Product Information Sheet

Silplate® Mass

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DESCRIPTION

Silplate Mass is a ready-mixed coating. Based on the patented Silplate technology, high-purity refractory oxides and fibers are bonded with an inorganic binder system to create a wet mix that can be applied as a hot face lining over brick, castable and fiber module linings.

Once dried, the Silplate Mass provides a hard, tough armor-like shell over the surface of the substrate material. When application firing temperatures reach > 1100 °C (2012 °F), a strong bond is formed between the fibers and the fillers, which provides further strength, integrity, and high temperature stability to the lining surface and protects the backup material over which it is applied.

The cured Silplate Mass surface is highly resistant to flame impingement, high gas velocities, erosion and chemical attack from fluxing agents common in industrial furnaces and kilns.

GENERAL CHARACTERISTICS

Silplate Mass has the following outstanding characteristics:

- High temperature stability
- Resistance to chemical attack
- Low thermal shrinkage
- Surface hardness & abrasion resistance
- Mechanical strength
- Excellent thermal shock resistance
- Superior resistance to high gas velocities

INSTALLATION & DRYING PROCEDURES

Installation methods include:

- Trowel
- Spraying/Gunning
- Pump injection
- Pouring

When applied to the surface of fiber modules, the Silplate Mass must be coated onto an edge-stacked/edge-grained hot face surface, not a folded module surface. Typical coating thickness 6mm (1/4").

The coating may also be used to fill cracks and repair small areas of refractory linings. Alkegen approved installation techniques should be followed.

Drying:
No pre-firing cycle is required to dry Silplate Mass if the recommended installation process has been followed. The coating may be fired following installation. Prior to moving or transporting any equipment coated with Silplate Mass, the product should be dried at approximately 150 °C (302 °F) for 24 hours or until fully dry prior to moving.

TYPICAL APPLICATIONS

- **Ferrous (Iron & Steel)**
  Reheat Furnaces, Coke Oven Doors, Forge Furnaces, Molten Metal Transfer Ladles & Preheat Stands, Tundish Covers, Pelletizing Furnaces

- **Hydrocarbon Processing (Petrochemical & Refinery)**
  Refinery Furnaces, Cracking/Pyrolysis Furnaces, Fired Heaters, Reactor Vessels, Reformers, Hydrogen Reformers, Sulphur Recovery Units

- **Pollution Control**
  Regenerative Thermal Oxidizers, Flares, Crematory Furnaces, Incinerators

- **Non-Ferrous**
  Aluminum Melting Furnace Doors

- **Ceramic & Glass**
  Roller Kilns, Technical Substrate Kilns, Refractory Production Kilns, Intermittent Kilns, Tunnel Kilns, Kiln Cars

- **General Use & Other Industries**
  Ducts and stacks, Hot spot repairs, Protection over Refractory Linings, Hot Gunning Repair, Hot Air Generators (Fertilizer Drying), Boilers, Foundry Furnaces

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TYPICAL PRODUCT PARAMETERS

Silplate Mass	1500	1500 NCF	MAX
Physical Properties			
Color	Pink	Light Green	Yellow
Temperature Grade, °C (°F)	1500 (2732)	1500 (2732)	1600 (2912)
Wet Density, kg/m³ (lb/ft³)	1400 (87) Nominal		
Dry Density, kg/m³ (lb/ft³)	850 (53) Nominal		
Gas Velocity Resistance, m/s (ft/s)	60 (196)		
Permanent Linear Shrinkage (%) 24-hour soak			
1500 °C (2732 °F)	< 1.5 %		

BENEFITS WHEN APPLIED TO ANCHOR-LOC® MODULES

- Increased resistance to high gas velocity and reduced lining erosion
- Protection of the modules against potential shrinkage
- Minimizes potential heat leakage through gaps in the insulation
- Extended life of the insulation lining and cost savings over time

BENEFITS WHEN APPLIED TO REFRACTORIES AND BRICKS

- Increased resistance to erosion
- Refractory recovery
- Fast repair of cracks and crevices
- Thermal shock resistance reduces the occurrence of cracks in bricks and refractories
- Extended life of the refractory lining between major plant maintenance cycles.

PRODUCT COMPATIBILITY

All grades can be used to refurbish, recover, and protect refractory insulation linings.
In regard to fiber insulation linings, Silplate Mass 1500 is compatible with Fiberfrax refractory ceramic fiber insulation linings and Silplate Mass MAX is compatible with Saffil polycrystalline wool insulation linings. Silplate Mass 1500 NCF is compatible with Insulfrax and Isofrax low bio-persistent insulation linings and is non-classified in Europe.

AVAILABILITY

Typically provided in 25 kg (55 lb) or 22.7 kg (50 lb) pails depending on region. Silplate Mass is produced and distributed worldwide; the standard packaging and available sizes can be slightly different worldwide, please reach out to your nearest Alkegen representative for confirmation.

SHELF LIFE & STORAGE

Silplate Mass products can be stored for up to 12 months, subject to the pail being unopened and stored in cool, dry conditions. Storage between 5 and 20 °C (41 and 68 °F) is recommended. Excessive heat will shorten the shelf life and freezing could result in irreversible damage to the product.

HANDLING INFORMATION

A Safety Data Sheet has been issued describing the health, safety, and environmental properties of the product, identifying the potential hazards and giving advice on handling precautions and emergency procedures. This must be consulted and fully understood before handling, storage, or use.

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