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Lubisol Ltd.

PRODUCT SPECIFICATIONS

Lubisol Si-Seal Repair Kit

I. INFORMATION

1. General Description

Lubisol Si-Seal is a monolithic silica repair kit used for hermetic sealing and hot repair of glass furnace silica crowns. It is supplied as a dry mix packed in 25 kg paper bags and a liquid ceramic adhesive, Lubisol LFS, packed in 28 kg plastic containers. They are mixed in a mortar mixer just before use in the following proportion: 6 bags with 1 plastic container. Some water is added to obtain the desired fluidity of the mix.

The most important features of Lubisol Si-Seal are:

- Strong and durable adhesive bond with silica refractories up to 1620 °C, and a coefficient of thermal expansion - very similar to the one of silica bricks.
- Very high corrosion resistance against the action of alkalies and other fluxes.

2. Way of Application

Lubisol Si-Seal is applied as a protection hermetic sealing layer by patching over the silica crown in a thickness of 30 mm. The application can be done during the heat-up of the furnace at 800 °C furnace temperature, or after the heat-up of the glass furnace.

Lubisol Si-Seal is very suitable for hot application in the form of plastic balls to fill up the Rat-holes during a hot repair or the expansion joints of a silica crown after heat-up.

Lubisol Si-Seal is a heat setting composition, and it is converted into a hard body under the action of the heat of the silica crown.

An Application Technology is delivered by the supplier, together with the material.

II. CHEMICAL COMPOSITION (%)

Lubisol Si-Seal	
SiO ₂	> 92.0
Al ₂ O ₃	< 1.8
Na ₂ O + K ₂ O	0.6
Fe ₂ O ₃ + TiO ₂	0.6
CaO + MgO	2.6
P ₂ O ₅	2.6

Note: The values of the chemical composition are given as information. They are not a part of the purchasing contract.

III. OTHER PROPERTIES (Typical)

Lubisol Si-Seal	
Maximum grain size	3.00 mm
Material requirement	2.00 kg/dm ³
Specific gravity after firing at 500 °C	1.80 kg/dm ³
Thermal conductivity at 20 °C	1.15 W/m.K
Thermal conductivity at 500 °C	1.38 W/m.K
Thermal expansion up to 1400 °C	1.3 %
Working temperature	1620 °C

IV. SAFETY INFORMATION

The Liquid Bond Lubisol LFS contains a diluted mineral acid - H₃PO₄. It cannot burn or explode. It is suitable for any kind of transport.

Safety measures should be taken to protect the eyes and hands of the workers from the action of this acid. They must be wearing protective goggles and gloves. The acid is easily soluble in water. If needed for any reasons, the skin and eyes should be washed with clean water.

Cold air blowing with ventilators should be available to protect the workers from the heat during the application of this material over a hot silica crown.