

TECHNICAL DATA SHEET

MICRO SILICA – GRADE MS 90

Amorphous Pozzolan Silica

GENERAL

Micro Silica MS 90 is a high-silica, amorphous pozzolan powder with the silica present predominantly in a reactive amorphous (non-crystalline) phase. This gives the material a high specific surface area and strong pozzolan activity. It is supplied as a fine grey powder suitable as a supplementary cementitious material (SCM) and as a reactive silica source for high-performance concrete, refractory castables, ceramics, rubber, and allied industrial applications.

APPLICATIONS

High-performance and high-strength concrete (partial cement replacement, typically 5–15%); self-compacting and durable concrete; pozzolan cement and mortar; refractory and monolithic castables; ceramics and glaze formulations; rubber and polymer filler; oil-well cementing; and as an amorphous silica feedstock for downstream silica chemistry.

QUALITY CONTROL – TYPICAL SPECIFICATION

Chemical composition and physical properties are verified by an independent, ISO-accredited third-party testing laboratory. Values represent typical results; product is amorphous-silica pozzolan and may be tailored to buyer specification on request.

PROPERTY	TYPICAL VALUE	TEST METHOD / STD
CHEMICAL ANALYSIS		
Silica as SiO ₂ (%)	90 – 92	IS 1727:1967 (RA 2018)
Loss on Ignition (%)	< 3.5	IS 1727 / ASTM C114
Carbon Content (%)	< 3.5	ASTM C114
Moisture (%)	< 1.0	Gravimetric
Al ₂ O ₃ (%)	< 1.0	ASTM C114 / XRF
Fe ₂ O ₃ (%)	< 0.5	ASTM C114 / XRF
CaO (%)	< 1.5	ASTM C114 / XRF
MgO (%)	< 1.0	ASTM C114 / XRF
K ₂ O (%)	1.5 – 2.5	ASTM C114 / XRF
Na ₂ O (%)	< 0.5	ASTM C114 / XRF
SO ₃ (%)	< 1.0	ASTM C114
Chloride (%)	< 0.10	ASTM C114
PHYSICAL PROPERTIES		
Physical Form	Fine grey powder	Visual
Mean Particle Size (D ₅₀)	10 – 25 micron	Laser diffraction

Specific Surface Area (BET)	> 25 m ² /g	BET N ₂ adsorption
Retained on 45 micron sieve (%)	< 5.0	Wet sieving
Specific Gravity	2.10 – 2.30	ASTM C604
Bulk Density (loose)	180 – 350 kg/m ³	Loose pour
Pozzolanic Activity Index, 7 day (%)	> 105	ASTM C311 / C1240
Amorphous Silica Phase	Predominantly amorphous	XRD

Test methods reference IS 1727:1967 (RA 2018), ASTM C114, ASTM C311 and ASTM C1240:2005 standard procedures. Minor batch-to-batch variation in composition is normal for this product. Values are not guaranteed minima unless confirmed on a lot-specific Certificate of Analysis (CoA).

PACKING

25 kg HDPE inner-lined woven sacks; or 500–900 kg jumbo (FIBC) bags for bulk shipment. Packing can be customised to buyer requirement and port-of-destination norms.

STORAGE

Store in a cool, dry, covered area away from moisture. Material that has absorbed moisture and re-dried may show reduced reactivity. Recommended shelf life 12 months from date of packing under proper storage.

The information on this data sheet is provided in good faith and is accurate to the best of our knowledge, based on third-party laboratory testing. Actual values may vary by batch. Buyers are encouraged to conduct their own trials; samples and lot-specific CoAs are available on request. This sheet does not constitute a contractual warranty. For specifications, pricing, or technical discussion, please contact Ochnology Solution Pvt. Ltd.