



شركة العناية الذكية لتجارة الكيماويات  
Smart Care Chemicals Trading Company

لتوزيع وتوريد المنتجات الكيميائية ومستلزمات  
البناء والتشييد في جميع أنحاء

المملكة العربية السعودية

# الفهرس

١ من نحن؟

٢ رؤيتنا

٣ رسالتنا

٤ أهدافنا

٥ منتجاتنا

٦ مشاريعنا

٧ تواصل معنا

# من نحن؟

شركة متخصصة في توزيع و توريد  
الاضافات الخرسانية و بدائل الاسمنت  
و معالجة المياه.

# رؤيتنا:

نطمح لأن نكون الخيار الأول لتوفير المواد الكيميائية والحلول المبتكرة، مع التركيز على دعم التنمية المستدامة وتلبية احتياجات الأسواق المحلية والإقليمية.



# رسالتنا:

تقديم مواد كيميائية وحلول مبتكرة عالية الجودة تلبي احتياجات عملائنا داخل وخارج المملكة العربية السعودية، مع الالتزام بأعلى معايير السلامة والاستدامة.

# أهدافنا:

١ - تحقيق الريادة في السوق: نهدف لتحقيق الريادة في مجال توزيع وتوريد المواد الكيميائية ومستلزمات البناء والتشييد في المملكة العربية السعودية ومنطقة الخليج .

٢ - الالتزام بأعلى معايير الجودة: نهدف إلى تقديم منتجات عالية الجودة تلبي احتياجات مختلف القطاعات الصناعية والتجارية، مما يساهم في تحسين كفاءة العمليات الإنتاجية وتعزيز معايير السلامة.

٣ - بناء شراكات: نهدف إلى بناء شراكات مع الشركات الأخرى والمستثمرين لتعزيز من قدراتنا على الابتكار وتوسيع نطاق خدماتنا .



# منتجاتنا:

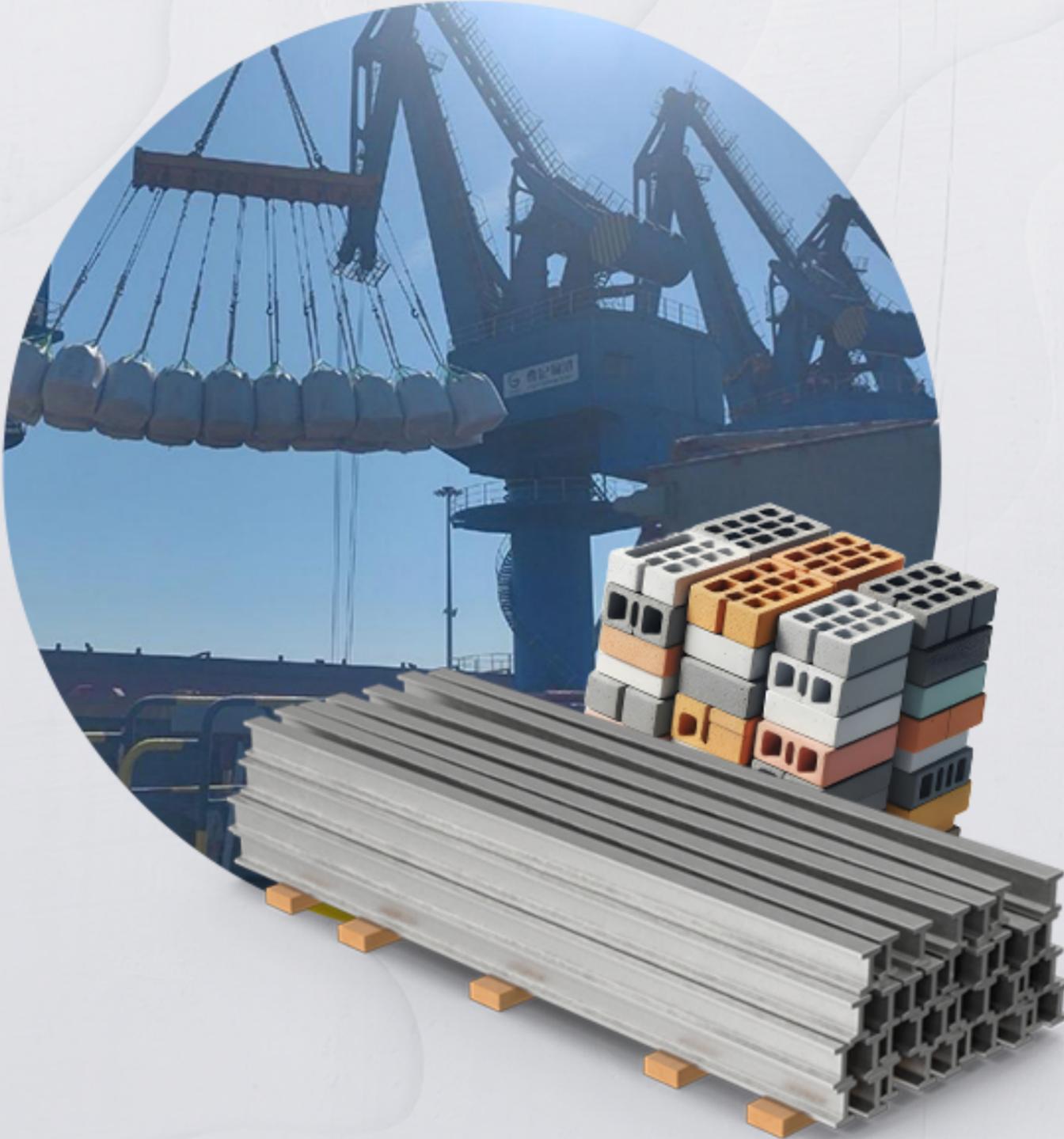
مستلزمات البناء والتشييد ( المواد البديلة للإسمنت - المواد العازلة )

سلاسل رماد الحديد - GGBFS

ميكروسيليكا - Microsilica

البوليمر - Polymer

فلاي اش - Fly Ash





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 <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub> )	%	75-80	70.0 Min.	70.0 Min	70 Min.
Sulfur Trioxide (SO <sub>3</sub> )	%	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 <sub>2</sub> O)	%	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 <sub>2</sub> O	%	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)
<i>Strength Activity Index</i>					
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.		



**MILL TEST CERTIFICATE FOR GGBFS**

Date: 12.06.2024

Customer : SMART CARE CHEMICALS 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 m <sup>2</sup> /kg
Specific Surface of Reference Cement	Not Specified	378 m <sup>2</sup> /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
<b>Compressive Strength</b>		
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)
<b>Slag Activity Index %</b>		
7 days	Grade 100 > 75	<b>85.63</b>
	Grade 120 > 95	
28 days	Grade 100 > 95	<b>95.81</b>
	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



**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 (SiO <sub>2</sub> )	No limit	
Aluminium Oxide (Al <sub>2</sub> O <sub>3</sub> )	No limit	MAX
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	No limit	MAX
Calcium oxide - CaO	No limit	MAX
Magnesium oxide - MgO	14.00	MAX
Sulfur trioxide - SO <sub>3</sub>	2.50	MAX
Sulfide Sulfur - S	2.00	MIN
Sodium Oxide - Na <sub>2</sub> O	No limit	
Potassium oxide - K <sub>2</sub> O	No limit	
Chloride - Cl	0.10	MAX
Manganese oxide - MnO	2.00	MAX
(CaO+MgO+SiO <sub>2</sub> )	66.67	MIN
(CaO+ MgO)/SiO <sub>2</sub>	1.00	MIN
CaO/SiO <sub>2</sub>	1.40	MAX
<b>PHYSICAL TESTS</b>		
Moisture %	1.00	MAX
Fineness M <sub>2</sub> /KG	275	MIN
Initial Setting Time - minutes	60	MIN
Final Setting Time - minutes	No limit	
Soundness - Le-chat.Expn. - mm	10	MAX
<b>COMPRESSIVE STRENGTH ( 70% GGBS+30% OPC)</b>		
2 Days - N/mm <sup>2</sup>	No limit	
7 Days - N/mm <sup>2</sup>	12.00	MIN
28 Days - N/mm <sup>2</sup>	32.50	MIN



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 13293:2005 standards for use in concrete applications.

TECHNICAL SPECS / ASTM STANDARDS

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.

DOSEAGES

SmartCare® MicroSilica typical dosage levels range from 7.0 to 10% by

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 <sup>2</sup> /g	15 m <sup>2</sup> /g
Bulk Density	600-750 kg/m <sup>3</sup>	----
SiO <sub>2</sub>	85-93% Min.	85.00% min
Al <sub>2</sub> O <sub>3</sub>	0.62-0.78%	----
Fe <sub>2</sub> O <sub>3</sub>	0.21-0.35%	----
CaO	0.37-0.58%	1.0% max
MgO	0.65-0.88%	5.0% max
SO <sub>3</sub>	0.1-2.2%	3.0% max
Loss on Ignition	1.5 – 3.0%	6.0% max
H <sub>2</sub> O	0.3-0.5%	1.5% max
K <sub>2</sub> O	0.3 – 0.50%	----
CL	0.04 – 0.50%	1.0% max
C	0.08 – 1.5%	4.0% max

weight of cement. With an addition of 10 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.



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 disposal.

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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Fax: +966.1 4169592

Website: [www.smartcareksa.com](http://www.smartcareksa.com)

# مشاريعنا



مشروع واجهة تروجينا وجزيرة سندالة



Neom - The Line



وسط جدة  
JEDDAH CENTRAL

استاد وسط جدة - الاوبرا - المتحف



مشروع امالا والبحر الأحمر



Formula 1



مشروع رؤى المدينة المنورة



مشاريع القدية والدرعية



حديقة الملك سلمان بالرياض



محطة سير برباغ



محطات معالجة المياه بالشعبية



## سياسة الجودة والأمان

الجودة والأمان هما أولويتنا، بدءًا من عملية التصنيع وصولاً إلى التسليم نلتزم بتطبيق أعلى المعايير، ونعمل على الحفاظ على سلامة منتجاتنا وجودتها العالية من خلال اتخاذ إجراءات شاملة ودقيقة تضمن تحقيق هذه المعايير





شركة العناية الذكية لتجارة الكيماويات  
Smart Care Chemicals Trading Company

معًا، نبني أساسات قوية لمشاريع  
متقدمة تواكب تطلعات المملكة  
تواصلوا معنا لنكون شريككم في  
تعزيز جودة مشاريعكم بالمواد  
الكيميائية ومستلزمات البناء



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