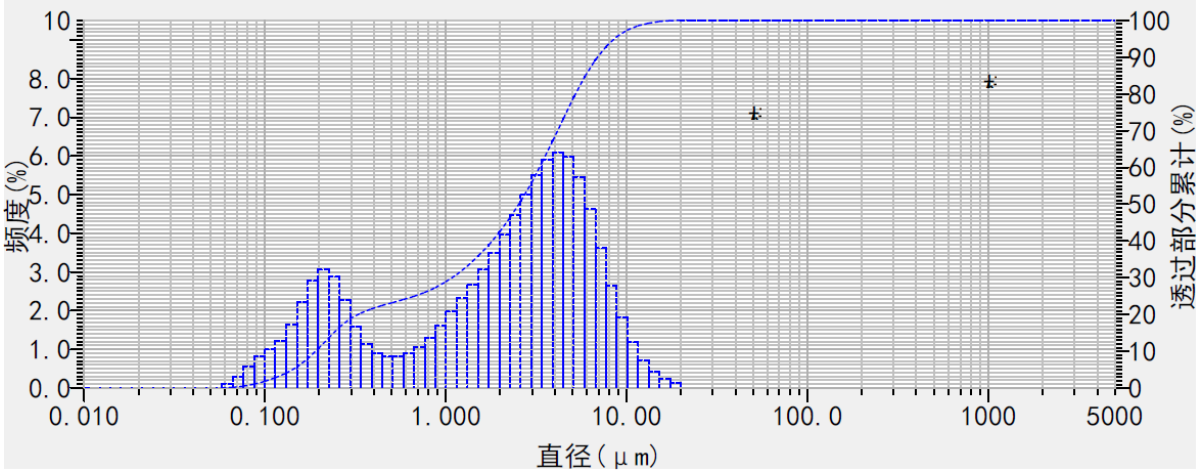
Parameters	Spec
CeO_2/TREO	≥98%
D50	2-3 um
D97	＜12um
Suspension	Yes
PH	6-8
Recommended polishing concentration	40-200g/L
Package	20Kg per carton

Typical PSD



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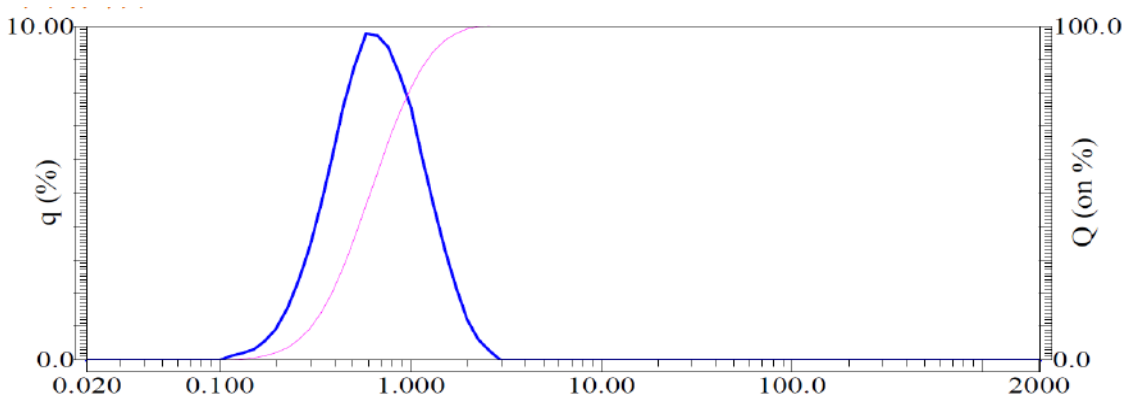
TJP685

A premium cerium oxide polishing powder formulation designed for precision optical lens polishing, ITO glass and GHD. Easy dispersed, high removal rate , long service life and high surface quality, the material wear processing range is 60- 280 .

Parameters	Spec
CeO_2/TREO	＞60%
D50	0.4-0.6 um
D97	＜2um
Suspension	Yes
PH	6-9
Recommended polishing concentration	40-200g/L
Package	20Kg per carton

Typical PSD



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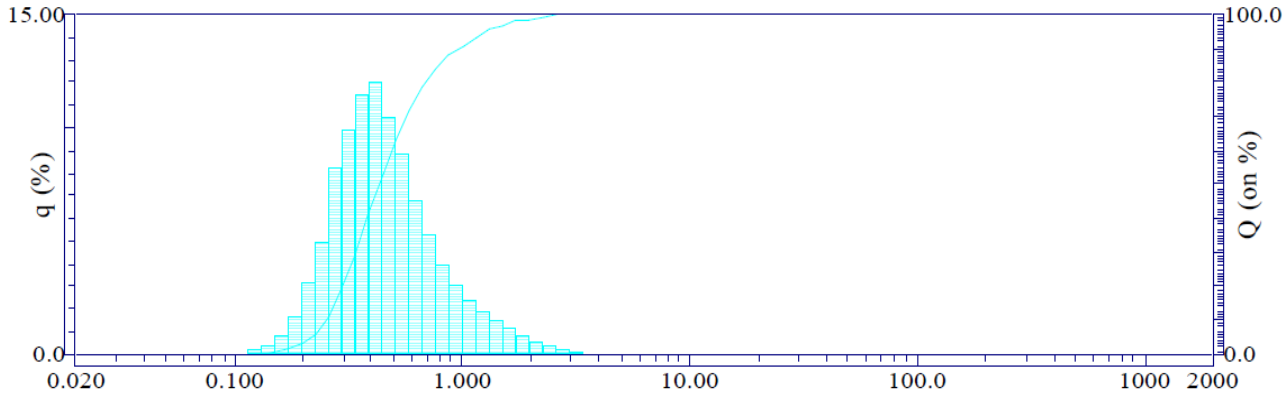
TJP824

A premium cerium oxide polishing powder formulation designed for precision optical lens polishing, ITO glass and GHD. Easy dispersed, high removal rate , long service life and high surface quality, the material wear processing range is 60- 280 .

Parameters	Spec
CeO_2/TREO	＞60%
D50	0.4-0.6 um
D97	＜2um
Suspension	Yes
PH	6-9
Recommended polishing concentration	40-200g/L
Package	20Kg per carton

Typical PSD



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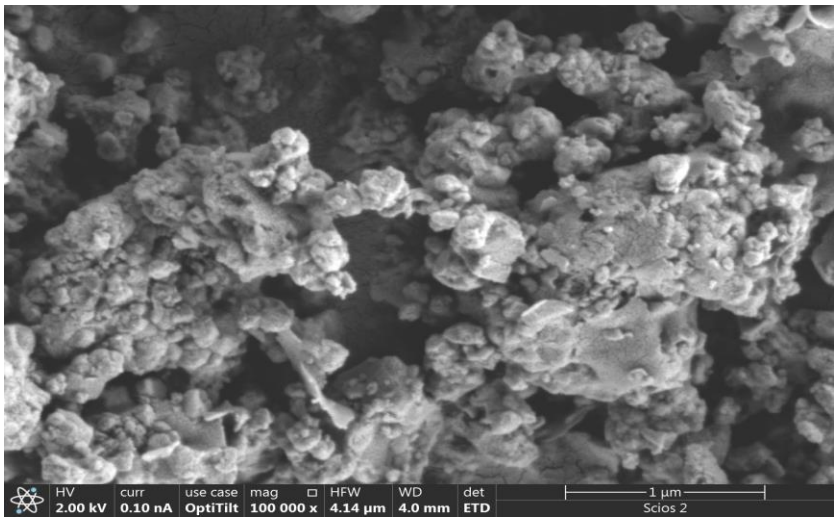
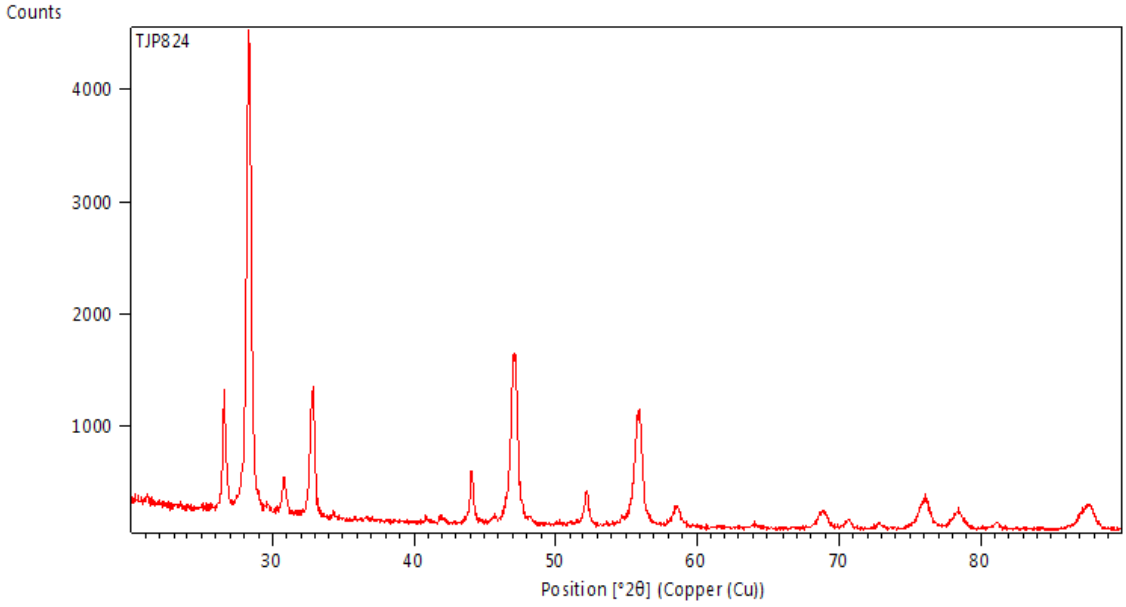
TJP824

SEM:



XRD:



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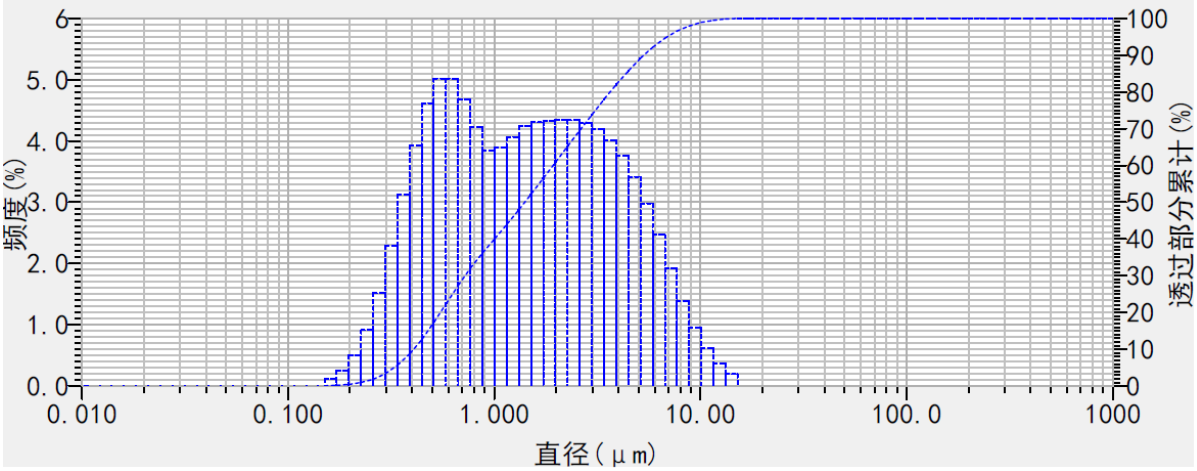
TJP825

A premium cerium oxide polishing powder formulation designed for precision optical lens polishing, ITO glass and GHD. Easy dispersed, high removal rate , long service life and high surface quality, the material wear processing range is 60- 280 .

Parameters	Spec
CeO_2/TREO	＞60%
D50	1.2-1.6 um
D97	＜10 um
Suspension	Yes
PH	9-10
Recommended polishing concentration	40-200g/L
Package	20Kg per carton

Typical PSD



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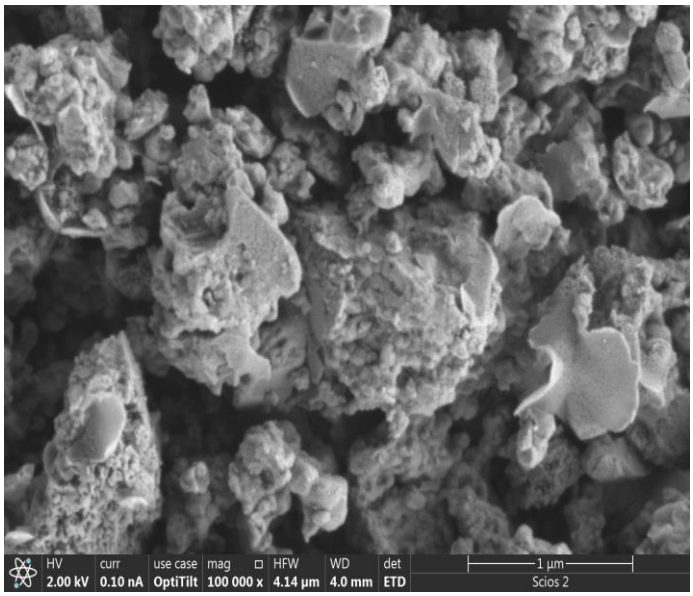
TJP825

SEM:



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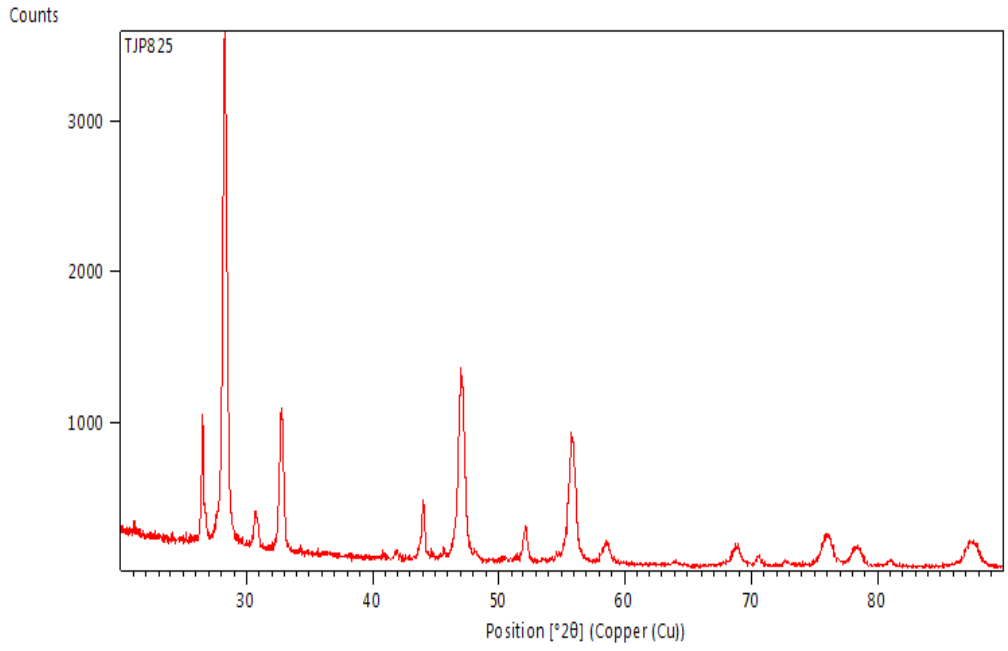

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Technical References

- Use the following pre-mixing method to increase polishing efficiency, reduce rework, reduce cerium oxide usage, and increase throughput:
  1. Calculate the mixing ratio according to the target slurry concentration (Baume). Please use warm water of 25-35 °C;
  2. Add the water to a clean container as calculated;
  3. Stir to disperse the ceria polishing solution;
  4. Weigh the ceria polishing liquid solution into the warm water according to the determined mix ratio and stir well;
  5. Add 250 mL of the mixed slurry to the measuring cylinder;
  6. Drop a hydrometer into the measuring cylinder to measure the Baume. Adjust the mixing ratio to get the target Baume reading if necessary. After each adjustment, steps 5 and 6 should be repeated until the target hydrometer reading is reached.

  Note: The Baume of the mixed slurry should be measured every two hours or at least twice a day.

- We also recommend that pH should be monitored. Ceria slurry cut rates are optimized at high pH, and alkalinity may changes during the polishing process. . It is important to monitor and control pH during glass polishing, as some glass types can corrode when the pH range is not correct.

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