

# MetaStar<sup>®</sup> 501



Metastar<sup>®</sup> 501 is a premium metakaolin produced by very carefully controlled calcination. It has been engineered with a high level of pozzolanic reactivity when used in portland cement-based concrete, plaster, and mortar. When MetaStar 501 metakaolin is used, it can react with the free lime by-product of portland cement hydration to form cementitious calcium silicate and calcium aluminate products, which can result in overall improved durability.

Unlike other pozzolanic materials such as silica fume, fly ash, and blast-furnace slag, MetaStar 501 metakaolin will not darken white or gray cement-based applications. The use of this engineered metakaolin in mortar, cement, and plaster can increase chemical resistance, compressive and flexural strengths and can reduce permeability. In addition, MetaStar 501 metakaolin can aid in reducing alkali silica reactions. MetaStar 501 is found in applications such as:

- Portland Cement Applications (e.g., concrete, grouting, and stucco)
- High Whiteness Type I Portland Cement Applications including swimming and pool plaster.

## TYPICAL PROPERTIES

Source	Sandersville, GA
Brightness (Hunter Y)	93.5
Plus 325 Mesh (Wt. %)	<0.01
Mean Particle Size(microns)	3
Hegman Grind	6.5
Moisture (Wt. %)	0.10
pH 10% Solids	9.3
Hardness (Mohs)	6
Refractive Index, mean	1.53
Specific Gravity	2.6
Solid Density (lb/gal)	21.6
Bulk Density: (lb/ft <sup>3</sup> )	
- Loose	35
- Packed	40

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