SIRIO SILICAFUME

Densified microsilicates

[info. **PRECAUTIONS**]

- Avoid freezing.
- Use in accordance with the instructions on the technical data sheet and safety data sheet. Wear full protective clothing. Consult the toxicological data sheet.

[info. **CONSUMPTION**]

5-15% of the weight of the cement.

[info. **PACKAGING**]

- 20 kg bag
- 1200 kg Big Bag

[info. **STORAGE**]

Store SIRIO SILICAFUME in dry conditions.

[info. **TECHNICAL SERVICE**]

Detailed technical instructions on the use of the products can be requested from your local representative or directly from PROIND srl.

SIRIO SILICAFUME, **commonly known as silica fume or microsilicates, is a product derived from the reduction process of quartzite during the production of ferro-silicon alloys or metallic silicon**. This reduction process, which takes place in electric arc furnaces at a temperature of 2000 °C (equal to that existing during the formation of natural pozzolans), develops a gas with a high silicon oxide content which, on contact with air, oxidises and transforms into amorphous silicon dioxide (SiO_2). The silicon dioxide is captured in filters that purify it from combustion residues and eliminate any undesirable reactions in the concrete. At the end of this process, a powder is obtained with characteristics such as high fineness, a spherical shape and an amorphous structure with a size of 0.1µ (micron).

Fields of application

Wherever high-performance concrete with high strength, impermeability and durability characteristics is required. Also ideal for underwater casting in the presence of groundwater.

Advantages

- The alkali-aggregate reaction is cancelled out.
- Using SIRIO SILICAFUME results in sulphate-resistant concrete.
- Chloride penetration is reduced by 50-100%.
- Permeability is reduced by a factor of 10.
- Mechanical strength is increased by 50 to 100%.
- By adding SIRIO SILICAFUME to concrete, it is possible to significantly increase the adhesive power of the mixture without compromising workability.
- Carbonation is reduced by approximately 100 times.
- Electrical resistivity is increased by 500 times, giving the product high anti-corrosion power.
- With SIRIO SILICAFUME added to concrete, chemical resistance is considerably increased.
- Using SIRIO SILICAFUME, it is possible to produce concrete with high durability.