GEOPOLYMER
INTERNATIONAL
Advanced Ceramic Products

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GEOPRINT™

Ceramic Cement

BLENDED LIQUID SILICATE (B-SIL)

FOR CERAMIC CEMENT APPLICATIONS

GeoCement is a complex binder/cement for concrete and other applications made from three components: Precursor (Part A), B-Sil (Part B), and Curing Accelerator (Part C). Part B is a blended liquid silicate.

STORAGE AND SHELF LIFE

The shelf life of Part B is 24-48 months provided it is stored at 60-80 degrees Fahrenheit free from contamination. Close the container tightly after each use. AVOID STORING AT FREEZING TEMPERATURES.

PRECAUTION

Part B can cause mild skin or eye irritation in case of contact. When working with silica-based products, wearing chemical resistant gloves and goggles, a facepiece respirator or mask is recommended. Spilled material is slippery. Do not ingest. Store away from children. Do not throw away the product and packaging into the environment. Dispose of in approved land waste sites. Must be stored away from all children. Not flammable. The mixed binder is safe for skin contact. It is easy to clean from any surface with water before hardening. NEVER USE ALUMINUM EQUIPMENT FOR PART B OR THE BINDER.

Batch No:_____ **Expiration Date:**_____

Wt:_____ **Production Date:**_____

Recommended Dosages:

PART A: 35% by weight – **PART B:** 60% by weight – **PART C:** 5% weight

Fillers and aggregates: 1-3 times weight of binder. See instructions for mixing.

MATERIAL SAFETY & TECHNICAL DATA SHEET

MIXING INSTRUCTIONS

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GEO PRINT™

Specially Formulated Ceramic Cement for 3D Printing

Our **Geopolymer (Ceramic) Cement** formula has been specifically adjusted and is **specially engineered for 3D printing applications**, designed to provide superior control over **setting time, fluidity, and strength** while minimizing cracking and enhancing print quality.

3D printing with cement is a **newly developed and precision-dependent technology** that requires advanced control in both **mixing and material distribution**. Geopolymer International's formulations and admixes make that possible.

Key Features and Advantages

- **Controlled Setting Time**
  Adjustable through the use of **retarders or accelerators**, available exclusively from **Geopolymer International**, allowing precise timing for layer-by-layer printing.
- **Optimized Fluidity & Viscosity**
  Achieved using **specialized superplasticizer admixes** that maintain pumpability and print consistency without sacrificing strength.
- **Superior Layer Bonding**
  Each printed layer naturally **bonds to the previous layer**, eliminating cold joints and ensuring a seamless structure.
- **High Strength Performance**
  Achieves **4,000–6,000 psi compressive strength** and **2–3× the flexural strength** of conventional concrete.
- **Crack Reduction Technology**
  Optional GPI Crack Reducer **admix minimizes shrinkage and thermal cracking during curing.**
- **Fire & Heat Resistance**
  Exceptional resistance to high temperatures, making it suitable for advanced and extreme-environment applications.
- **Custom Color Options**
  Easily tinted using **standard oxide pigments**, allowing for aesthetic and architectural flexibility.
- **Environmentally Friendly**
  Non-toxic, composed of **all-natural minerals**, and easily cleaned with water — ensuring a safer and greener workspace.

Mixing Recommendations: Geopolymer and ceramic cements require **specialized mixing systems** for optimal performance. For best results:

- **Pre-mix the cement** according to instructions **before adding aggregates**.
- **Maintain** consistent blending speeds to ensure uniform activation

Recommended Dosages: Mortar with medium to fine sand will mix one part ceramic cement with 1 ½ to 2 parts sand, depending on grain size.

Geopolymer International provides complete technical support, including custom formulations and compatible admixes, to ensure your 3D printing process is consistent, sustainable, and efficient. Visit www.gpi.earth for more information or to consult with our materials team.

MIXING INSTRUCTIONS DOCUMENT

MIXING INSTRUCTIONS VIDEO

ASTM STANDARD CHEMICAL REQUIREMENTS

MATERIAL SAFETY DATA SHEET

TECHNICAL DATA SHEET