

# PRODUCT DATA SHEET

## Sikacrete<sup>®</sup>-950 DP

### Densified Silica Fume Powder

#### PRODUCT DESCRIPTION

Sikacrete<sup>®</sup>-950 DP is a densified dry powder microsilica admixture for portland cement concrete and mortars. Sikacrete<sup>®</sup>-950 DP meets the requirements of ASTM C-1240 and contains a minimum of 85 % silicone dioxide (SiO<sub>2</sub>).

#### USES

Sikacrete<sup>®</sup>-950 DP is recommended for all high performance, high strength applications; concrete required to resist water and chemical ingress and concrete required to resist mechanical abrasion.

#### CHARACTERISTICS / ADVANTAGES

**How It Works:** Sikacrete<sup>®</sup>-950 DP is a pozzolanic material that consists primarily of fine silicon dioxide particles in a non-crystalline form. Silica fume particles have a diameter of less than 1µm; about 100 times smaller than the average cement particle.

**Pozzolanic action:** A chemical reaction takes place between the free lime Ca (OH) 2 in the cement paste and the microsilica particles which results in the formation of additional calcium silicate hydrate (CSH) gel, the glue that holds the concrete constituents together. The formation of this extra binding force within the gel increases the compressive and flexural strength of the concrete.

**Void Reduction:** The fine particles of Sikacrete<sup>®</sup>-950 DP fill the tiny voids and capillary pores within the cement matrix and significantly reduce porosity to produce an extremely dense and impermeable concrete.

**Advantages:** Sikacrete<sup>®</sup>-950 DP produces concrete that has dramatically increased compressive and flexural strength, which allows greater design flexibility and structural design economies, combined with reduced permeability to increase the service life of the concrete.

- Compressive strengths are dramatically increased for high performance concrete.
- Excellent abrasion and erosion resistance increases concrete durability in high-traffic areas.
- Permeability is dramatically reduced, which makes microsilica ideal for applications where concrete will be required to resist chemical attack.
- Resistance to corrosion is increased because concrete is more resistant to water ingress and therefore also to corrosion caused by sulfates and water-borne chlorides such as deicing salts.
- Decreased permeability gives microsilica concrete excellent freeze-thaw resistance because less water is trapped inside the cement paste.

Sikacrete<sup>®</sup>-950 DP does not contain calcium chloride nor any other intentionally added chloride containing ingredients.

#### PRODUCT INFORMATION

##### Packaging

Sikacrete<sup>®</sup>-950 DP is available in 25 lb. (11.36 kg) repulpable bags, 2200 lb. (1000 kg) super sacks and bulk delivery.

<b>Appearance / Color</b>	Gray Powder
<b>Shelf Life</b>	Shelf life when stored in dry warehouse conditions above 35 °F (2 °C) is unlimited.
<b>Storage Conditions</b>	Dry warehouse conditions
<b>Specific Gravity</b>	Approx. 2.26

## APPLICATION INFORMATION

<b>Recommended Dosage</b>	Dosage rates are typically specified between 5 and 15 % by weight of cement. Sika® strongly recommends that trial batches be performed using project materials in order to determine the optimum dosage for specified project requirements.
<b>Mixing</b>	<p>Sikacrete®-950 DP may be stored in bulk storage in a cement silo and be batched in the same manner as bulk cement. The 25 lb. bags of Sikacrete®-950 DP are repulpable or shredable bags, these bags are intended to be added directly to central or truck mixer without opening. The bags are designed to disintegrate through a combination of wetting and grinding the paper during concrete mixing. Specific batching and mixing instruction procedures for Central and truck mixing as outlined in the Silica Fume Association Users Manual and ASTM C94/C94M must be followed.</p> <p><b>Limitations:</b> Do not introduce repulpable bags into concrete mixes with low watercementitious ratios and smaller size aggregates as these mixes may not develop sufficient mixing energy to fully repulp the bags. Always determine repulpability of bags by pretesting mix designs and batch sequence. Please contact your local Sika representative for more information and assistance.</p> <p><b>Compatibility with cement and other admixtures:</b> Sikacrete®-950 DP is compatible with all known portland cements manufactured under ASTM specifications. The low water cement ratios typically specified for concrete containing microsilica make the use of a high range water reducer, such as a ViscoCrete® or Sikament® product essential in most applications. Sika® recommends the use of Sika® air entraining admixtures where air entrained concrete is required.</p> <p><b>Workability and Finishing:</b> Microsilica may affect the finishing characteristics of the concrete, particularly where warmer ambient conditions are encountered. The amount of bleed water from the concrete also may be reduced and Sika® recommends the use of a finishing aid and evaporation retarder such as SikaFilm® to aid finishing.</p>

## BASIS OF PRODUCT DATA

Results may differ based upon statistical variations

depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

## OTHER RESTRICTIONS

See Legal Disclaimer.

## ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

## LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at [usa.sika.com](http://usa.sika.com) or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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