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BN EsoCera Slip

Liquid Casting Slip for Pouring into Plaster Molds to Create Your Own BN-Based Parts

BN EsoCera Slip is an esoteric ceramic casting slip loaded with BN in order to impart the great properties of BN into a part cast-and-sintered from this slip. Thus, if you are familiar with slip casting ceramics, this slip works identically to normal ceramic slip – casts into plaster molds with good release and shape retention, forming a strong leather-hard body on initial drying and then firing to a strong, well-bonded body.

Key Attributes

- Safe, water-based, easy to use and cleanup
- Ready-to-pour (after stirring) into plaster mold for creating specialty shapes
- Forms Boron Nitride based ceramic shapes after drying and firing

Use Notes

1. Stir thoroughly until completely uniform.
2. Pour/cast into plaster mold, and allow to sit while topping off as needed (maybe two or three times) while buildup of cast part occurs.
3. Pour out the excess slip (which can be used again), tilt plaster mold and let it drain for 1-2 minutes. Then, totally invert the mold and place onto a paper towel to drain a bit further for about ½ hour.
4. Turn the mold with the pour-hole upright, and then trim off excess material around the pour-hole.
5. Let the cast piece sit in the mold until the piece shows separation from the mold edges. If possible, then place into a drying oven at 50 C for a couple of hours for getting further separation from the mold and increasing strength of the “green” piece. If drier is unavailable, just let the part sit for a longer time.
6. Remove the part (gently) from the mold and trim mold-marks and edges as desired while the part is in the leather-hard stage here.
7. Place the part back into dryer for 4-6 hours or longer to thoroughly dry ... or ... dry further at room temperature until the part seems dry.
8. Fire the part in air with the furnace/kiln heating rate (suggested) of about 3 C/minute (5.4 F/min) from room temperature to 1000 C (1832 F) and “soak” for ½ hour.
9. The fired part will have very little shrinkage and is ready-to-use for high-temperature performance.

Helpful information: <https://www.instructables.com/Slip-Casting/> and Making A Simple Ceramic Cup <https://www.youtube.com/watch?v=9xumZRmBPOg>



Specifications

Active Ingredient	BN + ceramic
Max Use Temperature	1000 C (1832 F)
Use Atmosphere	All
Fired Composition	40% BN; remainder Na-K-Al-Si-O ceramic
Liquid Carrier	Water
Brookfield Viscosity (cps)	200 @2/60
Specific Gravity	1.4
Color	Gray (fires to White)
Shelf Life (months)	>12
pH	8
H F R Ratings	1-0-0

Sizes and colors

BN EsoCera Slip is a gray colored thick liquid
Standard Size: quart and gallon

Ideal Use

- Making your own parts with BN performance
- For 1000 C upper use temperature in all atmospheres
- Molten nonferrous-metal-resistant ceramic pieces

Safety Information

- Consult SDS before use.
- For industrial use only

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