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Zypcoat YAG

Yttrium Aluminate Coating

Zypcoat YAG is a water-based Yttrium Aluminate (YAG, $3Y_2O_3 \cdot 5Al_2O_3$) coating that has very high thermodynamic stability due to its high Yttrium Oxide content of 57 wt.% – and thus is non-reactive with many metals and alloys. Zypcoat YAG coating has very good chemical and erosion resistance, whether applied to metal or ceramic substrates. Forming 100% YAG after outgassing at 500-600 C, Zypcoat YAG has a very high upper use temperature (est. 1700 C). As a barrier layer to prevent reactions, Zypcoat YAG can be used to stop sticking with stacked metal plates during heat treating. This coating works well on ceramic and metal substrates.

Key Attributes

- Non-reactive with most materials ... ceramics or metals, even in molten state
- Excellent chemical and erosion resistance at high temperatures
- Use temperature estimated to be above 1400 C in all atmospheres/conditions
- Water-based, easy to use and cleanup

Ideal Use

- Molten reactive metal processing/transport
- Very-high-temperature processing
- Barrier coating to stop diffusion/reactions /interactions
- Braze stop-off

Use Notes

1. Re-suspend if needed.
2. Use full strength, or dilute as desired with water or YAG Binder.
3. Clean surfaces to be painted of any oils, dirt, scale, etc.
4. Apply 1-3 layers by brush, dip, or spray like ordinary house paint, drying after each layer.
5. Allow to thoroughly dry before use.

Safety Information

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



Specifications

Active Ingredient	Yttrium Aluminate (YAG, $3Y_2O_3 \cdot 5Al_2O_3$)
Max Use Temperature Est.	1700 C or >1400 C with most all conditions
Use Atmosphere	All
Fired Composition	100% YAG
Liquid Carrier	Water
Binder Phase	$3Y_2O_3 \cdot 5Al_2O_3$
Brookfield Viscosity (cps)	1060 @3/60
Specific Gravity	1.46
Color	White
Shelf Life (months)	>12
Coverage (ft ² /gal)	100 to 400
Coating pH	3-4
H F R Ratings	1-0-0

Sizes and colors

Zypcoat YAG is a white colored paint.

Standard Size: 1 gallon, 1 quart wide mouth Nalgene container

CAUTION: DO NOT CONTACT WET COATINGS WITH MOLTEN METAL.

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