

PCC Microsilica – Microsilica/Silica Fume(SiO₂)

CHEMICAL NAME Amorphous silicon dioxide

CAS NUMBER 69012-64-2

EINECS 273-761-1

FUNCTION

- Cement additives
- Ceramic and refractory products

TECHNICAL REQUIREMENTS

Parameter	Spec	Typical*
Silicon dioxide (SiO ₂) (diff.)	Minimum 94%	95.0 %
Elemental silicon (Si)	≤ 0.4 %	0.1 %
Chloride (Cl ⁻)	≤ 0.30 %	0.03 %
Sulphate (SO ₃)	≤ 2.0 %	0.3 %
Alkalis (Na ₂ O _{eqv})	≤ 2.0 %	1.0 %
Free CaO (CaO _{free})	≤ 1.0 %	< 0.01 %
Moisture <small>when packed</small> (378K)	≤ 3.0 %	0.2 %
Loss on ignition (LOI):		
- Undensified (1023K)	≤ 6.0 %	2.5 %
- Densified (1223K)	≤ 4.0 %	2.0 %
pH	-	6.0
Specific surface	15 - 35 m²/g	25.0 m ² /g
Activity Index	≥ 100.0 %	120.0 %
Particle size (Primary particles > 45 µm)	< 10 %**	4.0 %**
Bulk density <small>when packed</small>		
- Undensified	280-450 kg/m³	320 kg/m ³
- Densified	500-700 kg/m³	600 kg/m ³

* Typical values are for guidance only

** Tested on undensified

GENERAL DATA

Color:..... grey, light grey

Odour:..... odourless

Melting Point, °C: 1550 - 1570

Solubility (Water): Insoluble/slightly soluble

Solubility (Organic solvents): Insoluble/slightly soluble

Specific Gravity (water =1): 2.1 - 2.3

PACKING

- Big Bags with pallets

APPLICATION

- production of mortars and castables
- production of insulating materials
- production of ceramic and refractory products
- other industrial applications

**ADDITIONAL
INFORMATION**

- PCC Microsilica is offered as Densified and Undensified
- PCC Microsilica EN (densified) can be used as a type II addition in concrete conforming to IST-EN 206:2013+A2:2021, or in mortars, grouts and other mixes