

SCHEM



SILCHEM GEO

Innovation

DEVELOPMENT OF CUSTOMIZED GEOPOLYMER MATERIALS

Geopolymers represent an innovative group of inorganic binders with high potential for industrial and artistic applications.

Our technology enables the development of customized geopolymer materials depending on the type of binder, fillers and additives. We offer solutions from dense and foamed materials to low-viscosity binders for non-flammable laminates or high-viscosity mixtures for extrusion.

GEOPOLYMER + FILLER = ENDLESS APPLICATION POSSIBILITIES

Poly
(silate)
StAl=1



Poly
(silate-siloxo)
StAl=2



Poly
(silate-disiloxo)
StAl=3



**Fire protection
and thermal engineering**



**Transport industry
and construction**



**Foundry and glass
industry**



Art



KEY BENEFITS

1 High temperature resistance
Withstands temperatures up to 1200 °C without loss of integrity.

2 Fire safety
No toxic fumes are produced in case of fire.

3 Eco-friendly material
50 to 80% lower CO₂ emissions compared to concrete.

4 Excellent mechanical properties
Compressive strength reaches 60 to 100 MPa, flexural strength up to 20 MPa.

5 Other properties
High frost resistance and adjustable rheological properties (viscosity, setting time, thixotropy).

6 Variability
Possibility of using various fillers, including the incorporation of recycled materials and solidification of waste. Production of dense and foamed structures.



METHODS OF PREPARATION AND TECHNOLOGY

TYPICAL APPLICATIONS

Fire protection and thermal engineering
Non-combustible structures and insulation.

Foundry and glass industry / High-temperature resistant molds and components.

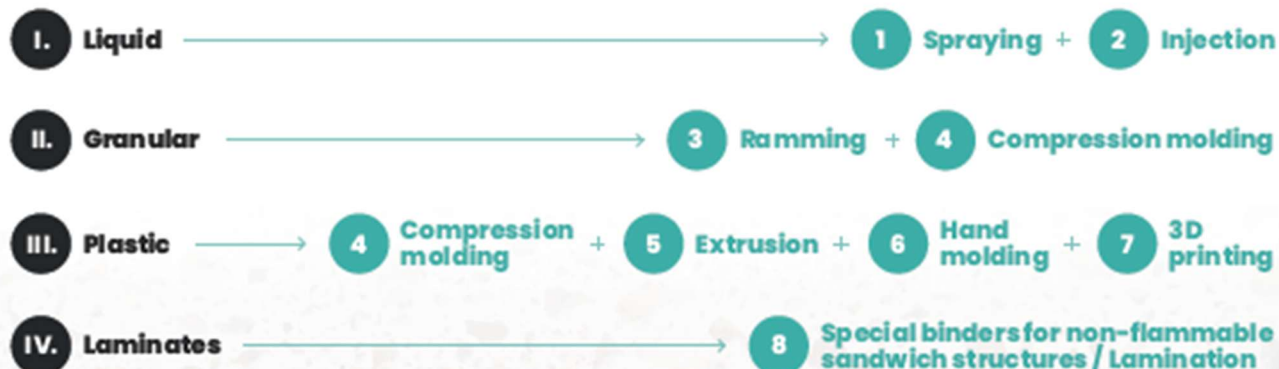
Transport industry and construction
High-strength parts and laminates.

Art / Replacement of sandstone for sculptural and restoration purposes.

Geopolymers in the fresh state

Product preparation method

materials are optimized for various production processes:



SCHEM

www.schem.cz
obchod@schem.cz

Usti nad Labem,
Drazdanska 80
Czech Republic