



120 Valley Court  
Oak Ridge, TN 37830  
Ph: 865-482-5717  
FAX: 865-482-1281  
zypcoatings.com

**Type E**

## Highest Purity Erbium Oxide ( $\text{Er}_2\text{O}_3$ ) Water-Based Coating

Type E is a relatively-soft, washcoat-type of Erbium Oxide ( $\text{Er}_2\text{O}_3$ ) coating which provides a very-high-purity (99.99%)  $\text{Er}_2\text{O}_3$  layer that is usable in vacuum and inert atmospheres to 2000 C (3632 F). This coating can be used instead of Type Y ( $\text{Y}_2\text{O}_3$ ) whenever Yttrium is not desired, yet the properties of  $\text{Y}_2\text{O}_3$  are needed. Type E should NOT be used in air atmospheres.

### Key Attributes

- Provides the great properties of  $\text{Er}_2\text{O}_3$ , essentially the same as Yttrium Oxide other than density ... low electrical conductivity; low thermal conductivity; high-temperature thermodynamic stability; inert barrier to interactions/reactions
- Applies like housepaint - brush, dip, or spray
- Ideal for highly reactive molten metals
- Safe, Water-Based

### Ideal Use

- Coating Graphite crucibles, molds, and trays
- Anti-stick with brazing
- Barrier for diffusion bonding

### Use Notes

1. Resuspend if needed. Can dilute with water if desired.
2. Clean surfaces to be painted of any oils dirt, scale, etc.
3. Apply 1-3 layers by brush, dip or air-spray - drying after each layer
4. Allow to dry thoroughly before use.

### Safety Information

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



### Specifications

Active Ingredient	$\text{Er}_2\text{O}_3$
Max Use Temperature	
Inert, Vac (no C)	2000 C (3632 F)
Vac (with C present)	1500 C (2732 F)
Air	NOT RECOMMENDED
Use Atmosphere	Vacuum or Inert
Fired Composition	>99% $\text{Er}_2\text{O}_3$
Liquid Carrier	Water
Binder Phase	Cellulosic
Brookfield Viscosity (cps)	650 @2/30
Specific Gravity	1.7
Color	Pink
Shelf Life (months)	>12
Coverage (ft <sup>2</sup> /gal)	100 to 400
Coating pH	7-8
H F R Ratings	1-0-0
Substrate Use	All

### Sizes and colors

Type E is a pink colored 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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