



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

3D Cer-Paste BN

3D Printable Boron Nitride Ceramic

Based on nearly 40 years of experience formulating exceptional high temperature ceramic coatings, ZYP Coatings is introducing a new Boron Nitride containing, solvent-based paste for 3D printing. This "3D Cer-Paste BN" is designed for use in extrusion based Paste Deposition Modeling (PDM) 3D printers, similar to desktop Fused Deposition Modeling (FDM) printers used for polymers, except no heat is required. Once dry, parts printed with 3D Cer-Paste BN can be bonded in a standard fashion without warping or cracking. The resulting ceramic body has very little shrinkage, thus maintaining its shape and size as printed. The nonwetting/nonsticking properties of piece.



Specifications

Active Ingredient	h-BN
Fired composition	>40%BN; remainder= inert refractory
Liquid carrier	Ethanol
Binder phase	Stable refractory
Color	White
Max Use Temperature, All Atmospheres	1,000 C
Shelf life	Over 3 months
H F R ratings	1-4-0

Ideal Use

- Fixtures and nozzles for use with molten nonferrous metals
- Shields for ion-beam sputtering or deposition from vapor
- Brazing or welding spatter guides/barriers

Sizes

Standard Size: gallon, quart, or pint Nalgene containers

Safety Information

- Consult SDS before use.
- Avoid breathing of dusts.
- For Industrial use only.

Key Attributes

- Solvent-based formula is easily printed with common, inexpensive 3D printer assemblies
- No heat required for printing
- Once dry, printed ceramic pieces can be bonded at less than 1000 C
- Maintains shape and size as printed after bonding at temperature
- Useful to 1000 C in all atmospheres
- Nonwetting and nonsticking with most materials, including molten Aluminum/alloys

Use Notes

1. Resuspend the paste by stirring, rolling or drill mixing.
2. If desired, the paste can be diluted with ethanol or polyethylene glycol to desired consistency.
3. Print ceramic article using normal extrusion operations on a PDM 3D printer.
4. Once dry, heat the ceramic article in air or other atmosphere up to 1000 C. Little or no shrinkage results from this bonding treatment.
5. Place the fired ceramic into service. Service temperature should not exceed the sintering temperature used in Step 4.

ZYP Coatings, Inc. (ZYP) makes no warranties, express or implied, including the warranty of merchantability or fitness for a particular service. Product is for industrial/commercial use only. Users should determine suitability for their use. In no event will ZYP be liable for any direct, indirect, incidental, special or consequential damages or losses including, but not limited to loss of profits, in any way related to this product regardless of the legal theory asserted. .