

# Silica Fume

## Specification Of CSF From Scancem Materials

### Sources Of Silica Fume

Scancem has various silica fumes available. This specification details the properties of each. The sources used are as follows.

| Code | Source             |
|------|--------------------|
| S    | Silicon plant      |
| FS   | Ferrosilicon plant |

### International Standards

Type S, and FS comply with ASTM C1240-03a and AS3582.3 1994. A test certificate is issued with each order.

|   | Australian Standard 3582.3 | ASTM C1240-03a |
|---|----------------------------|----------------|
| <b>Batch Control Limits</b>                     |                            |                |
| H <sub>2</sub> O                                | <2%                        | <3%            |
| LOI   | <6%                        | <6%            |
| Bag Weight                                      | Yes                        | Yes            |
| <b>Plant Control Limits</b>                     |                            |                |
| Plant Type                                      | Sor 75% FeSi               |                |
| SO <sub>3</sub>                                 | <3%                        | NA             |
| SiO <sub>2</sub>                                | >85%                       |                |
| Chloride Ion                                    | Report                     | NA             |
| Retained 45um                                   | NA                         | <10%           |
| Relative Density                                | Report                     | Report         |
| Relative Strength (Accel Pozz. Index) at 7 days | Report                     | >105%          |
| Bulk Density                                    | Report                     | Report         |

### Quality Assurance

Each manufacturer is ISO 9002 accredited. Each shipment will be accompanied by a test certificate.

### Chemical Data

#### 99% Confidence Limits

The data below represents the max or min values at a 99% confidence level. It is derived from the mean value +3 standard deviations.

| Source                             | S    | FS   |
|------------------------------------|------|------|
| SiO <sub>2</sub> max               | 90%  | 85%  |
| Fe <sub>2</sub> O <sub>3</sub> max | 2.0% | 2.8% |
| Al <sub>2</sub> O <sub>3</sub> max | 1.2% | 1.2% |
| Na <sub>2</sub> O max              | 0.8% | 2.7% |
| K <sub>2</sub> O max               | 0.8% | 2.6% |
| MgO max                            | 0.6% | 1.3% |
| SO <sub>3</sub> max                | 0.5% | NA   |
| CaO max                            | 1.0% | 1.2% |
| LOI max                            | 6.0% | 6.0% |

### Bulk Density

Silica fume direct from the baghouse has a bulk density of 200-250kg/m<sup>3</sup>. During normal handling this increases up to 300kg/m<sup>3</sup>. The bulk density is further increased to facilitate handling, packing and transport by inducing agglomeration by blowing air through the CSF while stored in a silo. This causes the particles to move around and bond together by Van de Waals forces.

| Type | Density Grade | Density (kg/m <sup>3</sup> ) | Sources Available |
|------|---------------|------------------------------|-------------------|
| UD   | Undensified   | ~250                         | S,FS              |
| SD   | Semit         | ~400                         | S,FS              |
| D    | Densified     | 500-700                      | S,FS              |

### Packaging

#### Paper Bags

All bags shrink wrapped on pallets. Available in 10kg or 20kg bags packed into 20'FCL or 40'FCL

Densified silica fume is supplied in degradable bags unless otherwise specified.

#### Bulk Bags

Various big bag sizes are available. Please check with Scancem Materials.

#### Performance

*All silica fume supplied meets the specification given in this document. However, Scancem Materials takes no responsibility for its performance in that silica fume supplied from one order to the next will be the same.*

THE INFORMATION GIVEN IS BASED ON KNOWLEDGE AND PERFORMANCE OF THE MATERIAL EVERY PRECAUTION IS TAKEN IN THE MANUFACTURE OF THE PRODUCT AND THE RESPONSIBILITY IS LIMITED TO THE QUALITY OF SUPPLIES, WITH NO GUARANTEE OF RESULTS IN THE FIELD AS SCANCEM MATERIALS HAS NO CONTROL OVER SITE CONDITIONS OR EXECUTION OF WORKS