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## Family of Zirconium Oxide Specialty Products

### Water-Based Coatings

- [Type Z](#) ... washcoating: soft but very high-purity of over 99%  $\text{CaO}$ -stabilized  $\text{ZrO}_2$  after firing; usable vacuum/inert to 2000 C but not recommended for applications in air atmosphere
- [Type YSZ](#) ... fully stabilized  $\text{Y}_2\text{O}_3$ -stabilized  $\text{ZrO}_2$  (98% after firing) coating specially exhibiting good adherence, erosion-resistance/chemical-resistance; good to 2000 C in all atmospheres
- [Type ZO](#) ...  $\text{CaO}$ -stabilized  $\text{ZrO}_2$  (97% after firing) coating with good adherence and stability; usable to over 1800 C in all atmospheres
- [Type ZO Mod](#) ... low-viscosity, abrasion-resistant  $\text{CaO}$ -stabilized  $\text{ZrO}_2$  (86% after firing) coating; good to 1550 C in all atmospheres
- [Type ZO Blackbody](#) ... high-emissivity version of Type ZO based  $\text{CaO}$ -stabilized  $\text{ZrO}_2$  and usable to 1800 C in all atmospheres
- [Zircwash](#) ... unstabilized  $\text{ZrO}_2$  (97% after firing) coating with good adherence and stability; usable to 2000 C in all atmospheres
- [Z-Guard](#) ... low-viscosity, abrasion-resistant unstabilized  $\text{ZrO}_2$  (86% after firing) coating; good to 1550 C in all atmospheres
- [ZBN Release](#) ... unstabilized  $\text{ZrO}_2$  and Boron Nitride as a blue-tinted coating with good adherence to all substrates; give thermal insulation and mold release, with usability to 1000 C in all atmospheres
- [Z-Paste](#) ... tough, abrasion-resistant  $\text{CaO}$ -stabilized  $\text{ZrO}_2$  (90% after firing) paste, usable to 1800 C in all atmospheres
- [SpackleKote Z](#) ... ready-to-use  $\text{CaO}$ -stabilized  $\text{ZrO}_2$  (over 85%  $\text{ZrO}_2/\text{Y}_2\text{O}_3$  after firing) spackling putty composition for use to 1400 C in all atmospheres
- [RefClay Z](#) ... refractory clay of unstabilized Zirconia (over 95%  $\text{ZrO}_2/\text{Y}_2\text{O}_3$  after firing) – moldable/press-formable; after firing, usable to 1600 C in air/OK in all atmospheres
- [Zirconolite Binder](#) ... gel-like liquid of Calcia-Zirconia-Titania (CZT,  $\text{CaZrTi}_2\text{O}_7$ ) which can form “Syn-Roc” like phases to immobilize/stabilize radioactive wasteforms, usable to 1500 C in all atmospheres

### Powder

- [PlasterMix ZY](#) ...  $\text{CaO}$ -stabilized  $\text{ZrO}_2$  plaster-forming (on adding water) dry powder – after firing, over 92%  $\text{Zr-Y-O}$ ; usable to 1400 C in all atmospheres

### Solvent-Based Coatings

- [Z Aerosol](#) ... aerosol spray-can of  $\text{CaO}$ -stabilized  $\text{ZrO}_2$  – forms a soft coating yielding over 98% pure  $\text{ZrO}_2$  as fired; air usable to 1900 C/ OK in all atmospheres
- [Z Aerosol Brushable](#) ... “bulk” version (same otherwise as the aerosol-can version)
- [Type ZK Paint](#) ... washcoating with low outgassing; usable in vacuum/inert to over 2000 C but not recommended for applications in air atmosphere