SIDHYA ASIA
CHEMICAL PRIVATE LIMITED

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PRODUCT DATA SHEET

Sidhya® Microsil 920

Densified Silica Fume for Concrete

Description

Sidhya® Microsil 920 is modified form of densified amorphous form of silicon dioxide used in the production of high durable concrete, mortar and grout. Sidhya® Microsil 920 is highly recommended to be used in concrete in projects with requirements such as exposure to chemical attack, abrasion and aggressive atmospheres. The pozzolanic reaction of the powder can be used to high strength and quality concrete, grouts and mortar specially when combined with other Sidhya® Range products or equivalent.

Applications

- High Performance concrete with high strength and durability requirements.
- Production of Self Compacting Concrete.
- Concrete exposed to chemical attacks such as industrial flooring, sewage treatment plants and foundations.
- Concrete for marine construction, dams and tunnels.
- Construction of blast furnace, troughs, bridge decks, girders and parking ramps etc.
- Used in the production of precast concrete.
- Used in the production of sprayed concrete, high strength grout and mortars.

Mixing

Sidhya® Microsil 920 should be batched along with other cementitious or binder materials to optimize the mixing time and yield maximum dispersion of the micro silica particles.

Dosage

The dosage of Sidhya® Microsil 920 should be used in between 3% to 10% by weight of binder content in the mix design. In order to achieve optimum results, preliminary trials should be conducted. It is always recommended to use Sidhya® Microsil 920 along with our Sidhya® Plast, Sidhya® Flow and Sidhya® Crete range of products.

Technical Specifications

Bulk Density	Minimum 500 kg/m^3
Color	Grey
State	Powder form.
Specific Gravity [g/c]	2.10 – 2.30
Reactivity Index [%]	Minimum 110%
Appearance	Homogenous
Dry Matter [%]	Minimum 99%
SiO_2 [%]	85% - 92%
SO_3 [%]	~ 0.25%
Cl [%]	< 0.10%
CaO [%]	0.10 – 0.70%
Na_2O [%]	0.10 – 0.60%
Retained on 45 µm Sieve [%]	Maximum 5%
Loss of Ignition [%]	1.0% - 4.0%
pH	7.0 – 8.0
BET	15 – 35 m^2/g

****Test methods are available on request. For typical analysis of minor elements, please contact our Sidhya® Sales representative****

Advantages

Sidhya® Microsil 920 improves various fresh concrete properties such as cohesion due to its spherical shape and water demand. Sidhya® Microsil 920 promotes the production of Calcium Tri-Silicate Hydrate (C3SH) which reacts with free lime to improve strength, density and durability of the concrete. Following are more benefits of the product:

- Increase in early compressive strength of concrete.
- Increase in final strength of hardened concrete
- Reduces permeability of water and chloride penetration.
- Reduces alkali silica reaction in aggregates.
- Enhanced resistance to acid attacks.
- Increases resistance to freeze/thaw cycles.
- Increases resistance to Impact and Abrasion strength.

Compatibility

Sidhya® Microsil 920 is compatible with all types of cements and binders such as GGBFS, Fly ash and Metakaolin. Sidhya® Microsil 920 is also compatible with different admixtures such as water reducers, retarders, form release agents and non-chloride accelerators manufactured by Sidhya Asia Chemicals Pvt Ltd. or equivalent. We do recommend conducting preliminary trials or contacting a Sidhya® Technical Services Representative for specific information.

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Technical Compliances

Sidhya® Microsil 920 conforms to the requirements of IS 15388: 2003, ASTM C1240 – 05 & BS EN 13263-1:2005+A1:2009

Storage

Sidhya® Microsil 920 should be stored in dry conditions and not exposed to moisture and has shell life of 1 year.

Packaging

Sidhya® Microsil 920 is available in 25 kg bags, 1 ton jumbo bags and loose quantity available in Bulker. Please contact our Sales Representative for customized packing and more details

Legal Notice

The recommendations related to the application and recommendations are given in good faith based on Sidhya's current experience and knowledge of the products. The benefits stated about the product are only applicable if guidelines provided by Sidhya for storing, handling and mixing are followed under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product is always advised to test the product's compatibility and suitability for the intended requirements and application. Sidhya reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned copies of which will be supplied on request.

Sustainability, Health and Safety

End use of the product must read the Material Safety Data Sheet (MSDS) of the product. The MSDS provides information and advice on storage, handling and disposal of the product and instructions related to physical ecological, toxicological and other safety related data.

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