

# METASTAR<sup>®</sup> 501

## Metakaolin for Concrete Applications

QUALITY MINERAL PRODUCTS ENRICHING OUR DAILY LIFE

METASTAR<sup>®</sup> 501 is a premium pozzolanic metakaolin produced by very carefully controlled calcination. When used in Portland cement-based concrete, plaster, and mortar, METASTAR 501 can provide improved strength, durability, workability and plaster finish.



**METASTAR 501 is a metakaolin pozzolanic additive that:**

- ✓ *Improves strength, durability, and workability of Portland cement concrete*
- ✓ *Makes Portland cement easier to apply*
- ✓ *Provides smoother finish*
- ✓ *Has bright white color for white and color plasters*
- ✓ *Reduces permeability, efflorescence, and cracking*
- ✓ *Reduces the porosity of hardened concrete*
- ✓ *Contains no undesirable impurities, such as carbon or sulphur, which could affect the curing rate or strength of the final PC product*
- ✓ *Readily disperses in cement-based systems*
- ✓ *Is safe and easy to handle*

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### Typical Values

Color	White
Mean Particle Size (microns)	1.2
Specific Gravity	2.5
pH	4 - 6
G.E. Brightness	86
Moisture (max. %)	1.0

### Efflorescence suppression trial



Control



with MetaStar 501

METASTAR 501 is a high quality pozzolanic material which is blended with Portland cement in order to improve the durability of concrete and mortars.

The beneficial effects are seen at the early stage because METASTAR 501 reacts with calcium hydroxide almost as fast as it is formed in the cement during hydration.

The overall effect of removing calcium hydroxide, refining the pore structure and densifying the interfacial zone is to reduce:

- *Re-bar corrosion*
- *Sulphate attack*
- *Acid attack (e.g. silage clamps, food factories)*
- *Freeze-thaw damage*
- *Alkali-silica reaction (even when using active aggregates, high alkali cements and where the concrete is exposed to salt solutions)*
- *Efflorescence*

For more information on these products visit our website or give us a call.

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IMERYS • Performance Minerals North America  
100 Mansell Court East, #300, Roswell, GA 30076 USA  
Tel: 1 800-552-9671  
Internet: [www.imerys-perfmins.com](http://www.imerys-perfmins.com)  
E-Mail: [pmcs.insidesales@imerys.com](mailto:pmcs.insidesales@imerys.com)