شركة العناية الذكية لتجارة الكيماويات

Smart Care Chemicals Trading Company

For the Distribution and Supply of Chemical

Products and Construction Materials

Across the Kingdom of Saudi Arabia

Table of Content

Who Are We?

Weareaspecialized company in distributing and supplying high-quality chemical materials and construction essentials to various industrial and commercial sectors, aiming to enhance production processes and support the highest standards of quality and safety.

Our Vision:

Weaspire to be the first choice for providing chemical materials and innovative solutions, focusing on supporting sustainable development and meeting local and regional market needs.

Our Mission:

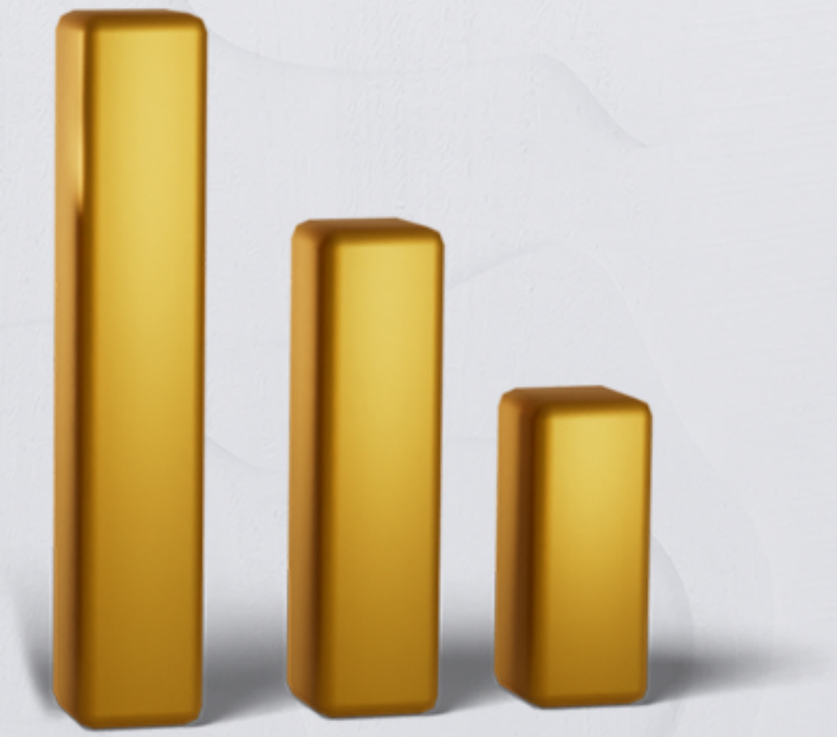
To deliver high-quality chemical materials and innovative solutions that meet the needs of our clients within and beyond Saudi Arabia while attaching to the highest safety and sustainability standards.

Our Goals:

1- MarketLeadership: To achieve leadership in the field of distributing and supplying chemical materials and construction essentials in Saudi Arabia vand the Gulf region.

2- CommitmenttoQualityStandards: To provide high-quality products that meet the needs of various industrial and commercial sectors, enhancing operational efficiency and safety standards.

3- Building Partnerships: To establish partnerships with other companies and investors to boost our innovation capacity and expand our service offerings.



Our Products:

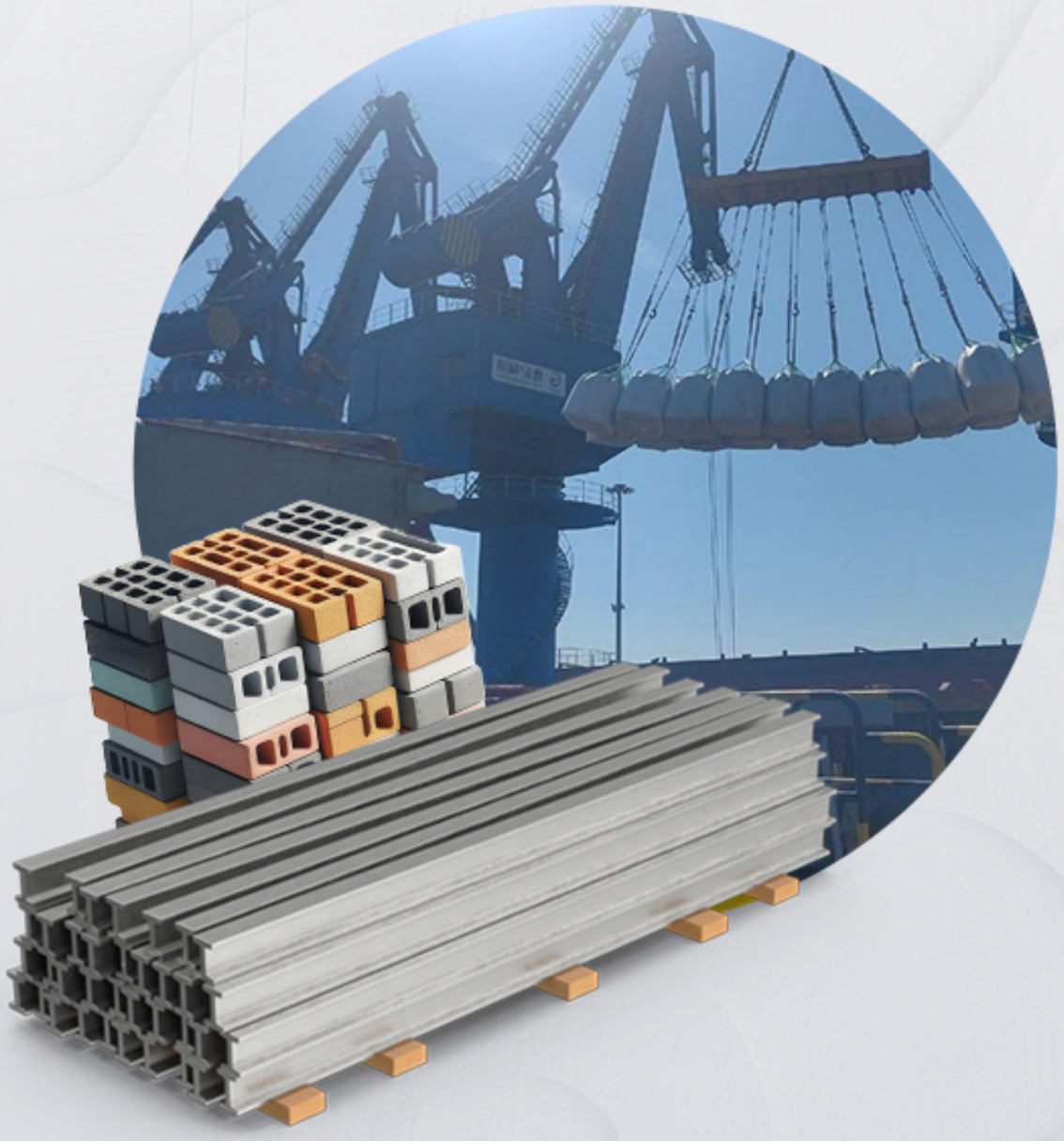
Construction materials (cement substitutes- insulating materials)

Iron slag chains - GGBFS

Microsilica

Flyash

Polymer



Smart Care Chemicals Trading Co

MILL TEST CERTIFICATE FOR GGBFS

Date:12.06.2024

Customer : SMART CARE CHEMICHALES TRADING CO.W.L.L.
Certificate No : SCMC/QC/GGBFS/W32
Standard : ASTM C 989 -Grade 100

CHEMICAL PROPERTIES	SPECIFICATION	RESULT
Specific Surface	Not specified	447 m2 /kg
Specific Surface of Reference Cement	Not Specified	378 m2/kg
Air content of Slag mortar, %	12 max	2.96
Total alkali of the Reference Cement, %	0.60 – 0.90	0.72
Sulfide Sulfur, %	2.5 max	1.02
Sulfate, %	4.0 max	0.31
Aluminium Oxide, %	Not Specified	13.84
Chloride, %	Not Specified	0.02
Fineness Retained (45 Micron sieve), %	20 max	4.98
Compressive Strength		
50%GGBS +50% Reference Cement	Not Specified	33.32 Mpa @ 7days
		*48.20 Mpa @ 28days(W29)
Reference Cement	35 Mpa min @ 28 days	38.91 Mpa @7 days
		*50.31 Mpa @28 days(W29)
Slag Activity Index %		
7 days	Grade 100 > 75	**85.63**
	Grade 120 > 95	
28 days	Grade 100 > 95	**95.81**
	Grade 120 > 115	
Conclusion	Complies with requirement of ASTM C 989 Grade 100 Standard	

Remark:

We hereby certify that material described herein was manufactured and tested with satisfactory result in accordance with the requirements of the above material specification.

Date: 12.06.2024

Smart Care Chemicals Trading Co

GGBFS SPECIFICATION

Standard: BS 6699:1992

: BS EN 15167

Material Name: GGBS

CHEMICAL ANALYSIS	%	
Loss on ignition - LOI	3.00	MAX
Insoluble residue - IR	1.50	MAX
Silicon Di Oxide (SiO2)	No limit	
Aluminium Oxide (Al2O3)	No limit	MAX
Iron Oxide (Fe2O3)	No limit	MAX
Calcium oxide - CaO	No limit	MAX
Magnesium oxide – MgO	14.00	MAX
Sulfur trioxide – SO3	2.50	MAX
Sulfide Sulfur - S	2.00	MIN
Sodium Oxide –Na2O	No limit	
Potassium oxide – K2O	No limit	
Chloride - Cl	0.10	MAX
Manganese oxide - MnO	2.00	MAX
(CaO+MgO+SiO2)	66.67	MIN
(CaO+ MgO)/SiO2	1.00	MIN
CaO/SiO2	1.40	MAX
PHYSICAL TESTS		
Moisture %	1.00	MAX
Fineness M2/KG	275	MIN
Initial Setting Time - minutes	60	MIN
Final Setting Time - minutes	No limit	
Soundness – Le-chat.Expn. - mm	10	MAX
COMPRESSIVE STRENGTH (70% GGBS+30% OPC)		
2 Days – N/mm2	No limit	
7 Days – N/mm2	12.00	MIN
28 Days – N/mm2	32.50	MIN

Technical Data Sheet | Fly Ash

Smart Care Chemicals Trading Co.

Adani Mundra Source

Product

Fly Ash is a pozzolanic material, obtained as a by-product from coal-fired thermal power stations. It consists of small, hard and spherical particles rich in silica (glass) and alumina, with pozzolanic properties. It complements Portland cement upon hydration by reacting with free lime (calcium hydroxide) to form an additional durable binder, namely calcium silicate hydrate. The spherical particles also have a 'ball-bearing' effect, that allows concrete to be produced using less water. Both these characteristics enhance concrete workability and durability significantly.

Technical Features

Fly Ash is mainly used as a partial replacement of cement in concrete, and has unique properties that benefit both fresh and hardened concrete. Its key advantages include reduced heat of hydration, improved workability, enhanced durability and longer setting time. It is also suited for mass concrete applications, and in hot and aggressive environment where early-age thermal cracking, alkali silica reaction and durability are major concerns. General replacement of cement with Fly Ash in concrete can be 20-35% by weight for normal structures. However, for special structures such as dams, the replacement levels can increase up to 70%. The service life of structures using **Fly Ash** is enhanced by more than 100% on account of superior durability of concrete. Fly Ash use in concrete qualifies for credit under the U.S. Green Building Council's popular LEED® rating system for sustainable construction

Packing

Fly Ash is offered in various packing options - Bulk (Road/ Sea), 1.4 MT Big Bags and 25 KG/ 40 KG Small Bags - depending on the volume and requirements of the customer.

Specifications

Properties	Unit	Typical Performance	ASTM C618 Class F	EN 450-1	AS/NZS 3582
Silicon Dioxide, Aluminum Oxide, Iron Oxide ($SiO_2 + Al_2O_3 + Fe_2O_3$)	%	75-80	70.0 Min.	70.0 Min	70 Min.
Sulfur Trioxide (SO_3)	%	0.7-0.9	5.0 Max.	3.0 Max.	3.0 Max.
Chloride (Cl)	%	0.01-0.05		0.1 Max.	
Moisture Content (H_2O)	%	0.2-0.6	3.0 Max.	2.0 Max.	0.5 Max.
Loss on Ignition (LOI)	%	0.2-0.5	6.0 Max.	5.0 Max.	3.0 Max. (S) 4.0 Max. (G1)
Available Alkalis, as Na_2O	%	1-1.25		5.0 Max.	
Fineness - Retained on 45 µm (No. 325) sieve	%	8-12	34 Max.	12 Max. (Cat S) 40 Max. (Cat N)	15 Max. (S) 25 Max. (G1) 45 Max. (G2)
Strength Activity Index					
7 day (% of control)	%	80-85	75 Min.		75 Min.
28 day (% of control)	%	90-95	75 Min.	75 Min.	75 Min.
Water Requirement (% of control)	%	92-94	105 Max.	95 Max.	
Autoclave Expansion or Contraction	%	0.3-0.5	0.8 Max.		

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Smart Care Chemicals Trading Co.W.L.L.

SmartCare® -MicroSilica Technical Data Sheet

PRODUCT DESCRIPTION

SmartCare® Microsilica is a powder mineral admixture composed of submicron particles of silicon dioxide and manufactured as a co-product from the production of silicon and ferrosilicon metal. When added to concrete, **SmartCare® Microsilica** acts as both micro filler, improving the physical structure by occupying the spaces between the cement particles and as a 'pozzolan,' reacting chemically to impart far greater strength and durability to concrete.

When added to precast and ready-mixed concrete, **SmartCare® Microsilica** produces high-performance, high-strength concrete with an increased life-span and improved structural economics.

SmartCare® Microsilica is ideal for use in structures exposed to chemical and environmental attack.

SmartCare® Microsilica conforms to ASTM C-1240 and EN 13263:2005 standards for use in concrete applications.

TECHNICAL SPECS / ASTM STANDARDS

Parameter	SmartCare MicroSilica	ASTM C-1240
pH	7.1 – 7.8	8.20 max
Moisture	0.2 – 1.9%	3.0% max
Surface Area	20-27 m^2/g	15 m^2/g
Bulk Density	600-700 kg/m^3	-----
SiO_2	85-93% Min.	85.00% min
Al_2O_3	0.62-0.78%	-----
Fe_2O_3	0.21-0.35%	-----
CaO	0.37-0.88%	1.0% max
MgO	0.65-0.88%	5.0% max
SO_3	0.1-2.2%	3.0% max
Loss on Ignition	1.5 – 3.0%	6.0% max
Na_2O	0.3-0.5%	1.5% max
K_2O	0.3 – 0.50%	-----
CL	0.04 – 0.50%	1.0% max
C	0.08 – 1.5%	4.0% max

ADVANTAGES

- Prevents reinforcing steel corrosion in concrete, due to its extremely low permeability to chloride-ion intrusion and high electrical resistivity.
- Greater impermeability, barring the ingress of moisture, chemicals and other contaminants.
- High early strengths, assuring increased efficiency and greater cost effectiveness in the production of pre-stressed and precast concrete .
- High ultimate compressive strengths (8,000-20,000 psi), proportionate to amount of silica fume and the water to cementitious ratio
- substantially greater resistance to corrosion, abrasion and erosion, chemical attack and freeze/thaw damage

DOSAGES

SmartCare® Microsilica typical dosage levels range from 7.0 to 10% by weight of cement. With an addition of 15 percent, the potential exists for very strong, brittle concrete. It increases the water demand in a concrete mix; however, dosage rates of less than 5 percent will not typically require a water reducer. High replacement rates will require the use of a high range water reducer.

COMPATIBILITY/ADDITION

Although SmartCare® Microsilica is compatible with other concrete admixtures, but as known each admixture has to be added separately to the concrete using suitable equipment.

APPLICATIONS

Effects on Air Entrainment and Air-void System of Fresh Concrete.

The dosage of air-entraining agent needed to maintain the required air content when using SmartCare® Microsilica is slightly higher than that for conventional concrete because of high surface area and the presence of carbon. This dosage is increased with increasing amounts of SmartCare® Microsilica content in concrete.

Effects on Water Requirements of Fresh Concrete

SmartCare® Microsilica added to concrete by itself increases water demands, often requiring one additional pound of water for every pound of added SmartCare® Microsilica. This problem can be easily compensated for by using admixtures.

Smart Care Chemicals Trading Co.W.L.L.

SmartCare® -MicroSilica Technical Data Sheet

Effects on Consistency and Bleeding of Fresh Concrete.

Concrete incorporating more than 10% SmartCare® Microsilica becomes sticky. In order to enhance workability, the initial slump should be increased. It has been found that Silica Fume reduces bleeding because of its effect on rheological properties.

Effects on Strength of Hardened Concrete.

SmartCare® Microsilica is used to produce very high-strength, low-permeability, and chemically resistant concrete. Addition of **SmartCare® Microsilica** by itself, with other factors being constant, increases the concrete strength.

Incorporation of **SmartCare® Microsilica** into a mixture also enables the use of a lower water-to-cementitious-materials ratio than may have been possible otherwise. The modulus of rupture of concrete prepared using **SmartCare® Microsilica** is usually either about the same as or somewhat higher than that of conventional concrete at the same level of compressive strength.

Effects on Freeze-thaw Durability of Hardened Concrete

Experimental results indicated that the use of **SmartCare® Microsilica** has no significant influence on the production and stability of the air-void system.

Freeze-thaw testing (ASTM C 666) on Silica Fume concrete showed acceptable results.

Effects on Permeability of Hardened Concrete

Addition of **SmartCare® Microsilica** to concrete reduces its permeability. Rapid chloride permeability testing conducted on **SmartCare® Microsilica** concrete showed that addition of 8% product significantly reduces the chloride permeability. This reduction is primarily the result of the increased density of the matrix due to the presence of the product.

PACKAGING

SmartCare® Microsilica is available in 1000kg UV coated moisture resistant bags on pallets. Bulk tankers of 25 Tons are also available upon request.

HEALTH, SAFETY & HANDLING

SmartCare® Microsilica is unlikely to cause harmful effects when handled and stored as advised. However like other chemicals, the product should not be swallowed, inhaled or comes into contact with body and eyes.

Protective clothing should be worn when handling the product such as goggles and gloves.

If swallowed please seek medical consultation immediately and do not induce vomiting.

If inhaled remove the exposed person from dusty area to fresh air. If discomfort persists seek medical attention.

Eye and skin splashes should be washed thoroughly with plenty of water and a mild detergent.

STORAGE & DISPOSAL

SmartCare® Microsilica is not flammable but should be stored away from acids in a well ventilated place below 55°C.

SmartCare® Microsilica is not classified as hazardous waste.

Please contact the local waste regulatory authority for guidance on methods of disposals.

Please refer to MSDS for further details.

FIRE RISKS

Although **SmartCare® Microsilica** is nonflammable but it should be stored away from combustible material.

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Our Projects

سندالة

Trojena Front and Sindalah Island

NEOM

Neom - TheLine

وسط جدة
JEDDAH CENTRAL

Central Jeddah Stadium- The Opera- TheMuseum

أمالا
AMAALA

AmaalaandTheRedSeaProject

Formula1

Formula 1

رؤى المدينة
Rua Al Madinah

Medina Vision Project

القدية

QiddiyaandDiriyah Projects

حديقة الملك سلمان
King Salman Park

King Salman Park in Riyadh

سير

SirBrabghStation

WaterTreatmentPlants in Al-Shoaiba

Quality and Safety Policy

Quality and safety are our top priorities. From the manufacturing process to delivery, we adhere to the highest standards, implementing comprehensive and meticulous procedures to ensure the safety and exceptional quality of our products.

شركة العناية الذكية لتجارة الكيماويات
Smart Care Chemicals Trading Company

Together, we build solid foundations for advanced projects that align with the Kingdom’s aspirations.
Contact us to become your partner in enhancing the quality of your projects with chemical materials and construction essentials.

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