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Type G

Gadolinium Oxide (Gd₂O₃) Solvent-Based Coating

Type G is a Gadolinium Oxide coating which uses very high purity (99.99%) Gd₂O₃ with a minimal amount of cellulosic binder to allow easy paintability and adherence with typical use-temperatures being near room temperature. However, the coating can be used also as a washcoat (low adherence) coating in the same fashion as our Type Y (Y₂O₃) coating, only in vacuum/inert atmospheres when use-temperatures exceed 200 C (392 F). Type G is considered a "neutron absorber coating" and, as such, can be milled with Aluminium Oxide cylinders/balls to give smaller particles, if desired for such application.



Specifications

Active Ingredient	99.99% Gd ₂ O ₃
Typical Use Temperature (Air)	Room Temperature to 200 C (392 F)
Max Use Temperature	Inert , Vac 1900 C (3452 F)
Fired Composition	>99% Gd ₂ O ₃
Liquid Carrier	Ethanol/Ethyl Acetoacetate
Binder Phase	Cellulosic
Brookfield Viscosity (cps)	650 @3/60
Specific Gravity	2.0
Color	White
Shelf Life (months)	>12
Coverage (ft ² /gal)	500 at 0.001 in (0.025 mm)
H F R Ratings	1-2-0
Substrate Use	All

Sizes and colors

Type G is a white colored paint.

Standard Size: 1 gallon wide-mouth Nalgene
 1 quart wide-mouth Nalgene

Key Attributes

- High thermodynamic stability
- Applies like house paint - brush, dip, or spray
- Gadolinium has the highest thermal neutron absorption cross section of any naturally occurring element

Ideal Use

- Neutron capture
- Nuclear applications
- Barrier coating to interactions during heat treating

Use Notes

1. Resuspend if needed.
2. Use full strength, or dilute as desired with Ethyl Alcohol or Acetone
2. Clean surfaces to be painted of any oils dirt, scale, etc.
3. Apply a thin layer (typically 0.001 inch or 0.025 mm)
4. Dry before use

Safety Information

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

CAUTION: DO NOT CONTACT WET COATINGS WITH MOLTEN METAL.

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