



THYME



COMPANY PROFILE

**RAW MATERIALS &
MACHINERY SOLUTIONS**

- Refractory Industry
- Aluminium Industry

- Steel Industry
- Abrasive Industry

www.thymecorporation.com



QUALITY AND COMMITMENT

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ABOUT THYME

The roots of our organisation go back all the way to 1990 , and we have always grown with the aim of providing quality refractory materials to industries all over the world. Currently, we are based in Hong Kong, India, Germany, and UK, and our team of experts have a wealth of experience in sourcing and supplying refractory materials.

We are incorporated in London, Hong Kong, Kolkata, India and our presence spreads all across Asia and Europe. Our clientele are comprised of some of the largest industrial groups in the world. We are now expanding operations to encompass and establish a truly global footprint. We have already started to expand our area of operations to Western Europe by establishing ourselves in Germany and setting up warehousing in Rotterdam.

All this was possible because of years of experience and presence in industry coupled with the never-say-die spirit in the face of adversities, willing to tread untrodden paths and uncharted territories, and having the wherewithal and perseverance to stick to our principles and carve out our own niche in the market through consistent efforts.

Through a large number of strategic partnerships and investments with miners, producers and processors in China, India and other parts of the world, we have greatly expanded our raw materials catalogue , including materials like calcined Bauxite , various types alumina, magnesia , silica, Mullite , kaolin, silicon carbide and others. We are a one-stop shop for all refractory raw materials and offer personalised sourcing solutions , a variety of logistical and financing solutions to our customers coupled with the best advice. We are also suppliers of raw materials to abrasives, aluminum and steel industries.





Certificate of Registration

Certificate No: 230713024401

This is to Certify that the Environment Management System of

THYME EUROPE LIMITED
(Certificate of Incorporation No. 12318005)

1 NORTHUMBERLAND AVENUE, TRAFALGAR SQUARE, LONDON, UNITED KINGDOM, WC2N 5BW

has been assessed and found to be in accordance with the requirements of standard detailed below

ISO 14001:2015

This Certificate is valid for the following scope

Sourcing, Supply, Import & Export of Minerals, Chemicals,
Crushing & Grinding Machinery, Ores & Related Raw Materials
(IAF Group-29)

Initial Registration Date	13 th Jul. 2023	Current Issue Date	13 th Jul. 2023
1 st Surveillance on or before	13 th Jun. 2024	Valid Until	12 th Jul. 2026
2 nd Surveillance on or before	13 th Jun. 2025	Revision	00

Certification Cycle of this certificate is three (3) years from the issue date and validity of the certificate shall be subject to the successful completion of the surveillance audits as mentioned above, current Status of Certificate can be verified on
www.isoindia.org & www.infocertsearch.org



CB-MS-2206



Accredited by United Accreditation Foundation (UAF)

Praveesh Singh
TNV Certification Pvt Ltd
CIN: U74900UP2011PTC046719

Legal Entity Identifier (LEI) of TNV Certification Pvt. Ltd. is 335800HP72H8A0RCF93
Accreditation Body: UAF, United Accreditation Foundation Inc., 409 North Center Dr Ste 202, Naperville, IL 60563, United States of America
Certificate Body: AIA, B.I.D.: TNV House, 117-B-18/1-B, Sector V, Larkana-20 India, Mail: info@tnv.com



Certificate of Registration

Certificate No: 221216014401

This is to Certify that the Quality Management System of

THYME EUROPE LIMITED
(Certificate of Incorporation No. 12318005)

9 MANSFIELD STREET, LONDON, ENGLAND W1G 9NY, UK

has been assessed and found to be in accordance with the requirements of standard detailed below

ISO 9001:2015

This Certificate is valid for the following scope

Sourcing, Supply, Import & Export of Minerals, Chemicals,
Crushing & Grinding Machinery, Ores & Related Raw Materials
(IAF Group-29)

Initial Registration Date	16 th Dec. 2022	Issue Date	16 th Dec. 2022
1 st Surveillance on or before	16 th Nov. 2023	Valid Until	15 th Dec. 2025
2 nd Surveillance on or before	16 th Nov. 2024	Revision	00

Certification Cycle of this certificate is three (3) years from the issue date and validity of the certificate shall be subject to the successful completion of the surveillance audits as mentioned above, current Status of Certificate can be verified on
www.isoindia.org & www.infocertsearch.org



CB-MS-2207



Accredited by United Accreditation Foundation (UAF)

Praveesh Singh
TNV Certification Pvt Ltd
CIN: U74900UP2011PTC046719

Accreditation Body: UAF, United Accreditation Foundation Inc., 409 North Center Dr Ste 202, Naperville, IL 60563, United States of America
Certificate Body: AIA, B.I.D.: TNV House, 117-B-18/1-B, Sector V, Larkana-20 India, Mail: info@tnv.com



Certificate of Registration

Certificate No: 230713034401

This is to Certify that the Occupational health and safety management systems of

THYME EUROPE LIMITED
(Certificate of Incorporation No. 12318005)

1 NORTHUMBERLAND AVENUE, TRAFALGAR SQUARE, LONDON, UNITED KINGDOM, WC2N 5BW

has been assessed and found to be in accordance with the requirements of standard detailed below

ISO 45001:2018

This Certificate is valid for the following scope

Sourcing, Supply, Import & Export of Minerals, Chemicals,
Crushing & Grinding Machinery, Ores & Related Raw Materials
(IAF Group-29)

Initial Registration Date	13 th Jul. 2023	Current Issue Date	13 th Jul. 2023
1 st Surveillance on or before	13 th Jun. 2024	Valid Until	12 th Jul. 2026
2 nd Surveillance on or before	13 th Jun. 2025	Revision	00

Certification Cycle of this certificate is three (3) years from the issue date and validity of the certificate shall be subject to the successful completion of the surveillance audits as mentioned above, current Status of Certificate can be verified on
www.isoindia.org & www.infocertsearch.org



CB-MS-2208



Accredited by United Accreditation Foundation (UAF)

Praveesh Singh
TNV Certification Pvt Ltd
CIN: U74900UP2011PTC046719

Legal Entity Identifier (LEI) of TNV Certification Pvt. Ltd. is 335800HP72H8A0RCF93
Accreditation Body: UAF, United Accreditation Foundation Inc., 409 North Center Dr Ste 202, Naperville, IL 60563, United States of America
Certificate Body: AIA, B.I.D.: TNV House, 117-B-18/1-B, Sector V, Larkana-20 India, Mail: info@tnv.com



Certificate of Registration

Certificate No: 230114019102

This is to Certify that the Quality Management System of

THYME INDIA PRIVATE LIMITED

MANI CASADONA, WEST WING, SUITE NO.6&5W, 6TH FLOOR, NEW TOWN,
ACTION AREA 2F, KOL KATA - 700156, WEST BENGAL, INDIA

has been assessed and found to be in accordance with the requirements of standard detailed below

ISO 9001:2015

This Certificate is valid for the following scope

"SOURCING, SUPPLY, IMPORT & EXPORT OF MINERALS, CHEMICALS, CRUSHING & GRINDING MACHINERY, ORES & RELATED RAW MATERIALS"

"IAF Group- 29"

Initial Registration Date	14 th Jan. 2023	Current Issue Date	14 th Jan. 2023
1 st Surveillance on or before	14 th Dec. 2023	Valid Until	13 th Jan. 2026
2 nd Surveillance on or before	14 th Dec. 2024	Revision	00

Certification Cycle of this certificate is three (3) years from the issue date and validity of the certificate shall be subject to the successful completion of the surveillance audits as mentioned above, current Status of Certificate can be verified on
www.isoindia.org & www.infocertsearch.org



CB-MS-2207



Accredited by United Accreditation Foundation (UAF)

Praveesh Singh
TNV Certification Pvt Ltd
CIN: U74900UP2011PTC046719

Accreditation Body: UAF, United Accreditation Foundation Inc., 409 North Center Dr Ste 202, Naperville, IL 60563, United States of America
Certificate Body: AIA, B.I.D.: TNV House, 117-B-18/1-B, Sector V, Larkana-20 India, Mail: info@tnv.com





OUR VALUES

Thyme is committed to the following values:

Integrity: We will be honest and ethical in all our dealings.

Excellence: We will strive for excellence in everything we do.

Honesty: We are crystal clear and upright in all our engagements.

Respect: We will treat our employees, customers, and suppliers with respect.

Teamwork: We will work together as a team to achieve our goals.

Commitment: We stand 100% behind all our agreements and commitments.

OUR VISION

Thyme is committed to being a world-leading refractory raw materials company. We will achieve this by providing our customers with quality products and services that meet or exceed their expectations, and by continually improving our processes and procedures.

MISSION

Thyme will be recognized as a premier refractory raw materials company, known for our quality products and customer service. We will be an industry leader, innovating new products and services to meet the changing needs of our customers.

WE LOOK FORWARD TO YOUR CONTINUED SUPPORT IN REACHING OUR GOAL

To be the world's number one supplier of refractory raw materials and products. We work with our clients to provide the best possible solutions for their specific needs and requirements. We believe that the analysis of the specific needs of our clients and suppliers is the key to success. This is why we attach great importance to a personal and trusting relationship with our clients.

The company has a long-standing tradition of providing quality products and services. The company was founded with a deep understanding of the refractory industry. With this knowledge and understanding, we supply our customers with high quality products that perform to their specific requirements.

\$50M+
ANNUAL REVENUE

25+
COMMODITIES TRADED

30+
YEARS OF HISTORY

50M+ KGS
CARGO MOVED PER YEAR

10+
COUNTRIES SERVED

100%
CUSTOMER SATISFACTION

DIRECTOR'S SPEECH

"If you want to go fast, go alone. If you want to go far, go together." –**Martha Goedert**

(African proverb)

Thyme has been a leading refractory raw materials company for over 20 years. We are proud of our products and services and the commitment of our employees to provide the best possible experience for our customers. We will continue to strive for excellence in everything we do, and we look forward to serving you in the future."

COMPANY GROWTH



OVER THE LAST 5 YEARS

We are committed to providing the best possible products and services to our customers. With a strong focus on quality and commitment, our ultimate goal is to exceed our customer's expectations and build long-term relationships.

Thyme Corporation was founded in 1990 with the aim of providing high quality refractory raw materials to industries around the world. Since then, we have grown into a global company, with operations in Hong Kong, India, Germany, and the UK. We are a leading supplier of industrial minerals, raw materials and machinery to the refractory , abrasive, aluminum and steel industries.

We are committed to providing our customers with the best possible products and services. We offer a wide variety of alumina-based raw materials, including fused materials, sintered materials and recycled refractory bricks. We also offer a wide range of other refractory products, such as Fused and Dead Burnt Magnesite, Magnesia Alumina Spinel, Mullite, and Kaolin.

Our team of highly experienced personnel are able to provide expert advice and support on developing customizations on high-grade raw materials depending on our customer's specifications. Our accomplishments include developing Calcined Bauxite with a larger microstructure and a pure form of White Fused Alumina with lowered impurities.

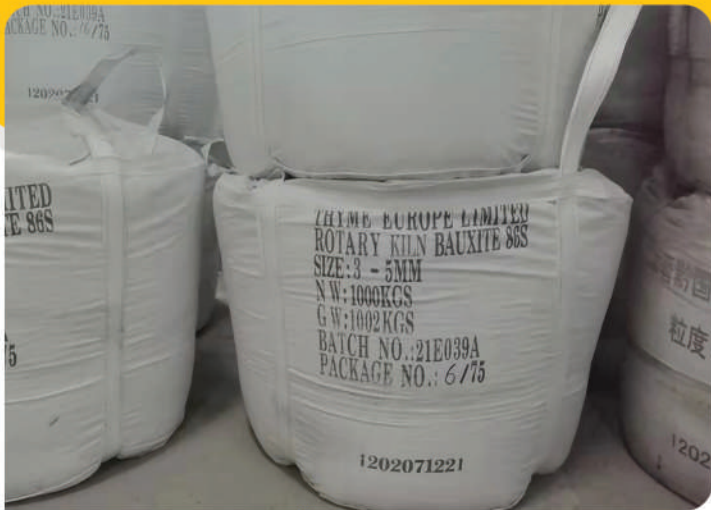
We also have our presence in the Aluminum and Steel industries, supplying raw materials and complete machinery solutions in the form of crushing and grinding equipment and specialty patented products.

Mr. Devang Chowdhary

Director, Thyme Corporation.

**"Individual commitment to a group effort that is what makes a team work,
a company work, a society work, a civilization work."**

RAW MATERIALS FOR REFRACTORY CALCINED BAUXITE



Product Overview

Calcined Bauxite is a type of bauxite that has been calcined (sintered) in rotary, round or shaft kilns. This technique of calcining (heating) bauxite in kilns removes moisture and gives it a lot of alumina, refractoriness, and hardness. Calcined Bauxite is a highly effective raw material in the production of refractory, abrasive, and specialty product applications due to its thermal stability, high mechanical strength and resistance to molten slags.

Our datasheet displays mostly Rotary Klin Calcined Bauxite (RKB) , as it is the most widely used type in Refractories. We can offer also Round or Shaft Klin Bauxite on request, and even mixtures of two/three of the above, known as just Calcined Bauxite (CB).

Product Identifier

CAS Number : 92797-42-7

Substance Name : Bauxite Calcined

EC Number : 296-578-9

Molecular Formula : (Al₂O₃xH₂O)

PURE ROTARY KILN BAUXITE														ORIGIN : CHINA	
Item	Unit	Unit	RKB 70		RKB 75		RKB 80		RKB 86		RKB 88		RKB 90		
	Guarantee Unit	Typical Unit	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value	
Al2O3	% min	%	70.00	70.50	75.00	75.40	80.00	80.30	86.00	86.30	88.00	88.30	90.00	90.40	
SiO2	% max	%	25.00	23.25	19.00	18.30	14.00	13.30	8.00	7.30	6.00	5.50	4.00	3.20	
Fe2O3	% max	%	2.00	1.80	2.00	1.70	2.00	1.65	2.00	1.60	1.80	1.50	1.80	1.45	
TiO2	% max	%	4.00	3.50	4.00	3.50	4.00	3.50	4.00	3.70	4.00	3.50	4.20	3.90	
CaO+MgO	% max	%	0.80	0.40	0.80	0.55	0.80	0.60	0.70	0.60	0.60	0.50	0.60	0.50	
K2O+Na2O	% max	%	0.70	0.45	0.70	0.55	0.80	0.50	0.50	0.40	0.50	0.45	0.50	0.45	
B.D.	g/cc min	g/cc	2.65	2.70	2.80	2.83	2.95	3.00	3.15	3.18	3.25	3.28	3.35	3.41	
A.P.	% max	%	12.00	10.00	11.00	9.50	10.00	9.00	8.00	7.50	6.00	5.00	5.00	4.00	
Calcination Temperature		°C	1550.00		1550.00		1530 °C		1560 °C		1580 °C		1620 °C		

Applications

Calcined Bauxite is essential for the production of shaped and unshaped refractories for industries such as aluminium production, refractories, abrasives, cement, chemicals, ceramics, non-slip pavement and flooring.

RAW MATERIALS FOR REFRACTORY SUPER CALCINED BAUXITE

SUPER ROTARY KILN BAUXITE CALCINED IN LONG ROTARY KILNS WITH HIGHER BULK DENSITY AND LARGER CRYSTAL SIZE													ORIGIN : CHINA	
Item	Unit	Unit	RKB 70 S		RKB 75 S		RKB 80 S		RKB 86 S		RKB 88 S		RKB 90 S	
	Guarantee Unit	Typical Unit	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value
Al2O3	% min	%	70.00	71.30	75.00	76.00	80.00	80.90	86.00	86.60	88.00	88.60	90.00	90.60
SiO2	% max	%	25.00	22.70	19.00	18.00	14.00	13.00	8.00	7.30	6.00	5.20	4.00	3.40
Fe2O3	% max	%	2.00	1.75	2.00	1.70	2.00	1.65	2.00	1.60	1.80	1.50	1.60	1.35
TiO2	% max	%	4.00	3.30	4.00	3.30	4.00	3.50	4.00	3.60	4.20	3.70	4.20	3.80
Cao+MgO	% max	%	0.80	0.40	0.80	0.40	0.80	0.50	0.60	0.45	0.60	0.35	0.50	0.35
K2O+Na2O	% max	%	0.70	0.45	0.70	0.45	0.60	0.45	0.60	0.45	0.50	0.35	0.40	0.30
B.D.	g/cc min	g/cc	2.65	2.72	2.80	2.90	2.95	3.03	3.15	3.23	3.30	3.35	3.40	3.43
A.P.	% max	%	12.00	10.00	11.00	9.50	10.00	9.00	8.00	7.50	6.00	5.00	4.50	4.00
W.A.	% max	%	4.00	3.50	4.00	3.00	3.50	2.50	3.00	2.50	2.00	1.50	2.00	1.20
T.P.	°C	°C	1580	1630	1580	1630	1650	1680	1650	1710	1700	1730	1700	1730
Calcination Temperature		°C	1600 °C		1600 °C		1530 °C		1620 °C		1670 °C		1700 °C	

Lot of more grades are available. Material can be produced as per customer specifications also.

Advantages for S grade bauxite (Super Rotary Kiln Bauxite)

- Calcined in longer kilns, higher temperatures and advanced technology with pre-heat and also super-heat zones.
- More homogeneous nature and single mine source of raw material.
- Larger crystal size (microstructure).
- Higher bulk density and lower porosity, lower Water absorption.
- Uniform and more controlled Crushing process.
- Advanced laboratory and quality check process.
- Uniform and stable supply all around the year.
- Environmental friendly production.

CALCINED BAUXITE					ORIGIN : CHINA	
Item	Unit	Unit	CB 60		CB 65	
	Guarantee Unit	Typical Unit	Guarantee Value	Typical Value	Guarantee Value	Typical Value
Al2O3	% min	%	60.00	61.00	65.00	66.00
SiO2	% max	%	35.00	33.00	30.00	29.00
Fe2O3	% max	%	2.20	1.70	2.20	1.70
TiO2	% max	%	4.00	3.50	4.00	3.50
Cao+MgO	% max	%	0.80	0.40	0.80	0.40
K2O+Na2O	% max	%	0.70	0.45	0.70	0.45
B.D.	g/cc min	g/cc	2.50	2.55	2.55	2.58

Many more grades of Bauxite, are available such as 76, 82, 84, 85, 87, 89 and more as per specific requirements. We can also customize the production to lower impurities or improve density.

RAW MATERIALS FOR REFRACTORY

CALCINED BAUXITE

Advantages

- It is resistant to alkali and has good corrosion resistance.
- It can be used as a refractory material for high-temperature furnaces.
- It has good thermal stability and can be used for a long time.
- It is easy to store and transport.

Sizes Available

- 50 – 150mm
- 0-50mm/0-30mm
- 0-1mm, 1-3mm
- 3-5mm, 3-6mm, 5-10mm
- Powder : 200mesh/325mesh
- or as per customer requirements

Notice

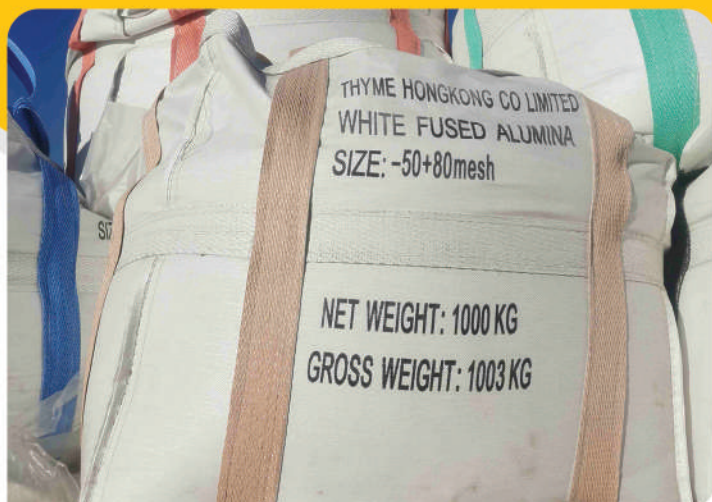
For Bauxite, the guaranteed $\text{Al}_2\text{O}_3\%$ is based on the weighted average across all ordered sizes, ensuring the total average meets or exceeds the specified requirement. For 0-1mm, $\text{Al}_2\text{O}_3\%$ is typically 0.5-1% lower than the guarantee. If needed, we can supply material where all sizes meet the guaranteed specification, though it is slightly more expensive than the standard grade.

This is because all sizes are produced from the same batch of calcined lumps. After crushing, smaller sizes tend to have lower $\text{Al}_2\text{O}_3\%$, while larger sizes have higher $\text{Al}_2\text{O}_3\%$.

RAW MATERIALS FOR REFRACTORY WHITE FUSED ALUMINA



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Product Overview

White Fused Alumina, commonly known as WFA, is a high-purity synthetic mineral produced through the fusion of controlled-quality pure grade Bayer Alumina in an electric arc furnace at temperatures greater than 2000°C and a slow solidification process. After the crude cools, it is further crushed and cleaned of magnetic impurities in high-intensity separators. It is then classified into narrow-size fractions to suit the end use. Dedicated lines produce products for different applications.

Product Identifier

CAS Number : 1344-28-1

EC Number : 215-691-6

Substance Name : Aluminium Oxide

Molecular Formula : Al_2O_3

Product Specifications

WHITE FUSED ALUMINA											ORIGIN : CHINA
Item	Al ₂ O ₃		Na ₂ O		SiO ₂		Fe ₂ O ₃		TiO ₂		FREE IRON
Specs	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value
Unit	% min	%	% max	%	% max	%	% max	%	% max	%	% max
5-8 mm	99.40	99.64	0.30	0.18	0.10	0.03	0.10	0.03	0.10	0.02	0.05
3-5 mm	99.40	99.63	0.30	0.19	0.10	0.03	0.10	0.03	0.10	0.02	0.05
1-3 mm	99.40	99.61	0.30	0.20	0.10	0.03	0.10	0.03	0.10	0.03	0.05
6/10 mesh	99.40	99.59	0.30	0.21	0.10	0.03	0.10	0.04	0.10	0.03	0.05
8/16 mesh	99.40	99.56	0.30	0.22	0.10	0.04	0.10	0.04	0.10	0.04	0.05
10/16 mesh	99.40	99.55	0.30	0.23	0.10	0.04	0.10	0.04	0.10	0.04	0.05
16/30 mesh	99.40	99.53	0.30	0.24	0.10	0.04	0.10	0.05	0.10	0.04	0.05
30/60 mesh	99.40	99.50	0.35	0.26	0.10	0.04	0.10	0.05	0.10	0.05	0.05
60/90 mesh	99.20	99.39	0.35	0.27	0.10	0.05	0.10	0.06	0.10	0.05	0.05
60/140 mesh	99.20	99.45	0.35	0.28	0.10	0.05	0.10	0.06	0.10	0.06	0.05
-200 mesh	99.00	99.42	0.40	0.30	0.10	0.05	0.10	0.07	0.10	0.06	0.10
-350 mesh	99.00	99.40	0.40	0.32	0.10	0.05	0.10	0.07	0.10	0.06	0.10

RAW MATERIALS FOR REFRACTORY WHITE FUSED ALUMINA

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Material		WFA DCF	
		WHITE FUSED ALUMINA DUST COLLECTOR FINES	
Specs	Unit	Guarantee Value	Typical Value
Al ₂ O ₃	% min	98.00	98.5 - 99.0
SiO ₂	% max	0.60	0.3 - 0.4
Fe ₂ O ₃	% max	0.70	0.2 - 0.4
Na ₂ O	% max	0.90	0.4 - 0.6
TiO ₂	% max	0.25	0.05 - 0.10
Size passing	%	-200mesh : 90 min	92.00

Applications

White Fused Alumina is friable, making it perfect for use in products requiring a rapid, cool cutting action like Vitrified Bonded Abrasives. You'll also find White Fused Alumina in high purity refractories used for coated abrasives, surface treatment and ceramic tiles. It's even an ingredient found in anti-skid Paints, fluidized bed furnaces and skin.

Advantages

- It is resistant to alkali and has good corrosion resistance.
- It can be used as a refractory material for high-temperature furnaces.
- It has good thermal stability and can be used for a long time.
- It is easy to store and transport.

Sizes Available

- 0-100mm / 0-30mm
- 0-1mm, 1-3mm, 3-5mm, 5-8mm
- -200mesh/-325mesh
- 3/6 Mesh, 6/10 Mesh, 8/14 Mesh, 8/16Mesh, 14/28
- Mesh, 16/30 Mesh, 28/48 Mesh, 30/60 Mesh, -48Mesh, 46N, 100F,
- FEPA sizes: F12, F16, F20, F24, F30, F36, F40, F46, F54, F60, F70, F80, F90, F100, F120, F150, F180, F220
- Or as per specific requirements

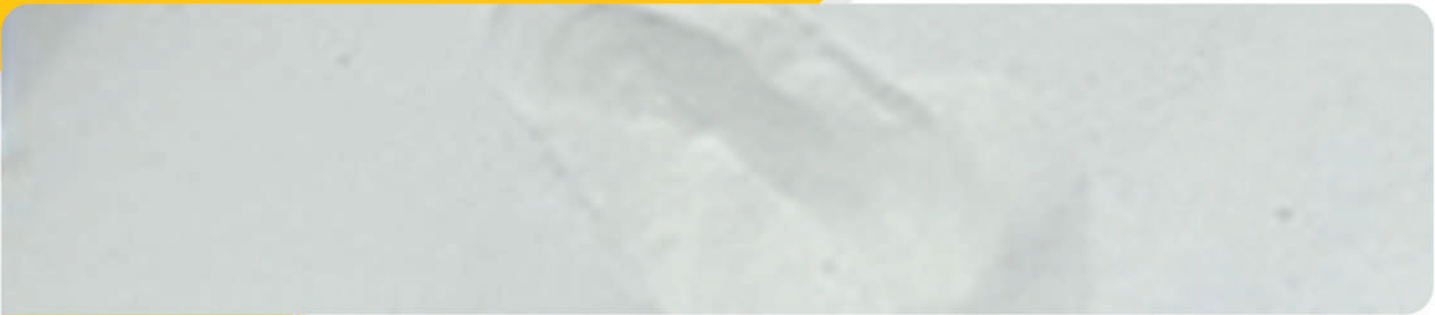
Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

Abrasive Grade White Fused Alumina

We also provide abrasive grade WFA with various F and P sizes.

RAW MATERIALS FOR REFRACTORY WHITE FUSED ALUMINA ECO-FINES



Product Overview

WFA Eco Fines are a cost-effective and sustainable alternative to traditional White Fused Alumina (WFA) fines. Originating from the EU, these fines are derived from carefully recycled materials, ensuring environmental responsibility. Meticulously sorted and segregated, WFA Eco Fines come with detailed chemical and size distribution reports, providing transparency and reliability. Choose WFA Eco Fines for high-quality performance while contributing to a greener future.

Product Identifier

CAS Number : 1344-28-1

IUPAC Name : Aluminium Oxide

EC Number : 215-691-6

Molecular Formula : Al_2O_3

Product Specifications

WHITE FUSED ALUMINA ECO-FINES							ORIGIN: EU (EUROPEAN UNION)	
SPEC	UNIT	GUARANTEE SPEC	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6
Al2O3	%	93 min	95.2	93.1	95.1	93.1	94.8	94.6
SiO2	%	3 max	1.12	2.7	1.31	2.7	1.32	1.5
CaO	%	1 max	0.51	0.65	0.543	0.858	0.586	0.553
P2O5	%	0.5 max	0.185	0.266	0.0728	0.266	0.166	0.176
SO3	%		0.0458	0.144	0.0563	0.144	0.0818	0.112
Fe2O3	%	0.2 max	0.036	0.0556	0.0366	0.0556	0.108	0.113
ZrO2	%		0.0305	0.0513	0.0531	0.0513	0.0589	0.0377
Cr2O3	%		0.0126	0.0107	0.0098	0.0107	0.0128	0.0128
Sn	%		0.0088	0.0108	0.0095	0.0108	0.0102	0.0142
Zn	%		0.0056	0.0065	0.0063	0.0065	0.0061	0.0067
Ag	%		0.0047	0.005	0.0044	0.005	0.0052	0.0063
Mo	%		0.0012	0.001	0.0015	0.001	0.0009	0.0008
V2O5	%		ND	ND	ND	ND	ND	ND
TiO2	%		ND	ND	ND	ND	ND	ND
Na2O	%	0.4 max	0.16	0.22	0.15	0.2	0.18	0.17
MnO	%		ND	ND	ND	ND	ND	ND
MgO	%		0.06	0.08	0.06	0.08	0.06	0.06
K2O	%	0.1 max	0.01	0.03	0.01	0.02	0.01	0.01
Co	%		ND	ND	ND	ND	ND	ND
BaO	%		ND	ND	ND	ND	ND	ND
LOI	%	3.5 max	2.9	2.9	2.9	2.9	2.9	2.9

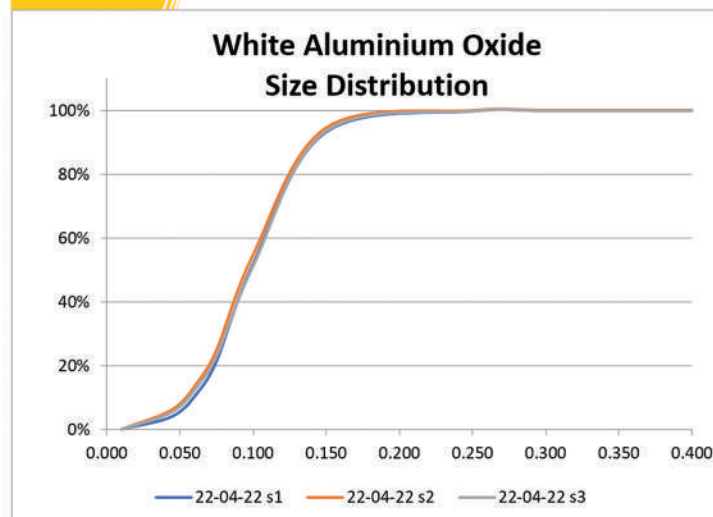
RAW MATERIALS FOR REFRACTORY

WHITE FUSED ALUMINA

ECO-FINES

SIZE DISTRIBUTION – % PASSING SIEVE SIZE			
SIEVE SIZE(MM)	SAMPLE 1	SAMPLE 2	SAMPLE 3
4.000	100%	100%	100%
2.000	100%	100%	100%
1.180	100%	100%	100%
1.000	100%	100%	100%
0.710	100%	100%	100%
0.500	100%	100%	100%
0.400	100%	100%	100%
0.300	100%	100%	100%
0.250	100%	100%	100%
0.150	93%	95%	94%
0.100	52%	55%	51%
0.075	21%	25%	23%
0.063	12%	15%	14%
0.045	4%	6%	6%
0.010	0%	0%	0%

Size Data



Applications

White Fused Alumina Eco-Fines are ideal for producing high-quality abrasives, such as grinding wheels and sandpaper, due to their excellent cutting efficiency & durability. They are also used in refractory linings for their resistance to high temperatures and chemical corrosion. Additionally, these fines are perfect for polishing compounds and ceramic production, delivering a fine finish and enhanced durability.

Advantages

- Made from recycled materials, reducing environmental impact.
- Consistently high Al₂O₃ content (minimum 93%) ensures superior performance.
- Offers a more economical alternative without compromising quality.
- Detailed chemical and size distribution reports for reliable material performance.
- Rigorously tested with multiple samples to ensure consistent specifications.
- Suitable for a wide range of industrial applications, including grinding, polishing, & coating, offering flexibility in use.

Packing

- Big Bags in Container
- Big Bags on Pallets in Container
- Small Bags on Pallets in Container

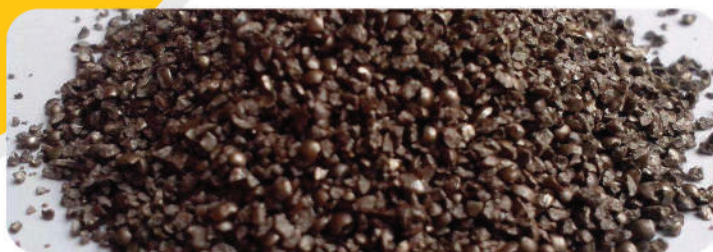
Packing

Store in a dry place, keep away from moisture. Material has hydroscopic nature.

RAW MATERIALS FOR REFRACTORY BROWN FUSED ALUMINA



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Product Overview

Brown Fused Alumina is a hard, sharp abrasive that's ideal for grinding metals with high tensile strength. Its thermal properties make it an excellent refractory material. This substance is also used in blasting and surface hardening applications. After the crude is cooled, it undergoes further crushing and cleaning of magnetic impurities in high-intensity separators.

Product Identifier

CAS Number : 1344-28-1

EC Number : 215-691-6

Substance Name : Aluminium Oxide

Molecular Formula : Al_2O_3

Product Specifications

BROWN FUSED ALUMINA			ORIGIN: CHINA	
Item	Unit	BFA 95 GRADE A	BFA 95 GRADE B	
Production Method		Tilting Furnace	Fixed Furnace	
Al ₂ O ₃	% min	95.00	95.00	
SiO ₂	% max	1.00	1.50	
TiO ₂	% max	3.00	3.00	
Fe ₂ O ₃	% max	0.30	0.30	
CaO	% max	0.40	0.40	
B.Sp.Gr	g/cc min	3.85	3.85	

BROWN FUSED ALUMINA FINES					ORIGIN: CHINA
Item	Unit	BFA 92 FINES	BFA 91 FINES	BFA 90 fines	BFA DCF (DUST COLLECTOR FINES)
Al ₂ O ₃	% min	92.00	91.00	90.00	88.00
SiO ₂	% max	2.50	2.50	3.00	
TiO ₂	% max	5.00	5.00	5.00	
Fe ₂ O ₃	% max	1.00	1.00	1.50	1.50
Size - 200 mesh	% min	90.00	90.00	90.00	90.00

RAW MATERIALS FOR REFRACTORY

BROWN FUSED ALUMINA

Applications

Brown Fused Alumina is used in the production of grinding wheels, coated abrasives, refractory bricks and shapes, sandblasting media, investment castings, lapping, polishing, and shot peening.

Advantages

- The grinding speed is fast and the grinding efficiency is high
- Brown fused alumina has high hardness, good toughness and strong corrosion resistance.
- Brown fused alumina can be used for polishing and grinding.

Sizes Available

- 0-100mm
- 0-20mm , 0-30mm
- 0-1mm, 1-3mm, 3-5mm, 5-8mm
- 200mesh/325mesh, 3/6 Mesh, 6/10 Mesh, 8/14
- Mesh, 8/16Mesh, 14/28 Mesh, 16/30 Mesh, 28/48 Mesh,
- 30/60 Mesh, -48Mesh, 46N, 100F, -200mesh, -325mesh
- Many other sizes available as per specific requirements
- FEPA sizes: F12, F16, F20, F24, F30, F36, F40, F46, F54, F60, F70, F80, F90, F100, F120, F150, F180, F220

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

RAW MATERIALS FOR REFRACTORY

BROWN FUSED ALUMINA

ECO-FINES



BFA ECO-FINES -35MESH
(0-0.500MM)



BFA ECO-FINES 35/230MESH
(0.063-0.500MM)



BFA ECO-FINES -230MESH
(-0.063MM)

Product Overview

BFA Eco Fines are a cost-effective and sustainable alternative to traditional Brown Fused Alumina (WFA) fines. Originating from the EU, these fines are derived from carefully recycled materials, ensuring environmental responsibility. Meticulously sorted and segregated, BFA Eco Fines come with detailed chemical and size distribution reports, providing transparency and reliability. High alumina content and low impurities make them an excellent choice for all refractory applications. Choose BFA Eco Fines for high-quality performance while contributing to a greener future.

Product Identifier

CAS Number	: 1344-28-1	IUPAC Name	: Aluminium Oxide
EC Number	: 215-691-6	Molecular Formula	: Al ₂ O ₃

Product Specifications

BROWN FUSED ALUMINA ECO-FINES						ORIGIN: EU (EUROPEAN UNION)		
Material	Guarantee Unit	Typical Unit	BFA ECO-FINES -35MESH (0-0.500MM)		BFA ECO-FINES 35/230MESH (0.063-0.500MM)		BFA ECO-FINES -230MESH (-0.063MM)	
			Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value
Al2O3	% min	%	88.00	91.67	90.00	92.67	75.00	78.00
CaO	% max	%	1.00	0.76	1.00	0.73	3.00	2.13
Cr2O3	% max	%	0.50	0.30	0.40	0.20	1.00	0.73
Fe2O3	% max	%	0.50	0.40	0.40	0.40	0.60	0.40
P2O5	% max	%	0.60	0.27	0.50	0.23	1.00	0.40
SiO2	% max	%	7.00	3.46	5.00	3.03	10.00	8.08
TiO2	% max	%	3.50	2.77	3.50	2.52	4.00	2.62
ZrO2	% max	%	0.50	0.33	0.50	0.39	10.00	6.42
LOI @ 650°C	% max	%	0.30	0.10	0.25	0.08	0.50	0.31

Test data is indicative and actual results may vary from lot to lot.

RAW MATERIALS FOR REFRACTORY

BROWN FUSED ALUMINA

ECO-FINES

Application

Brown Fused Alumina Eco-Fines are used in a variety of industrial applications. They are ideal for manufacturing refractory materials due to their high alumina content and durability. In abrasive processes, they excel in precision grinding, cutting, and surface preparation, delivering efficient material removal and superior finish. They are also effective in sandblasting for surface cleaning and texturing, and in ceramics production to enhance the quality and strength of the final products.

Advantages

- Produced from recycled materials, reducing environmental impact.
- Consistently high alumina content (minimum 90%) ensures excellent performance.
- Minimizes contaminants like Fe_2O_3 and SiO_2 , enhancing effectiveness.
- Provides high-quality performance at a competitive price.
- Sourced from the EU, ensuring consistent quality and availability.
- Suitable for a range of applications, including abrasives, refractories, and ceramics.

Packing

- Big Bags in Container
- Big Bags on Pallets in Container
- Small Bags on Pallets in Container

Packing

Store in a dry place, keep away from moisture.

RAW MATERIALS FOR REFRACTORY TABULAR ALUMINA



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Product Overview

Tabular Alumina is created by taking ball-shaped calcined alumina and heating it to just below the 2040°C fusion point of aluminium oxide. When done correctly, nearly all of the crystals will change while still remaining hard and dense with a high level of chemical purity. Not only can it withstand high temperatures, but it is also resistant to both chemicals and abrasion.

Product Identifier

CAS Number : 1344-28-1

EC Number : 215-691-6

Substance Name : Aluminium Oxide

Molecular Formula : Al_2O_3

Product Specifications

WHITE TABULAR ALUMINA PREMIUM

Specification	Unit	MIN	MAX	Typical Value
Al ₂ O ₃	%	99.20		99.50
SiO ₂	%		0.10	0.08
Na ₂ O	%		0.40	0.28
Fe ₂ O ₃	%		0.10	0.04
Fe Magnetic	%		0.02	0.01
Bulk Density	g/cc	3.50		3.55
Apparent Porosity	%		5.00	4.00
Water Absorption	%		1.50	1.00
α-phase	%			98

Applications

Tabular alumina is used in the production of high-quality refractories, which are used in industrial furnaces. High-alumina refractories are utilized in metal and glass manufacturing by means of boilers, huge furnaces and kilns for smelting metals, and firing glass, pottery, and porcelain. They're also utilized in the construction industry to make building bricks.

RAW MATERIALS FOR REFRACTORY TABULAR ALUMINA

Advantages

- Tabular alumina has high purity and good thermal stability.
- Tabular alumina is an electrical insulator.
- Tabular alumina has high hardness and good wear resistance.
- Tabular alumina can be used for polishing and grinding.

PARTICLE SIZE DISTRIBUTION 1

Size	Seive Size	Guarantee Value	Typical Value
3-6 mm (3-6Mesh)	+6.3 mm	0-2	≤1
	+5.0 mm	15-45	20-35
	+4.00 mm	30-60	40-55
	-2.00 mm	0-3	≤1
1-3 mm (6-14Mesh)	+3.36 mm	0-2	≤1
	+2.00 mm	30-60	40-55
	-1.00 mm	0-10	≤5
2-5mm (1/4inch-8Mesh)	+5.00 mm	0-10	≤8
	+4.0 mm	20-55	30-45
	-2.00 mm	0-5	≤3
0.5-1 mm (14-28mesh)	+1.4 mm	0-2	≤1
	+1.00 mm	2-30	10-25
	+0.71 mm	15-55	35-50
	-0.5 mm	0-10	≤5
1/4 in - 1/2 in (5-10mm)	+12.7 mm	0-10	≤8
	+10.00 mm	20-50	30-45
	+8.00 mm	15-40	20-35
	-6.3 mm	0-5	≤2

Sizes Available

- 0-0.2mm, 0-0.5mm, 0-1mm, 1-3mm, 3-5mm, 5-10mm
- 3/6mesh, 6/10mesh, 6/14mesh, 8/14mesh, 14/28mesh, 28/48mesh, -48mesh
- -200mesh, -230mesh, -325mesh
- Other sizes also offered as per specific requirements

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

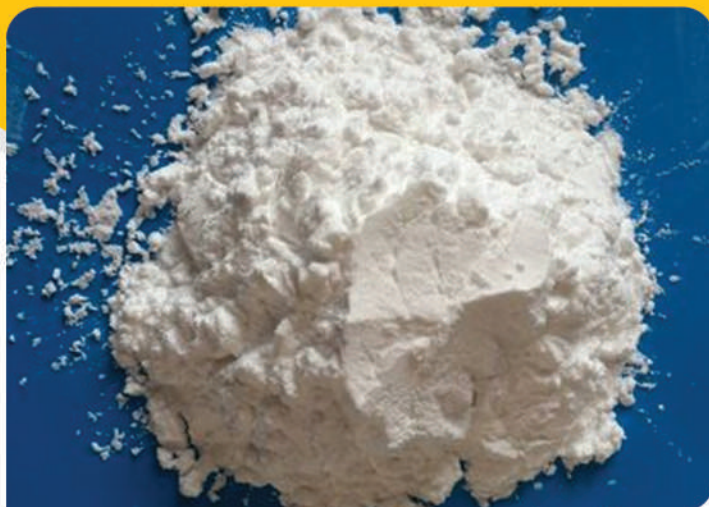
PARTICLE SIZE DISTRIBUTION 2

Size	Seive Size	Guarantee Value	Typical Value
0.2-0.6mm (28-48mesh)	+0.71 mm	0-2	1
	+0.5 mm	2-25	15
	+0.25 mm	65-95	80
	-0.212 mm	0-10	5
0-1 mm (-14Mesh)	+1.4 mm	≤2	1
	1.0-1.4 mm	8-25	15
	0.5-1.0 mm	20-40	30
	-0.106 mm	5-25	15
2-3mm (6-8mesh)	+4.0 mm	0-2	0
	+3.36 mm	0-5	3
	-2 mm	0-5	2
1-2 mm (8-14mesh)	+3.36 mm	0-2	0
	+2.0 mm	0-15	10
	+1.4 mm	40-70	55
	-1.0 mm	0-5	3
0-0.5mm (-28mesh)	+0.71 mm	0-2	1
	+0.5 mm	0-15	3-13
	+0.25 mm	30-60	35-50
	-0.045 mm	2-20	5-15
0-0.3mm (-48Mesh)	+0.3 mm	0-5	3
	+0.25 mm	0-12	5
	+0.125 mm	10-45	30
	-0.045 mm	15-45	30
0-0.2 mm (-65 mesh)	+0.212 mm	0-5	3
	+0.125 mm	5-20	15
	-0.045 mm	10-40	26
-100Mesh	+0.15 mm	0-10	5
	-0.045 mm	20-50	41
325Mesh	+0.063 mm	0-2	1
	-0.045 mm	95-100	97

RAW MATERIALS FOR REFRACTORY CALCINED ALUMINA



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Product Overview

CALCINED ALUMINA is made from industrial alumina that is calcined under an appropriate temperature. Our flexible production process allows us to expand a large portfolio including different sizes and chemical contents products.

CALCINED ALUMINA as a kind of raw material has stable crystal, high purity, high electrical resistivity and heat conduction, good filling performance.

CALCINED ALUMINA as a refractory matrix improves the performance of fire resistance, abrasion resistance, thermal shock resistance, mechanical strength.

Product Identifier

CAS Number : 1344-28-1

Substance Name : Aluminium Oxide

EC Number : 215-691-6

Molecular Formula : Al_2O_3

Product Specifications

CALCINED ALUMINA SPECIFICATION							ORIGIN: CHINA
Material Name		CA3S	CA4S	CA5S	CA3	CA4	CA5
Al ₂ O ₃ by difference	% min	99.70	99.70	99.70	99.50	99.50	99.50
Na ₂ O	% max	0.10	0.10	0.10	0.30	0.30	0.30
SiO ₂	%	0.03	0.03	0.03	0.03	0.03	0.03
Fe ₂ O ₃	%	0.01	0.01	0.01	0.01	0.01	0.01
Particle Size / Wet Sieve < 45 um	%	99.00	99.00	98.00	99.00	99.00	98.00
Particle Size D50	um	3.40	4.20	5.60	3.40	4.20	5.60
Surface Area / BET	m ² /g	1.00	0.90	0.80	1.00	0.90	0.80

α -phase: 96-97%

Equipment used to determine size: Mastersizer3000

RAW MATERIALS FOR REFRACTORY

CALCINED ALUMINA

Applications

Calcined alumina is a combination of properties that makes it useful in abrasives, glass, porcelains, spark plugs and electrical insulators. However, the greatest quantity of calcined alumina is used to obtain aluminium.

Calcined alumina is widely used in refractory castables, nozzles, corundum bricks, gunning mixes, spark plug, electrical components, ceramics etc.

Advantages

- High hardness
- Resistance to many forms of chemical attack
- Resistance to abrasion
- Corrosion resistance (alumina is what lends corrosion resistance to aluminum metals)

Sizes Available

- Various sizes available as per d10,d50,d90 sizes. Pre-milled Calcined alumina is also available.

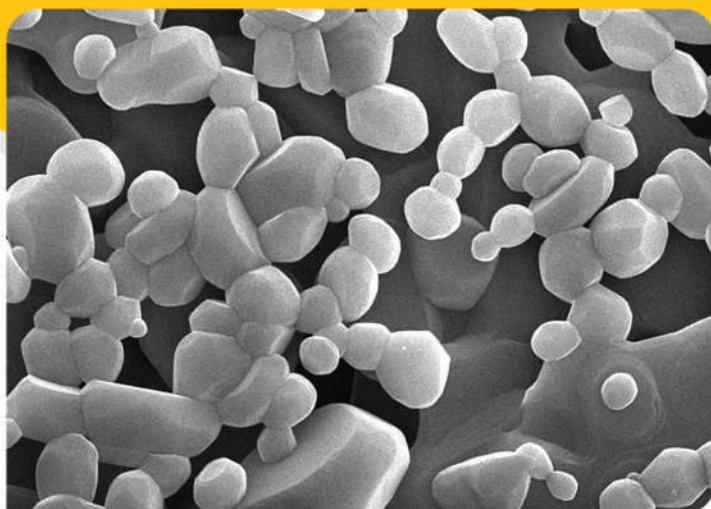
Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

RAW MATERIALS FOR REFRACTORY REACTIVE ALUMINA



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Product Overview

REACTIVE ALUMINA as a basic component of shaped and unshaped refractories are produced into a series of different grain size distribution of reactive alumina powder by ball mills process. A large products portfolio can be provided that are classified by calcination degrees, different soda contents and sizes.

REACTIVE ALUMINA as a matrix of refractory has low open porosity, excellent sinter reactivity, high purity, water demand reduction, low dilatants for optimizing refractories performance.

Product Identifier

CAS Number : 1344-28-1
EC Number : 215-691-6

Substance Name : Aluminium Oxide
Molecular Formula : Al_2O_3

Product Specifications

REACTIVE ALUMINA MONO MODAL										ORIGIN: CHINA
Material Name		RA0.7S	RA1.0S	RA1.5S	RA2.0S	RA0.7	RA1.0	RA1.5	RA2.0	RA2.5
Al ₂ O ₃ by difference	% min	99.70	99.70	99.70	99.70	99.60	99.60	99.60	99.60	99.60
Na ₂ O	% max	0.10	0.10	0.10	0.15	0.30	0.30	0.30	0.30	0.30
SiO ₂	%	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Fe ₂ O ₃	%	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Particle Size D50	um	0.70	1.00	1.40	2.00	0.80	1.00	1.50	2.00	2.60
Particle Size D90	um	3.20	3.50	4.30	5.80	3.50	3.50	4.60	6.10	7.20
Surface Area / BET	m ² /g	6.20	3.50	3.00	2.30	4.90	3.60	3.00	2.10	1.60

α -phase: 95-96%

Equipment used to determine size: Mastersizer3000

RAW MATERIALS FOR REFRACTORY REACTIVE ALUMINA

REACTIVE ALUMINA BI MODAL / MULTI MODAL						ORIGIN: CHINA
Item		BI-MODAL				MULTI MODAL
		BMRA1.3	BMRA2.2	BMRA2.5	BMRA2.7	MMRA1.5
Al2O3 by diff	% min	99.70	99.70	99.70	99.70	99.60
Na2O	% max	0.15	0.10	0.15	0.10	0.30
SiO2	%	0.03	0.03	0.03	0.03	0.03
Fe2O3	%	0.01	0.01	0.01	0.01	0.01
Particle Size D50	µm	1.30	2.20	2.50	2.60	1.50
Particle Size D90	µm	4.20	7.10	7.70	8.00	9.00
Surface Area / BET	m2/g	4.50	2.70	2.90	2.40	3.80

Applications

Reactive alumina is used in the production of high-performance refractories, where its uniform particle size and packing make it an ideal choice. It is also used in catalyst supports, absorbents, and fillers.

Advantages

- High surface area to volume ratio
- Good adsorption properties
- Ion exchange properties
- Good resistance to chemical attack

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

RAW MATERIALS FOR REFRACTORY KAOLIN CLAY G SERIES



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Product Overview

Kaolin clay in the "G Series" comprises kaolinite, a layered silicate mineral. Each grade's distinct properties, influenced by washing, polishing, or being unwashed, impact chemical composition, particle size, and impurities. Key components include silicon dioxide for whiteness and aluminium oxide for heat resistance. These grades differ in physical characteristics like bulk density, whiteness, and colour values, making them suitable for specific industrial applications, as manufacturers adjust processes to meet market needs.

Product Identifier

CAS Number : 1332-58-7

EC Number : 310-194-1

HSN : 2507 00 20

Substance Name : Kaolin

Molecular Formula : $\text{Al}_2\text{Si}_2\text{O}_5(\text{OH})_4$

Product Specifications

KAOLIN CLAY				ORIGIN: INDIA
Grade	Unit	GSI Super Clay	GW1 Washed Clay	GP1 Polished Clay
SiO ₂	%	48-52	47-51	58-64
Al ₂ O ₃	%	33-37	33-37	24-29
TiO ₂	% max	0.3	0.9	1.6
Fe ₂ O ₃	% max	0.4	0.45	1.2
MgO	% max	0.3	0.3	0.3
CaO	% max	0.6	0.7	0.7
Na ₂ O	% max	0.5	0.2	0.2
K ₂ O	% max	0.2	0.15	0.35
LOI	%	11-14	11-14	9-13
Plasticity	%	32-36	31-35	30-36
BD	g/cc	1.95-2.05	2.05-2.15	2.10-2.20
Water Abs.	%	22-24	18-20	18-20
Porosity	%	36-39	33-36	28-32
Whiteness		86-90	84-88	73-77
L Value		94-96	93-95	80-86
A Value		0-1	0.5-1.5	1-2
B Value		3.5-4.5	3.5-4.5	6-7

This product is made from natural raw materials and may exhibit slight variances despite being manufactured under rigorous supervision.

RAW MATERIALS FOR REFRACTORY

KAOLIN CLAY G SERIES

Applications

Kaolin Clay G Series, such as GW1, GP1, and GU1, is utilised across multiple industries due to their distinct properties. GW1, known for its high whiteness and fine particle size, is commonly found in the cosmetics industry, premium ceramics, and high-quality paper production. GP1, featuring different chemical and physical attributes, is preferred in specific applications that demand its characteristics. GU1, with its unique composition, finds use in various industrial settings that benefit from its specific properties. These grades provide tailored solutions for applications in cosmetics, ceramics, papermaking, and other industries.

Advantages

- Minimizes wear and tear on equipment and ensures product quality.
- Facilitates precise and consistent formulations in various applications.
- Low impurity levels for purity and quality.
- Versatile applications across industries.
- Excellent chemical inertness and heat resistance.

Packing

- Loose in Bulk
- Big Bags - Lumps (1.0 - 1.125MT per Bag) - (24 - 27MT per 20'FCL)
- Big Bags - Fines (500-525kg per Bag) - (26 - 27MT per 40'FCL)
- Small Bags (on request)
- Big Bags on Pallets - Lumps (1.0 - 1.05MT per Bag) - (24.0 - 25.2MT per 20'FCL)
- Big Bags on Pallets - Fines (470-500kg per Bag) - (24 - 25MT per 40'FCL)

Sizing

- Lumps 0-50mm,
- Powder -300mesh,
- Other sizes as per request

RAW MATERIALS FOR REFRACTORY

CALCINED KAOLIN / CHAMOTTE



Product Overview

The calcination process of natural kaolin at high temperatures in a kiln modifies the size and shape of particles, as well as increases whiteness and hardness. Consequently, this impacts electrical properties between an aluminium oxide film and conducting metal.

Product Identifier

CAS Number : 92704-41-1
EC Number : 296-473-8

Substance Name : Kaolin, calcined
Molecular Formula : $\text{Al}_2\text{O}_3\cdot\text{Si}_2$

Product Specifications

CALCINED KAOLIN K46					ORIGIN: CHINA	
Item	UNIT		K 46A		K 46B	
	Guarantee Unit	Typical Unit	Guarantee Value	Typical Value	Guarantee Value	Typical Value
Al2O3	%	%	44 - 48	46.00	44 - 48	48.00
Fe2O3	% max	%	0.90	0.70	1.50	1.20
SiO2	%	%	48 - 53	50.00	48 - 53	47.00
TiO2	% max	%	1.80	1.30	2.30	1.80
CaO	% max	%	0.30	0.20	0.30	0.20
MgO	% max	%	0.30	0.15	0.30	0.15
K2O	% max	%	0.25	0.20	0.40	0.20
Na2O	% max	%	0.10	0.05	0.10	0.05
LOI	% max	%	0.20	0.10	0.20	0.10
Bulk Density	g/cc min	g/cc	2.50	2.55	2.45	2.50
Apparent Porosity	% max	%	6.00	5.00	8.00	6.00
Free Iron	% max	%	0.20	0.10	0.30	0.10
Moisture	% max	%	0.50	0.10	0.50	0.10
Mullite Phase	-	%	-	55-65	-	55-65
Cristobalite	-	%	-	35-45	-	35-45
pH Value	-		-	7-9	-	7-9
Refractoriness	°C min	°C typical	1700.00	1750-1790	1650.00	1700-1750
Calcination Temperature	-	°C typical	-	1400	-	1350

RAW MATERIALS FOR REFRACTORY

CALCINED KAOLIN / CHAMOTTE

In order to obtain the calcined kaolin with the desired physical and electrical properties, it is crucial to control both the temperature and residence time in the kiln. The most common method of production involves rotary kilns. The specific calcination process increases whiteness and hardness of the clay, alters the size and shape of the kaolin particles, and improves its electrical properties. Calcination makes the powder more white and more chemically inert.

CHAMOTTE					ORIGIN: INDIA	
Item	Unit		Chamotte P43		Chamotte P38	
	Guaranteed Value	Typical Value	Guaranteed Value	Typical Value	Guaranteed Value	Typical Value
Al2O3	% min	%	42.00	44.00	36.00	38.00
SiO2	%	%	48 - 55	51.00	54 - 60	57.00
Fe2O3	% max	%	1.20	0.90	1.30	1.00
TiO2	% max	%	3.50	3.00	3.50	3.00
CaO	% max	%	0.50	0.30	0.50	0.30
MgO	% max	%	0.10	0.05	0.20	0.05
Na2O+K2O	% max	%	0.80	0.40	2.00	1.50
A.P.	% max	%	5.00	3.00	8.00	6.00
B. D.	g/cc min	g/cc	2.40	2.50	2.35	2.40
Moisture	% max	%	0.50	0.10	0.50	0.10

CHAMOTTE					ORIGIN: North-Africa	
ITEM	Unit		Chamotte EKA41		Chamotte EKA35	
	Guarantee Value	Typial Value	Guarantee Value	Typial Value	Guarantee Value	Typial Value
Al2O3	% min	%	40.00	41.10	32.00	34.85
SiO2	% max	%	55.00	53.50	63.00	60.40
Fe2O3	% max	%	1.60	1.48	1.70	1.48
TiO2	% max	%	3.00	2.80	3.00	2.54
CaO	% max	%	0.50	0.37	0.50	0.32
MgO	% max	%	0.20	0.13	0.20	0.10
Na2O+K2O	% max	%	0.50	0.37	0.50	0.31
A.P.	% max	%	5.00	4.00	7.00	6.00
B. D.	g/cc min	g/cc	2.55	2.57	2.50	2.52
Moisture	% max	%	0.50	0.10	0.50	0.10
Refractoriness		°C		1750		1700
Mullite phase		%	-	50-60	-	30-40
Quartz Phase		%	-	15-20	-	25-35
Cristobalite Phase		%	-	15-25	-	25-35

RAW MATERIALS FOR REFRACTORY

CALCINED KAOLIN / CHAMOTTE

Applications

Calcined kaolin plays a crucial role in the refractory industry due to its high thermal stability, chemical resistance, and excellent mechanical strength. It is widely used in the production of refractory products, such as kiln linings, furnace linings, and ceramic structures, where it enhances the material's resistance to extreme temperatures and harsh conditions, making it ideal for high-heat applications.

Additionally, calcined kaolin serves as a functional extender in paints, improving the durability of the paint film and burn resistance. In rubber and plastics, it acts as a reinforcing filler, enhancing tensile strength and overall product performance, unlike hydrous kaolin, which lacks reinforcing properties.

Advantages

- Can be used in both waters based and solvent based applications
- Superior other clays by its softness, whiteness and ease of dispersion in water.
- Its high whiteness provides uniform particle distribution, high dispersibility and thixotropy
- High gloss and covering increase production quality

Sizes Available

- Lumps: 0-50mm/0-30mm
- Grains: 0-1mm, 1-3mm, 3-5mm. 5-10mm
- Fines : 200mesh/325mesh
- or as per customer requirements

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet

RAW MATERIALS FOR REFRACTORY LIGHT WEIGHT CHAMOTTE



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Product Overview

Light Weight Chamotte is a refined form of anhydrous aluminum silicate, sourced from high-quality deposits in North Africa. This lightweight refractory material is renowned for its thermal stability and structural integrity at high temperatures. Its unique composition and processing make it an ideal choice for high-performance applications in various industrial environments where durability and thermal resistance are paramount.

Product Identifier

CAS Number : 92704-41-1

EC Number : 296-473-8

HSN : 2508 30

Substance Name : Chamotte

Origin : North-Africa

IUPAC Name : Anhydrous
Aluminium silicate

Product Specifications

LIGHT WEIGHT CHAMOTTE									
ORIGIN: INDIA									
TEST	UNIT	Guarantee Unit	Typical Unit	LWCI-30		LWCI-35		LWCI-40	
				Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value
Chemical Specifications	Al ₂ O ₃	% min	%	30.00	33.20	35.00	37.10	40.00	41.90
	Fe ₂ O ₃	% max	%	3.00	2.33	3.00	2.86	1.50	1.20
	SiO ₂	% max	%	60.00	59.20	55.00	54.35	55.00	51.76
	TiO ₂	% max	%	3.00	2.55	3.00	2.85	3.00	2.80
	CaO+MgO	% max	%	1.80	1.48	1.80	1.43	1.50	1.34
	K ₂ O+Na ₂ O	% max	%	1.20	1.10	1.20	1.20	1.00	0.85
Loose Bulk Density	0-2mm	g/L max	g/L	800	785	650	635	600	580
	2-5mm	g/L max	g/L	750	735	600	590	500	490
	0-5mm	g/L max	g/L	800	765	650	635	600	570
	0-1mm	g/L max	g/L	800	790	650	645	600	578
	1-3mm	g/L max	g/L	750	730	650	645	600	560
	3-5mm	g/L max	g/L	750	740	650	590	600	558
Physical Analysis	Apparent Porosity	% Range	%	45 - 50	48	50 - 55	52	50 - 55	52

RAW MATERIALS FOR REFRACTORY

LIGHT WEIGHT CHAMOTTE



Product Specifications

LIGHT WEIGHT CHAMOTTE								ORIGIN: NORTH-AFRICA	
SPEC	UNIT	LWC 42	LWC 42	LWC 42-B	LWC 42-B	LWC 39	LWC 39	LWC 39-B	LWC 39-B
		0-1mm	1-3mm	0-1mm	1-3mm	0-1mm	1-3mm	0-1mm	1-3mm
Al2O3	%	40 - 42	40 - 42	40 - 42	40 - 42	37 - 40	37 - 40	37 - 40	37 - 40
Fe2O3	%	1.5 - 2.2	1.5 - 2.2	1.5 - 2.2	1.5 - 2.2	1.5 - 2.2	1.5 - 2.2	1.5 - 2.2	1.5 - 2.2
SiO2	%	50 - 52	50 - 52	48 - 50	48 - 50	52 - 55	52 - 55	50 - 53	50 - 53
CaO	%	1.5 - 2.5	1.5 - 2.5	3.0 - 5.0	3.0 - 5.0	1.5 - 2.5	1.5 - 2.5	3.0 - 5.0	3.0 - 5.0
MgO	%	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2
K2O+Na2O	%	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0
Bulk Density	g/cc	0.8 - 1.0	0.7 - 0.9	0.8 - 1.0	0.7 - 0.9	0.8 - 1.0	0.7 - 0.9	0.8 - 1.0	0.7 - 0.9
Grain Density	g/cc	1.4 - 1.5	1.4 - 1.5	1.4 - 1.5	1.4 - 1.5	1.4 - 1.5	1.4 - 1.5	1.4 - 1.5	1.4 - 1.5
Apparent Porosity	%	46 - 50	46 - 50	46 - 50	46 - 50	46 - 50	46 - 50	46 - 50	46 - 50
Phase									
Mullite	%	50 - 60	50 - 60	45 - 55	45 - 55	45 - 55	45 - 55	45 - 55	45 - 55
Quartz	%	5 - 10	5 - 10	0 - 10	0 - 10	5 - 10	5 - 10	5 - 10	5 - 10
Cristobalite	%	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5
Amorphous	%	30 - 40	30 - 40	15 - 25	15 - 25	35 - 45	35 - 45	25 - 35	25 - 35
Anorthite	%			20 - 30	20 - 30			10 - 20	10 - 20

LIGHT WEIGHT CHAMOTTE								ORIGIN: NORTH-AFRICA	
SPEC	UNIT	LWC 42	LWC 42	LWC 42-B	LWC 42-B	LWC 39	LWC 39	LWC 39-B	LWC 39-B
Size Distribution		>1mm: 15% max	>3.3mm: 10% max	>1mm: 15% max	>3.3mm: 10% max	>1mm: 15% max	>3.3mm: 10% max	>1mm: 15% max	>3.3mm: 10% max
		<0.25mm: 75 - 90%	<1mm: 15% max	<0.25mm: 75 - 90%	<1mm: 15% max	<0.25mm: 75 - 90%	<1mm: 15% max	<0.25mm: 75 - 90%	<1mm: 15% max
		<0.25mm: 10% max		<0.25mm: 10% max		<0.25mm: 10% max		<0.25mm: 10% max	

RAW MATERIALS FOR REFRACTORY LIGHT WEIGHT CHAMOTTE

Applications

Light Weight Chamotte is extensively used in the manufacturing of refractory bricks, tiles, and other shapes for furnaces and kilns. It serves as a critical component in the ceramic industry for kiln furniture and heat-resistant tiles. Additionally, its thermal properties make it suitable for use in non-ferrous metal casting and as a filler material in construction projects requiring high-temperature resistance.

Advantages

- High Thermal Stability : Withstands extreme temperatures without losing structural integrity.
- Lightweight : Reduces overall structure weight, facilitating easier handling and installation.
- Versatility : Suitable for a wide range of industrial applications.
- Durability : Offers long-lasting performance in harsh environments.

Sizes Available

- 0-20mm
0-0.5mm, 0-1mm, 0-4mm,
1-3mm, 3-5mm, 4-8mm, 5-10mm

Powder

- 200mesh/325mesh
More sizes available as per customer

Packing

- Big bags 700-900kg per bag
- 2 Big bags on 1 pallet
- 10 pallets per 20ft FCL
- Small bags with pallets

RAW MATERIALS FOR REFRACTORY SINTERED MULLITE



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Product Overview

We have the capability to supply customized material of Homogenized Sintered Mullite ranging from 47% of Al₂O₃ content to 70% of Al₂O₃ content.

Our offered Mullite is a synthetic material. It is chemically synthesized by mixing the right proportions of other alumina rich raw materials such as clays, pure kaolin and bauxite, then eliminating impurities, extrusion in form of sticks, and finally calcining the mixture after at high temperatures.

Homogenized Sintered Mullite offered by Thyme are calcined in rotary kilns or tunnel kilns at 1450 degree C to 1700 degree C, with holding time for 4-24 hours, which guarantees the synthetic reaction progress completion, to achieve the highest mullite crystal content and uniform structure.

The thermal expansion coefficient of this material is uniform and is much lower than corundum and silica, thus it provides excellent thermal shock resistance. The performance of RUL and high temperature creep is good. High hardness and excellent chemical corrosion resistance are some more advantages of this material.

Thyme can supply M47Y, M60Y and M70Y.

Product Identifier

CAS Number : 1302-93-8

EC Number : 215-113-2

Substance Name : Mullite

Molecular Formula : Al₆O₁₃Si₂

Production Process

The production process of Mullite is as outlined below:

- 1. FORMULATION:** The material is suitably formulated according to the required final chemistry and the available raw materials in hand.
- 2. BENEFICATION:** The raw materials are manually selected, leaving out impurities and ferrous (dark) looking materials.
- 3. MILLING:** The selected raw materials are then put together and ground with wet milling process in the ball mill.
- 4. FILTRATION:** The moist water in slurry is eliminated with filter press and dried for the first time, to ensure water content is not more than 10% in the total mixture.
- 5. ELIMINATION OF Fe:** Ferrous Impurities are removed from the mixture by use of a magnetic separator.
- 6. EXTRUSION AND DRYING:** The mixture is extruded in form of sticks , and dried so as to have moisture content below 1%.

RAW MATERIALS FOR REFRACTORY SINTERED MULLITE

7. **CALCINATION:** The extruded sticks are calcined at temperature of 1450 – 1700 degree C, and then passed again through a magnetic separator to remove any iron content.
8. **CRUSHING AND SIEVING:** The product is then crushed and sieved to get a uniform-looking final product and moved to the warehouse after quality checks and approval.

Product Specifications

SINTERED HOMOGENISED MULLITE							ORIGIN: CHINA	
Item	UNIT		M47Y		M60Y		M70Y	
	Guarantee Unit	Typical Unit	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value
Al2O3	% min	%	47.00	47.50	59.00	60.30	69.00	70 – 71
SiO2	%	%	46 – 52	49.30	30 – 37	35.00	22 – 26	23.50
Fe2O3	% max	%	1.00	0.70	1.50	1.30	1.50	1.40
TiO2	% max	%	1.80	1.60	2.80	2.50	3.00	2.80
Cao+MgO	% max	%	0.50	0.40	0.60	0.50	0.70	0.80
K2O+Na2O	% max	%	0.35	0.30	0.50	0.40	0.50	0.50
Bulk Density	g/cc min	g/cc	2.55	2.60	2.65	2.73	2.75	2.78
Apparent Porosity	% max	%	4.00	3.00	4.00	3.00	4.00	3.00
Water absorption	% max	%	1.50	1.00	1.50	1.00	1.50	1.00
Mullite phase	% min	%	–	60 – 65	–	80.00	–	92.00
Glass phase	% max	%	–	30.00	–	20.00	–	6.00
Crytoballite	% max	%	–	5 – 10	–	traces	–	traces
Calcination Temperature		°C	1450		1650		1700	

Applications

Sintered Mullite is used in the production of shaped and unshaped products for high-temperature applications in a reducing atmosphere. Sintered Mullite can be used in a variety of applications that require high temperatures, including ceramic kilns, investment casting, glass furnaces, etc.

Advantages

- Good electrical insulation properties
- High mechanical strength
- Non-abrasive
- Chemically resistant

RAW MATERIALS FOR REFRACTORY SINTERED MULLITE

Sizes Available

- 0-20 mm
- 0-1 mm
- 1-3 mm
- 3-5 mm
- 5-8 mm
- Powder sizes 200/325 mesh
- *as per customer requirements

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

RAW MATERIALS FOR REFRACTORY FUSED MULLITE



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Product Overview

Fused Mullite is created by combining high purity Bayer Alumina and pure Quartz in a tilting type arc furnace, where it is heated to approximately 2000 degrees Celsius. By cooling the molten mass at a controlled rate, we are able to produce mullitization with well-defined columnar crystals.

Product Identifier

CAS Number : 1302-93-8

EC Number : 215-113-2

Substance Name : Mullite

Molecular Formula : $\text{Al}_6\text{O}_{13}\text{Si}_2$

Product Specifications

FUSED MULLITE		ORIGIN: CHINA	
Item	Unit	WFM75Y	
		Grain Sizes	Fine Sizes / Powder
Al2O3	% min	75.00	75.00
SiO2	% typical	23.00	23.00
Fe2O3	%	0.10% typical	0.25% max
K2O+Na2O	% typical	0.30	0.30
B.D.	g/cc min	3.00	-
Mullite phase	% typical	94.00	94.00

FUSED MULLITE			ORIGIN : INDIA			
Material	UNIT		FUSED MULLITE 75		FUSED MULLITE 72	
Item	Guarantee Value	Typical Unit	Guarantee Value	Typical Unit	Guarantee Value	Typical Unit
Al ₂ O ₃	%	%	74 - 77	76.35	70 - 73	72.50
SiO ₂	%	%	22 - 25	22.75	29 - 32	30.25
Fe ₂ O ₃	% max	%	0.15	0.10	0.15	0.11
Na ₂ O	% max	%	0.40	0.12	0.40	0.12
Refractoriness	°C min	°C	1850.00	1900.00	1850.00	1900.00
B.D.	g/cc min	g/cc	2.70	3.15	2.70	3.15

RAW MATERIALS FOR REFRACTORY MULLITE

Applications

Fused Mullite is a crucial raw material in the refractory business for applications that need thermal shock resistance and corrosion resistance.

Advantages

- Low conductivity
- Excellent thermal shock resistance
- Excellent resistance to deformation under load
- Excellent volume stability

Sizes Available

- 0-100mm
- 0-30mm
- 0-1mm, 1-3mm, 3-5mm, 5-8mm
- 200mesh/325mesh, 3/6 Mesh, 6/10 Mesh, 8/14 Mesh, 8/16Mesh, 14/28 Mesh, 16/30 Mesh, 28/48 Mesh, 30/60 Mesh, -48Mesh, 46N, 100F, -200mesh, -325mesh
- Many other sizes available as per specific requirements

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

RAW MATERIALS FOR REFRACTORY DEAD BURNT MAGNESITE



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Product Overview

Dead Burnt Magnesite is a product of magnesite refinement that occurs in the rotary kiln/shaft kiln. It is chemically inactive and formed at a high temperature of 1750 degrees Celsius. Dead Burnt Magnesite (DBM) is created in a by sintering raw magnesite at a controlled high temperature. It has excellent resistance to heat and is chemically inert. This substance is frequently employed in the fabrication of essential refractories.

Product Identifier

CAS Number : 1309-48-4

EC Number : 215-171-9

Substance Name : Magnesium Oxide

Molecular Formula : MgO

Product Specifications

DEAD BURNT MAGNESITE							ORIGIN : CHINA
Item	Unit	DBM 90	DBM 92	DBM 95	DBM 96	DBM 97	DBM 98
MgO	% min	90.00	92.00	95.00	96.00	97.00	98.00
SiO ₂	% max	5.00	4.50	2.20	1.20	0.80	0.40
CaO	% max	2.50	2.20	2.00	2.00	1.50	1.00
Fe ₂ O ₃	% max	1.50	1.30	1.50	0.90	0.80	0.70
Al ₂ O ₃	% max	1.50	1.50	1.00	0.40	0.20	0.20
LOI	% max	1.00	1.00	0.50	0.40	0.20	0.20
B.D.	g/cc min	3.00	3.05	3.10	3.20	3.25	3.30

DEAD BURNT MAGNESITE (TYPE : CRYPTOCRYSTALLINE MAGNESITE)							ORIGIN: GREECE	
Item	UNIT	UNIT	DBM 90E		DBM 94E		DBM 95E	
	Guarantee Unit	Typical Unit	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Guarantee Value	Typical Value
MgO	% min	%	89.00	90.00	93.00	94.00	94.00	95.00
SiO ₂	% max	%	7.00	5.50	3.50	2.00	3.00	2.00
CaO	% max	%	4.50	3.00	4.50	3.70	3.00	2.50
Fe ₂ O ₃	% max	%	1.50	1.00	0.60	0.30	0.50	0.30
Al ₂ O ₃	% max	%	0.10	0.05	0.10	0.05	0.10	0.05
LOI	% max	%	0.50	0.30	0.50	0.30	0.50	0.30
B.D.	g/cc min	g/cc	3.25	3.30	3.30	3.35	3.20	3.35

More varieties and customized products are also available.

RAW MATERIALS FOR REFRACTORY

DEAD BURNT MAGNESITE

Applications

The refractory industry uses these basic refractories for different lining purposes in electric arc furnaces and kilns. Basic refractory bricks are used to make ramming mass composition, fettling material, and magnesite mortar. This is also a coating material for steel splashing in arc furnaces.

Advantages

- Good resistance to basic slags
- Spalling resistance
- Strong abrasion and corrosion resistance
- High cold crushing strength

Sizes Available

- 0-15mm,
- 0-1mm (DBM90E, DBM94E)

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

Powder

- 200mesh/300mesh

RAW MATERIALS FOR REFRACTORY FUSED MAGNESITE



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Product Overview

Fused Magnesia (MgO) is manufactured by the electric arc melting of caustic calcined magnesia, dead burned magnesia or raw magnesite in furnaces. The temperature must be above 2750°C for an optimal product. Fused Magnesia has a better performance than competing materials due to its altered crystalline structure.

Product Identifier

CAS Number : 1309-48-4

EC Number : 215-171-9

Substance Name : Magnesium Oxide

Molecular Formula : MgO

Product Specifications

FUSED MAGNESITE														ORIGIN : CHINA
Item	Unit	FM 96		FM 97			FM 97.5			FM 98			FM 98.5	FM 99
		2:1	1:1	2:1	1:1	Large Crystal	2:1	1:1	Large Crystal	2:1	1:1	Large Crystal	Large Crystal	Large Crystal
MgO	% min	96.00	96.00	97.00	97.00	97.00	97.50	97.50	97.50	98.00	98.00	98.00	98.50	99.00
SiO ₂	% max	0.90	1.80	0.75	1.20	0.75	0.65	1.00	0.65	0.60	0.80	0.55	0.40	0.30
CaO	% max	1.80	1.80	1.50	1.20	1.50	1.40	1.00	1.40	1.20	0.80	1.20	0.80	0.60
Fe ₂ O ₃	% max	1.00	1.00	0.80	0.80	0.70	0.70	0.70	0.65	0.60	0.60	0.50	0.40	0.30
Al ₂ O ₃	% max	0.30	0.30	0.25	0.25	0.25	0.20	0.20	0.20	0.20	0.20	0.20	0.15	0.15
LOI	% max	0.50	0.50	0.40	0.40	0.20	0.40	0.40	0.20	0.40	0.40	0.20	0.15	0.15
B.D.	g/cc min	3.35	3.35	3.45	3.45	3.45	3.47	3.47	3.47	3.50	3.50	3.50	3.50	3.50

SPECIFICATIONS ARE CUSTOMISABLE . WE CAN PRODUCE MATERIAL ACCORDING TO SPECIFIC REQUIREMENTS AS WELL.

Applications

The refractory industry uses these basic refractories for different lining purposes in electric arc furnaces and kilns. Basic refractory bricks are used to make ramming mass composition, fettling material, and magnesite mortar. This is also a coating material for steel splashing in arc furnaces.

RAW MATERIALS FOR REFRACTORY FUSED MAGNESITE

Advantages

- Good electrical and thermal conductivity
- Excellent resistance to deformation under load
- Resistance to attack by most acids and alkalis
- Exhibits anti-erosion Properties

Sizes Available

- 0-100mm
- 0-40mm/0-30mm
- 0-1mm
- 1-3mm
- 3-5mm
- Powder : 200mesh/325mesh
- or as per customer requirements

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

RAW MATERIALS FOR REFRACTORY MAGNESIA ALUMINA SPINEL



Product Overview

Magnesium aluminate spinel is an inorganic compound with the chemical formula $Mg(AlO_2)_2$. It is a hard, transparent material that is used as a refractory and abrasive. Magnesium aluminate spinel is a very promising structural material for mechanical and thermal applications because of its excellent high-temperature properties, such as a high melting point, good oxidation resistance, low thermal expansion coefficient and high specific heat capacity.

Product Identifier

CAS Number : 1302-67-6
EC Number : 215-105-9

Substance Name : Spinel
Molecular Formula : $Mg(AlO_2)_2$

Product Specifications

ALUMINA MAGNESIA SPINEL						ORIGIN: CHINA
Item	Guarantee Unit	AMS65	AMS70	AMS78	AMS85	AMS90
Al ₂ O ₃	%	63 - 68	71 - 76	74 - 78	82 - 87	88 - 92
MgO	%	31 - 35	22 - 27	20 - 24	12 - 17	8 - 12
SiO ₂	% max	0.5	0.4	0.4	0.4	0.2
Fe ₂ O ₃	% max	0.45	0.4	0.3	0.3	0.3
CaO	% max	0.8	0.6	0.5	0.45	0.4
Na ₂ O	% max	0.5	0.4	0.4	0.4	0.4

Applications

Magnesium Aluminate Spinel has excellent refractory properties and is recognized as a superior refractory aggregate for unshaped refractory applications. It is widely used in monolithic and castable refractories for the iron and steel industry, as well as for the cement industry, glass industry and other non-ferrous industries.

RAW MATERIALS FOR REFRACTORY MAGNESIA ALUMINA SPINEL

Advantages

- Very high, excellent refractoriness.
- Low thermal expansion coefficient.
- High resistance to thermo-mechanical stress.
- High resistant to corrosion and changes in kiln atmosphere.

Sizes Available

- 0-100mm
- 0-30mm
- 0-1mm, 1-3mm, 3-5mm, 5-8mm
- Powder: 200mesh/325mesh, 3/6 Mesh, 6/10 Mesh, 8/14 Mesh, 8/16Mesh, 14/28 Mesh, 16/30 Mesh, 28/48 Mesh, 30/60 Mesh, -48Mesh, 46N, 100F, -200mesh, -325mesh
- Many other sizes available as per specific requirements

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

RAW MATERIALS FOR REFRACTORY SILICON CARBIDE



Product Overview

Silicon Carbide is a manufactured mineral of extreme hardness and sharpness. It's the best abrasive for grinding/sanding low-tensile-strength materials like Cast Iron, Brass, Aluminum, Bronze, etc. Its thermal characteristics make it an excellent crucible and refractory manufacturing material. Silicon Carbide is created through an electrochemical process that uses quartz (silica) and Carbon (in raw petroleum coke form). The mixture is placed in an electrical resistance furnace and heated above 2200°C to yield high-quality crystals.

Product Identifier

CAS Number : 409-21-2

Substance Name : Silicon Carbide

EC Number : 206-991-8

Molecular Formula : SiC

Product Specifications

SILICON CARBIDE GRAINS				ORIGIN : CHINA
Item	SIC	F.C.	FE2O3	H2O
Unit	% min	% max	% max	% max
SiC 98	98	0.35	0.35	0.5
SiC 97	97	0.5	0.5	0.5
SiC 95	95	1	0.9	0.5
SiC 92	92	2	2	0.5
SiC 90	90	2.5	2.5	0.5
SiC 85	85	5	5	0.5
SiC 80	82	5	3.5	0.5
SiC 70	70	8	8	0.5

Applications

Silicon Carbide Grains are likewise utilized in marble and granite polishing, the production of Kiln furnishings, as a deoxidizer in iron and steel manufacturing, and as abrasives in sandpaper.

RAW MATERIALS FOR REFRACTORY

SILICON CARBIDE

Advantages

- High Bulk Density.
- Excellent Refractoriness under load.
- Low Thermal Conductivity.
- Excellent Abrasion Resistant Ability.

Sizes Available

- 0-20mm
- 0-1mm, 1-3mm, 3-5mm, 5-8mm
- 3/6 mesh, 6/14 mesh, 14/28 mesh, 28/48 mesh, -48mesh
- -200mesh, -230mesh, -325mesh, -400mesh
- FEPA sizes : F12, F14
- P sizes: P60, P80, P120, P180, P220, P360, P800, P1200, P2400, P4000

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

RAW MATERIALS FOR REFRACTORY FUMED / MICRO SILICA



Product Overview

Micro silica, also known as fumed silica, is a fine powder composed of silicon dioxide. It is an ultrafine powder collected as a by-product during the production of the silicon and ferrosilicon alloys. The resulting product is a highly inert, absorbent, and white-coloured powder. Microsilica, also known as silica fume, is an admixture commonly used in concrete due to its ability to improve engineering properties.

Product Identifier

CAS Number : 69012-64-2

Substance Name : Fumed, silica

EC Number : 273-761-1

Molecular Formula : O₂Si

Product Specifications

UNDENSIFIED MICROSILICA FOR REFRACTORY					
Specification	Unit	MSU 94S	MSU 95	MSU 95S	MSU 97
		Value	Value	Value	Value
SiO2	% min	94.00	95.00	95.00	97.00
C	% max	2.00	2.00	2.00	1.00
Fe2O3	% max	1.00	1.00	1.00	0.30
Moisture	% max	1.00	1.00	1.00	1.00
Loss on Ignition, LOI	% max	3.00	3.00	3.00	2.00
Retained on 45 micron sieve	% max	1.50	1.50	1.50	1.50
Specific Surface	BET-M2/Gram min	18.00	18.00	18.00	18.00
Pozz. Activity Index -7 days of accelerated curing	% min	110	110	110	110
Bulk Density	kg/m3	200 - 350	200 - 350	200 - 350	200 - 350
PH		6 - 8	1 - 3	6 - 8	6 - 8

Applications

Microsilica is frequently used in construction applications where its ability to improve engineering properties can be utilized. Additionally, it has also been used in grouts, mortars, plasters, stucco and other cementitious mixtures.

Advantages

- Enhances the strength of refractory castables
- Enhances casting performance
- Strengthens high temperature resistance.
- Strong hydrophilic and activity, which can enhance the cohesion of refractory materials.

Packing

- 25kg small bags
- 600-625kg Big bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

RAW MATERIALS FOR REFRACTORY FUSED SILICA



Product Overview

Fused silica is a completely synthetic material, and is considered to be the purest glass. It has the highest temperature rating of any glass and often starts as pure silicon glass. Fused Silica's manufacturing process gives it superior UV performance compared to natural quartz, making it ideal for applications such as UV transmitting optics.

Product Identifier

CAS Number : 60676-86-0

Substance Name : Silica, vitreous

EC Number : 262-373-8

Molecular Formula : O₂Si

Product Specifications

FUSED SILICA			ORIGIN : CHINA	
Spec	Unit	Grade A	Grade B	
SiO2	% min	99.90	99.80	
Al2O3 for grains	ppm max	100	200	
Al2O3 for powder	ppm max	250	400	
Fe2O3	ppm max	100	150	
K2O	ppm max	50	100	
Na2O	ppm max	50	100	
MgO	ppm max	100	100	
TiO2	ppm max	50	100	
LOI	% max	0.2	0.2	

Applications

Fused silica is also frequently used in optical applications due to its high transparency in the ultraviolet range of the spectrum. It is used in fibre optics, as well as in the production of high-quality glass lenses. Additionally, fused quartz can be used in solar cells and semiconductor applications due to its purity.

RAW MATERIALS FOR REFRACTORY

FUSED SILICA

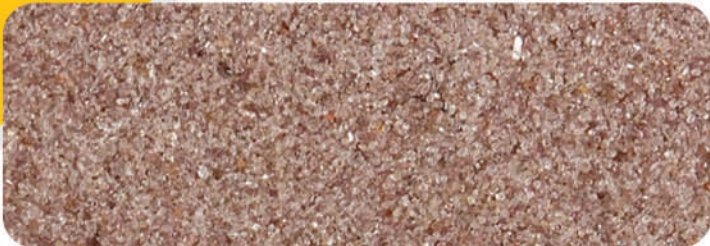
Advantages

- The linear expansion rate is low.
- The product has high volume stability.
- Excellent thermal shock stability
- High purity

Packing

- 25kg paper/plastic small bags
- 1.0/1.2/1.25/1.35MT Big Bags
- Small bags inside big bags
- Big bags / small bags on pallet
- In bulk

RAW MATERIALS FOR REFRACTORY ZIRCONIUM SILICATE



Product Overview

Zirconium Silicate, commercially known as Zircon, is a naturally occurring mineral used extensively in the ceramic industry. This silicate compound is notable for its high melting point and resistance to wear and corrosion. Extracted from zircon sand, this compound is processed to remove various impurities, leading to different grades suitable for diverse industrial applications. Zircon is highly sought after for its thermal stability and its role in producing intricate ceramic pieces, refractories, and foundry castings.

Product Identifier

CAS Number : 14940-68-2

EC Number : 239-019-6

Substance Name : Zirconium Silicate

Origin : U.A.E.

Molecular Formula : $\text{Zr}(\text{SiO}_4)$

Product Specifications

ZIRCONIUM SILICATE								ORIGIN: U.A.E.	
Specification	Item	UNIT		ZSU 63		ZSU 65		ZSU 66	
		Guarantee Unit	Typical Unit	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Typical Value	Typical Value
Chemical	ZrO2 +HfO2	% min	%	63.00	64.650	65.00	65.440	66.00	66.460
	SiO2	% max	%	33.00	32.680	33.00	32.581	33.00	32.490
	Al2O3	% max	%	1.50	1.292	1.50	1.180	1.00	0.332
	Fe2O3	% max	%	0.50	0.381	0.25	0.174	0.15	0.123
	TiO2	% max	%	1.00	0.718	0.30	0.250	0.15	0.105
	V2O5	% max	%	0.02	0.003	0.02	0.002	0.02	0.004
	P2O5	% max	%	0.10	0.019	0.10	0.015	0.10	0.023
	U(ppm)	ppm max	ppm	300	190	300	169	300	190
	Th (ppm)	ppm max	ppm	200	130	200	121	200	115
	Radioactivity		kBq/kg		3.70		2.80		2.80
Mineral Phase	Zircon	% min	%	95.00	96.86	97.50	98.25	98.50	99.04
	Rutile	% max	%	1.00	0.75	0.30	0.25	0.20	0.11
	Sillimanite	% max	%	2.50	1.96	2.00	1.25	1.20	0.65
	Quartz	% max	%	0.50	0.43	0.50	0.24	0.50	0.20

RAW MATERIALS FOR REFRACTORY

ZIRCONIUM SILICATE

ZIRCONIUM SILICATE								ORIGIN: U.A.E.	
Specification	Item	UNIT		ZSU 63		ZSU 65		ZSU 66	
		Guarantee Unit	Typical Unit	Guarantee Value	Typical Value	Guarantee Value	Typical Value	Typical Value	Typical Value
Retained on Sieve Size	30Mesh (0.600mm)	% max	%			0.5	0.01	0.5	0.02
	40Mesh (0.425mm)	% max	%	0.5	0.13	5	1.50	5	1.80
	50Mesh (0.300mm)	Range	%	15 - 40	23.47	60 - 85	68.43	60 - 85	70.14
	60Mesh (0.250mm)	Range	%	15 - 40	23.80	5 - 30	21.55	5 - 30	20.35
	80Mesh (0.180mm)	Range	%	5 - 30	18.75	0 - 15	6.82	0 - 15	5.91
	100Mesh (0.150mm)	Range	%			0 - 10	1.56	0 - 10	1.60
	120Mesh (0.125mm)	Range	%	10 - 35	22.70				
	140Mesh (0.106mm)	Range	%	0 - 15	6.70				
	170Mesh (0.090mm)	% max	%	10	3.75				
	PAN	% max	%	5	0.70	5	0.13	5	0.18

Applications

In the ceramics industry, zirconium silicate serves as a critical opacifier imparting a pristine whiteness and durability to ceramic products. It's also employed in the production of refractory materials and foundry moulds, capitalizing on its excellent thermal properties and resistance to metal penetration. The compound's versatility extends to its use in advanced technology sectors, including the creation of high-k dielectric films for semiconductor devices & the development of medical compounds for gastrointestinal treatments.

Advantages

- Enhances thermal stability and prevents cracking in ceramics
- Offers high resistance to wear and chemical corrosion
- Low thermal expansion coefficient, suitable for high-temperature applications
- Imparts opacity and whiteness to glazes and enamels
- Environmentally friendly as a naturally occurring mineral product
- Resistance to degradation by alkalis and acids

Packing

- Big Bags in FCL
- Big Bags on Pallets in FCL
- Big Bags in Bulk
- Bulk in Vessel

RAW MATERIALS FOR REFRACTORY SILLIMANITE



Product Overview

Sillimanite is an aluminosilicate mineral known for its high thermal stability and resistance to high temperatures. It typically occurs in high-grade metamorphic rocks and is used extensively to manufacture refractory materials due to its ability to withstand high temperatures without melting or decomposing. Its unique properties also make it valuable in the ceramic and glass industries. Sillimanite sand is sourced from India and is available in two grades, each with specific chemical and mineral compositions suitable for various industrial applications.

Product Identifier

IUPAC Name : Aluminium Silicate
HSN : 2508 50 00

Substance Name : Sillimantite
Origin : India
Molecular Formula : Al_2SiO_5

Product Specifications

SILLIMANITE SAND						ORIGIN: INDIA	
Specification	Item	UNIT		GRADE 1		GRADE 2	
		Guarantee Unit	Typical Unit	Guarantee Value	Typical Value	Guarantee Value	Typical Value
Chemical	Al ₂ O ₃	% min	%	60.00	60.87	55.00	56.83
	SiO ₂	% max	%	39.00	36.70	40.00	37.45
	ZrO ₂ +HfO ₂	% max	%	0.80	0.48	1.00	0.82
	Fe ₂ O ₃	% max	%	0.50	0.37	0.50	0.33
	TiO ₂	% max	%	0.50	0.29	0.50	0.12
	P ₂ O ₅	% max	%	0.02	0.002	0.20	0.08
	CaO	% max	%	0.60	0.53	0.50	0.34
	U(ppm)		ppm		4		0
	Th (ppm)		ppm		20		2
Mineral Phase	Sillimanite	% min	%	97.00	98.75	95.00	97.02
	Rutile	% max	%	0.50	0.28	0.50	0.24
	Zircon	% max	%	1.00	0.71	2.00	1.26
	Quartz	% max	%	1.00	0.25	2.00	1.12

RAW MATERIALS FOR REFRACTORY

SILLIMANITE

SILLIMANITE SAND						ORIGIN: INDIA	
Specification	Item	UNIT	UNIT	GRADE 1		GRADE 2	
		Guarantee Unit	Typical Unit	Guarantee Value	Typical Value	Guarantee Value	Typical Value
Retained on Sieve Size	30Mesh (0.600mm)	% max	%	1	0.18	1	0.00
	40Mesh (0.425mm)	% max	%	2	0.36	3	0.90
	50Mesh (0.300mm)	Range	%	5 – 20	11.38	5 – 20	10.26
	60Mesh (0.250mm)	Range	%	15 – 40	28.48	10 – 35	20.82
	70Mesh (0.212mm)	Range	%	15 – 40	27.30	15 – 40	24.60
	80Mesh (0.180mm)	Range	%	5 – 30	18.84	5 – 30	19.42
	100Mesh (0.150mm)	Range	%	2 – 20	9.44	10 – 30	18.62
	120Mesh (0.125mm)	Range	%	1 – 10	2.42	1– 10	3.76
	140Mesh (0.106mm)	% max	%	5	1.80	5	1.80
	PAN	% max	%	2	0.52	5	1.54

Applications

Sillimanite is primarily used in manufacturing high-temperature refractory materials, ceramics, and foundry molds. Its exceptional thermal stability and resistance to chemical attacks make it ideal for use in kiln furniture, glass manufacturing, and metallurgy. Sillimanite is also utilized in producing spark plugs and other electrical components due to its dielectric properties.

Advantages

- Excellent resistance to high temperatures without melting.
- Reduces the risk of thermal shock in applications.
- Withstands chemical attacks in harsh environments.
- Ideal for high-temperature applications such as kiln linings & furnace bricks.
- Superior dielectric properties
- Versatility in various industrial applications

Packing

- Big Bags in FCL
- Big Bags on Pallets in FCL
- Big Bags in Bulk
- Bulk in Vessel

WHITE ALUMINO-SILICATE HOLLOW CENOPHERE



Product Overview

Cenospheres are lightweight, inert, hollow spheres predominantly made from silica and alumina, derived as a byproduct from coal combustion in power plants. Their unique structure—comprising a thin, hollow shell—enables them not only to reduce the weight of composite materials but also to provide excellent thermal insulation. They are non-flammable, possess a high melting point, and are available in various sizes. The smooth surface and spherical shape of cenospheres enhance the flowability of materials, making them a versatile component in various industrial applications.

Product Identifier

CAS Number : 93924-19-7

EC Number : 300-212-6

IUPAC name: Cenospheres

Product Specifications

CENOPHERE				ORIGIN: CHINA
Chemical Composition	Guarantee Value	Guarantee Unit	Typical Value	Typical Unit
Al ₂ O ₃	39.00%	% max	37.20%	%
SiO ₂	58.50%	% max	57.20%	%
Fe ₂ O ₃	3.40%	% max	1.90%	%
K ₂ O	0.50%	% max	0.10%	%
MgO	1.00%	% max	0.60%	%
Na ₂ O	1.00%	% max	0.65%	%
TiO ₂	1.50%	% max	1.10%	%
CaO	1.50%	% max	1.40%	%

CENOPHERE		ORIGIN: CHINA
Physical Specification	Typical Value	Unit
Bulk Density	0.360 - 0.450	g/cm ³
Specific gravity	0.75 - 0.95	g/cm ³
Melting Point	1520 - 1650	°C
Sinker	< 6	%
Moisture Content	< 0.25	%
Color	Pale gray white	
pH	6 - 9.8	

RAW MATERIALS FOR REFRACTORY

CENOPHERE

CENOPHERE		ORIGIN: CHINA
Particle Size	% max	% typical
> 720µm	0	0
500 – 720 µm	2	0.4
300 – 500 µm	20	6
150 – 300 µm	70	54
0 – 150 µm	60	40
< 50 µm	20	5

Applications

Cenospheres are utilized across a broad spectrum of industries. They are integral in improving the properties of cement and concrete in the construction sector, enhancing structural integrity while reducing the ecological footprint. In the automotive industry, their inclusion in materials leads to lighter, more efficient components. Additionally, cenospheres are employed in the production of refractory materials, paints, and coatings, where they enhance temperature resistance and flowability.

Advantages

- **Lightweight:** Significantly reduces the weight of composite materials.
- **Thermal Insulation:** Offers superior heat resistance, useful in high-temperature applications.
- **Cost-Effective:** Provides economic benefits by reducing the amount of expensive resins in composites.
- **Environmental Impact:** Helps in reducing the carbon footprint in construction applications.

RAW MATERIALS FOR REFRACTORY RECYCLED REFRACTORY



We also supply various grades of used and unused **AZS Alumina Zirconia Silica Recycled Bricks with 31-33% ZrO₂**, cleaned and sorted. Availability differs from time to time, get in touch for your requirements.

Used Mag-Spinel bricks from Cement plant

The bricks are recovered from cement plant. The quality is very good. These are used bricks and bricks are sorted, slag and dust is removed to the maximum extent.

MgO is approx 78-88%, Al₂O₃ is 10-16%

Availability differs from time to time, get in touch for your requirements.



Used Mag-carbon converter bricks from Blast furnace of steel plants. They are consistent and high quality scrap material. They were made from high purity Fused MgO. The bricks are sorted, slag and dust is removed to the maximum extent.

We can also offer **Mixed Magnesia Grog and AMC Grog** (AMC content is not more than 25%). These are from EAF/LF of Steel Mills. The bricks are sorted, slag and dust is removed to the maximum extent.

Used High Alumina Bricks (approx. 80% Al₂O₃) which were used in Rotary Kilns for Lime production in sugar factories.

The bricks are extracted from rotary kiln, mortar and concrete is removed from it by labour, and ores are removed to the maximum extent. There might be small traces of slag in the bricks resulting from the reaction of the bricks inside the rotary kiln.

Many more possibilities of Recycled materials from time to time such as Used Mullite based tubes, used alumina bricks, used magnesia bricks.



HIGH ALUMINA BRICK

Other Industries We Are Active In

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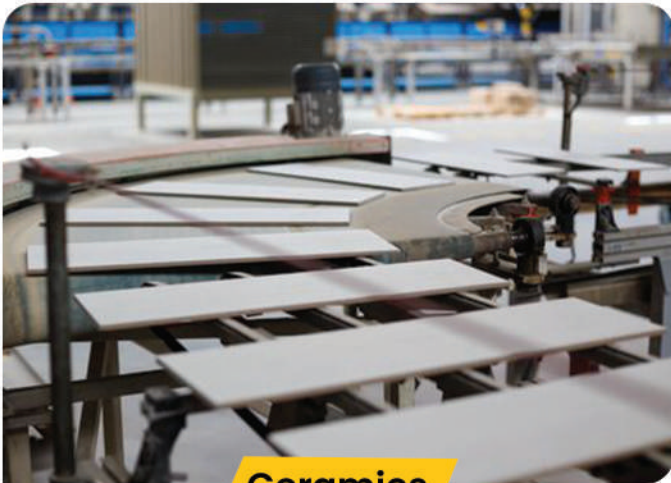
Abrasives

Supplying materials for high-performance abrasives, enabling precise cutting, grinding, and polishing for various industrial and manufacturing needs.



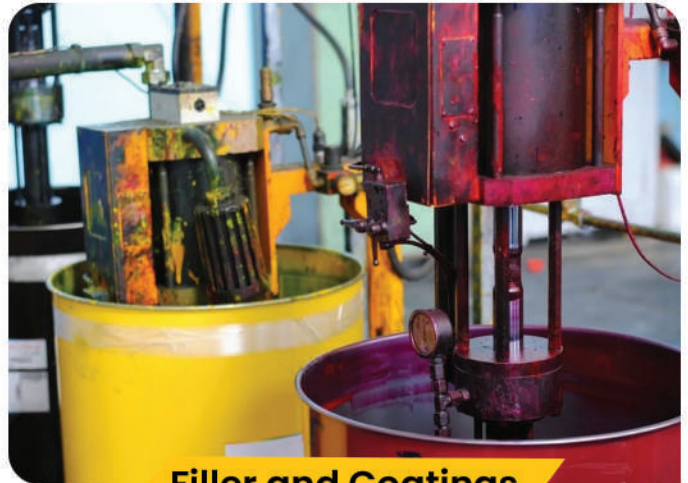
Aluminum

Providing materials for aluminium products known for their lightweight & corrosion-resistant properties, suitable for manufacturing & automotive industries.



Ceramics

Offering materials for advanced ceramics, delivering exceptional thermal stability, wear resistance, and electrical insulation for diverse applications.



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Enhancing product quality with our specialized materials that provide excellent surface finish, durability, and performance in fillers and coatings.



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CLIENT TESTIMONIALS

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Clients



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