


Microsilica

Metakaolin, Superplasticizer, Fly Ash, GGBS

b u i l d t h e f u t u r e



Xiamen All Carbon Corporation
www.allcarbon.com.cn



**Ground Granulated
Blast-furnace Slag (GGBS)**

**Microsilica
(Silica Fume)**

**Microsilica
(Silica Fume)**

Fly Ash

Metakaolin

A leading supplier of Microsilica (Silica Fume) **Xiamen All Carbon Corporation (ACC)**

Xiamen All Carbon Corporation (ACC) is a leading supplier of Microsilica (Silica Fume), and other building materials like Fly Ash, Ground Granulated Blastfurnace Slag (GGBS), MetaKaolin, Superplasticizers...

ACC is a holding company with subsidiaries to produce Microsilica. We establish long-term partnerships with several large-scale Ferrosilicon and Silicon Metal factories, to control the raw materials supply and ensure the annual output of 80,000MT microsilica.

With the excellent quality and service, our microsilica is popular in Middle East, Australia, Janpan and Korea etc. We sincerely hope to establish strategic partnerships with you, and promise you competitive price, consistant quality, prompt delivery and comprehensive services.

Here are just a few things that ACC has to offer

Same Day Quotations and Immediate Shipment

Complete Tracking of Your Order

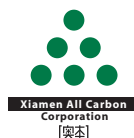
ISO 9002 Quality Control System

Meet and Exceed Standards of ASTM C1240 & EN13263:2005

Provide SGS Certificate as per Your Requirments.



Cityscapes in Xiamen City





Microsilica (Silica Fume)

ACC's microsilica conforms to the mandatory requirements of the relevant standards :

1. American Society for Testing and Materials (ASTM C1240)
2. European Committee for Standardisation (EN 13263 : 2005)



The SiO₂ content ranges from 80% to 97%. They are classified as Grade80, Grade85, Grade88, Grade90, Grade92, Grade94 and Grade97, including densified and undensified products.

Grades	SiO ₂	Applications
Sino Microsilica Grade80	SiO ₂ >80%	For Construction;
Sino Microsilica Grade85	SiO ₂ >85%	For Construction;
Sino Microsilica Grade88	SiO ₂ >88%	For Construction;
Sino Microsilica Grade90	SiO ₂ >90%	For Construction;
Sino Microsilica Grade92	SiO ₂ >92%	For Construction & Refractory
Sino Microsilica Grade94	SiO ₂ >94%	For Construction & Refractory

Quality Control and Testing Frequency

Chemical & Physical Analysis	ASTM C1240 - 03		EN 13263 : 2005	
	Spec.	Frequency	Spec.	Frequency
SiO ₂ (%)	> 85,0	500 MT	> 85	weekly
SO ₃ (%)			< 2,0	monthly
Cl (%)			< 0,3	monthly
Free CaO (%)			< 1,0	monthly
Free Si (%)			< 0,4	monthly
Moisture (%)	< 3,0	500 MT		
Loss on Ignition, LOI (%)	< 6,0	500 MT	< 4,0	weekly
Specific surface (BET - m ² /gram)	> 15	3200 MT/3 months	> 15 & <35	monthly
Bulk density (kg/m ³) --Densified	550-700	500 MT		
Bulk Density (kg/m ³)—Undensified	200-350	500MT		
Pozz. Activity Index (%) - 7 days accelerated curing	> 105	3200 MT/3 months		
Pozz. Activity Index (%) - 28 days normal curing			> 100	monthly
Retained on 45 micron sieve (%)	< 10	500 MT		
Variation from avg. retained on 45 micron (%-points)	< 5	avg. of last 10 tests		

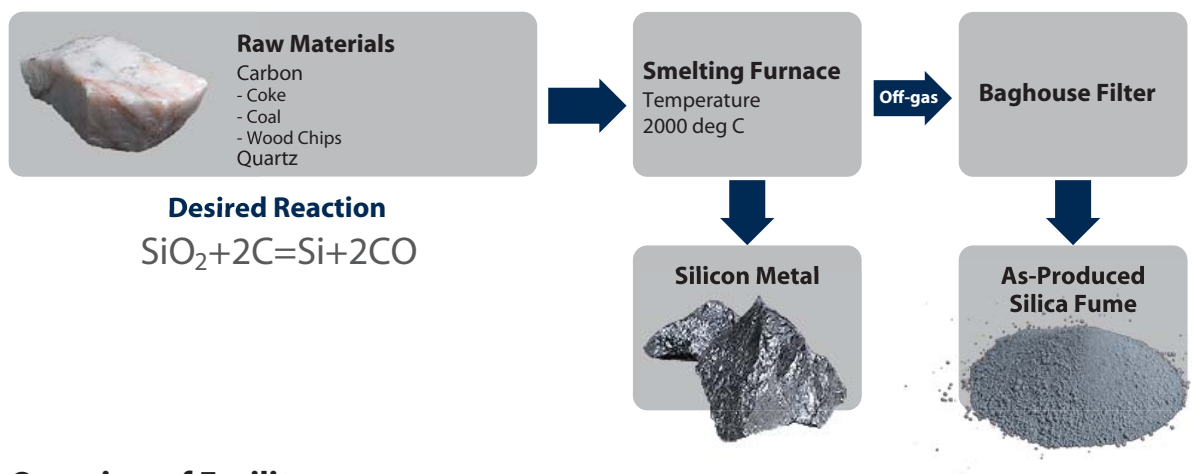
What is Microsilica?

The American Concrete Institute (ACI) defines Microsilica (also known as Silica Fume) as “very fine noncrystalline silica produced in electric arc furnaces as a by-product of the production of elemental silicon or alloys containing silicon”

Microsilica consists of very fine vitreous particles with a surface area ranging from 15 to 30 m²/g, with particle approximately 100 times smaller than the average cement particle. Because of its extreme fineness and high silica content, Microsilica is a highly effective pozzolanic material.

Microsilica is used in concrete to improve its properties. It has been found that Microsilica greatly improves compressive strength, bond strength, and abrasion resistance; reduces permeability; and therefore helps in protecting reinforcing steel from corrosion.

Microsilica Production



Overview of Facility

Capture as-produced silica fume by bag house

After being collected over the furnace, the silica fume must be transferred, cooled, and physically trapped.

The large pipe on the left is bringing the silica fume from the furnaces. The vertical elements are cyclones that are used to remove oversize and other unwanted materials.

The large building is the bag house where the fume is captured.



Densification Silo

Densification Silo for production of densified form of silica fume. The as-produced fume is brought into this silo. Compressed air is used to aerate and tumble the fume particles. Electrostatic charges develop and cause the individual particles to agglomerate. Once the densified silica fume reaches the desired bulk density, it is taken from this silo for packaging or shipping.



Packaging

Microsilica is supplied in a range of packagings:

- 800~900kg jumbo PP bag with PE liner

The Jumbo bag conforms to GB/T10454 and EN ISO 21898 with UV-proof function and anti-aging character.

- 25kg woven bags with PE liner;
- 10kg water-degradable paper bags;



Storage & Transportation

ACC set up thousands square meters of warehouse in main ports of China and provides integral solution of transportation for customers:

- Containerized Shipment
- Break-Bulk shipment



Quality Control

Microsilica Collecting

Microsilica is collected from electric arc furnaces as a by-product of the production of elemental silicon or alloys containing silicon. The production process conforms to ASTM C 1240 and EN 13263:2005.

Production Control

Before discharging the densified materials from silos, the silo level, open position of flow control gates, air and ventilation system etc. shall be checked.

Two samples of silica fume shall be taken respectively from top and bottom of silo, prior to packing into the bags. Physical and chemical tests are conducted to analyse specifications of SiO₂, LOI, moisture and bulk density.

Inspection before Delivery

There is an inspection again before delivery:

- a. Sampling from one package of each production lots;
- b. Broken or dirty bags shall not be delivered;
- c. Material with lumps and moisture will be rejected.

Other Products



Fly Ash

Standard

1. Class I, Class II, Class III conform to Chinese National Standard—GB

2. Type F & Type C conform to American Standard—ASTM C 618

Specification

Items		Technical Requirement (GB)			Testing Result
		Class I	Class II	Class III	
Fineness (45um sieve residue less than, %)	Type F	12.0	25.0	45.0	2.4
	Type C				
Ratio of Water needed, less than, %	Type F	95	105	115	91
	Type C				
Loss on ignition, less than, %	Type F	5.0	8.0	15.0	0.78
	Type C				
Water content, less than, %	Type F	1.0			0.06
	Type C				
SO ₃ , less than, %	Type F	3.0			0.67
	Type C				
Free-CaO, less than, %	Type F	1.0			0.06
	Type C				
Radioactivity		Inner irradiation index=<1.0			0.8
			Outer irradiation index=<1.0		



Ground Granulated Blast-furnace Slag (GGBS)

Standard

1. Chinese National Standard GB/T18046—2000

2. Australian Standard AS3582.2.1991

Specifications

Items	Unit	Criteria	Test Result
Density	g/cm ³	>=2.8	2.9
Specific Area	M ² /kg	>=350	410
Activity Index at 7d	%	>=75	81
Activity Index at 28d	%	>=95	113
Water Content	%	<=1.0	0.1
Liquidity Ratio	%	>=90	102
SO ₃	%	<=4.0	0.0
Cl ⁻	%	<=0.02	0.00
L.O.I (loss on ignition)	%	<=3.0	0.2



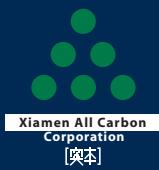
Metakaolin

Standard

1. Conforms and far exceed requirements of ASTM C618 Class N

Specifications

SiO ₂	Al ₂ O ₃	Loss on ignition	Retained on 45 micron sieve	Pozzolanic Activity at 7 & 28 daysve
51.3%	45.5%	0.33%	< 10%	< 10%



www.allcarbon.com.cn

Xiamen All Carbon Corporation

Tel: +86 592 2278129

Fax: +86 592 2278123

E-mail: info@allcarbon.com. [Http://www.allcarbon.com.cn](http://www.allcarbon.com.cn)

Add: Unit F-G, 10/F, Zhenhaoge Building, Guomao Golden Coast, No.99 Lujiang Road, Xiamen China, 361001