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## Type Y-CZ

### Yttria-Calcium Zirconate Water-Based Coating

Type Y-CZ is based on the most thermodynamically stable oxides of Yttrium Oxide ( $Y_2O_3$ ) and Calcium Zirconate ( $CaZrO_3$ ), both with melting points over 2300 C. This combination yields 75 mol%  $Y_2O_3$  and 25 mol%  $CaZrO_3$  on heating over 1000 C. Most importantly, unlike other Yttrium Oxide based coatings, Type Y-CZ is usable in air atmospheres as well as inert/vacuum to temperatures in the 1000-2000 C range; and the coating bonds well to all substrates – ceramic, graphite, metal. Due to the high stability of the coating, Type Y-CZ is suitable for use with very reactive molten metals.

#### Key Attributes

- Superior stability with molten, highly reactive metals/alloys
- Good erosion resistance at high temperatures
- Low thermal and electrical conductivity
- Use temperature to 2000 C in all atmospheres
- Water-based, easy to use and cleanup

#### Ideal Use

- Reactive-molten metal processing and transport
- Barrier coating to prevent diffusion, reactions, and sticking of parts during heat treating

#### Use Notes

1. Resuspend if needed. Dilute sparingly with water if desired.
2. Clean surfaces to be painted of any oils dirt, scale, etc.
3. Apply a single layer by brush or spray, drying after each layer.
4. Allow to thoroughly dry before use.

#### Safety Information

- Consult SDS before use.
- Avoid breathing of spray/vapors.
- For Industrial Use only.



#### Specifications

Active Ingredient	$Y_2O_3$ - $CaZrO_3$
Max Use Temperature with All Atmospheres Fired Composition	>2000 C (> 3632 F)
	79 wt% $Y_2O_3$ , 21 wt% $CaZrO_3$
Liquid Carrier	Water
Binder Phase	$CaO$ - $ZrO_2$
Brookfield Viscosity	3800@3/30
Specific Gravity	1.79
Color	White
Shelf Life (months)	>12
Coverage (ft <sup>2</sup> /gal)	100 to 400
Coating pH	8-9
H F R Ratings	1-0-0
Substrate Use	All
Other:	Contains no Silicon Oxide and no Boron

#### Sizes and colors

Type Y-CZ is a white paint.  
Standard size: 1 gallon wide-mouth Nalgene  
1 quart wide-mouth Nalgene

#### CAUTION: DO NOT CONTACT WET COATINGS WITH MOLTEN METAL.

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