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INDIAN MINERALS

A BI-MONTHLY EZINE ON MINERALS OF INDIA

APRIL 2025

SHREE SADASHIV REFRACTORIES PVT LTD

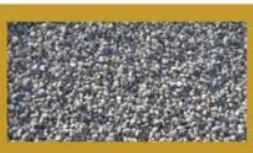
ABOUT US

Shree Sadashiv Refractories Pvt Ltd is an emerging company in the business of Mining and Processing of Refractory Raw Materials in Jamnagar, Gujarat in India. We are engaged in producing Refractory Raw Materials like Calcined Bauxite, Calcined Clay & Chamotte.

MISSION

SSRPL's core business mission hinges on its' commitment quality and service and offering raw material products consistent in size, chemistry & physicality. Our Laboratory is equiped with latest equipment for testing as per the industry standard.

KEY PRODUCTS



CALCINED BAUXITE

Refractory Bauxite, also known as Calcined Bauxite is produced by sintering high alumina bauxite in rotary kilns at high temperatures.



BROWN FUSED ALUMINA

Calcined Bauxite is heated to Temperatures above 2000°C through smelting process in Arc Furnaces. Then slow solidification process is followed to get blocky crystals, which in other words is known as Brown Fused Alumina.



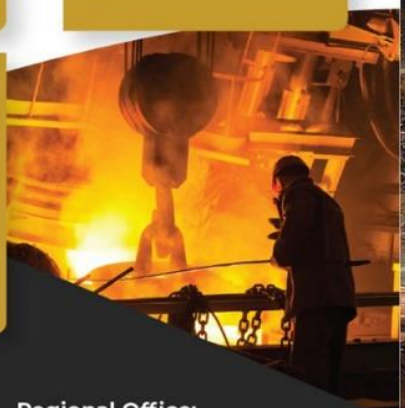
CALCINED CLAY

Calcined clay is obtained by calcining (heating) superior grade clay at high temperature in Rotary Kiln.



WHITE FUSED ALUMINA

White Fused Alumina is manufactured by the Fusion of Pure Quality Calcined Alumina in Arc Furnaces with Temperatures greater than 2000°C. After Slow solidification, a high purity synthetic material is obtained.



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At Almatis, we believe that gender equality transcends individual identities; it's about creating a workplace that benefits everyone. Our core values—Passion, Accountability, Global Inclusivity, and Collegiality—guide us in nurturing an environment where every voice is valued, and diverse perspectives drive our commitment to delivering superior alumina products and services. On International Women's Day, we celebrate this inclusive culture that empowers all employees and enhances our innovative capabilities.

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BETWEEN THE LINES

The USGS has released projections for world production capacity for seven critical minerals for the next five years in the first World Minerals Outlook. It is an important document to provide forecasts and scenarios for global mineral supply chains. This is an assessment of USGS for multiyear forecasts of the production, consumption and recycling patterns of all 50 critical minerals, as directed by its Energy Act of 2020. The methodology is well designed considering announced, funded projects in evaluating future capacity based on when they may come online; subtracts operations nearing the end of their announced life or with depleted resources; and accounts for idled capacity as available. When there are no available statistics for a plant or country's production capacity, it uses a conservative approach that incorporates their actual production.

The summary findings are:

- Magnesium projects outside China have lost funding or encountered other obstacles, and capacity globally is being idled.
- U.S. titanium sponge production capacity was idled and has resulted in the U.S. increasing its reliance on imports from Japan.
- Gallium is used in gallium arsenide and gallium nitride compound semiconductors. There is additional production capacity for gallium outside China with the potential to produce gallium in Germany, Kazakhstan and South Korea in response to China's gallium export ban to the U.S.
- Cobalt production in the U.S. and North America has stalled due to price reductions by world market leader China.

Our Indian Bureau of Mines also does an exemplary work in mapping our resources which covers all major minerals. Till 2014, it used to cover minor minerals as well, but after the latter became state subject, related data tapered off. These too are very important minerals like bentonite, kaolin, baryte, pyrophyllite etc. It is high time the respective State Governments extend helping hand to IBM so that the IBM Annual Year Book can be more comprehensive.

Thank You.



A. Dasgupta

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- Fumed Silica (Micro-Silica)



Calcined Bauxite



White Fused Alumina



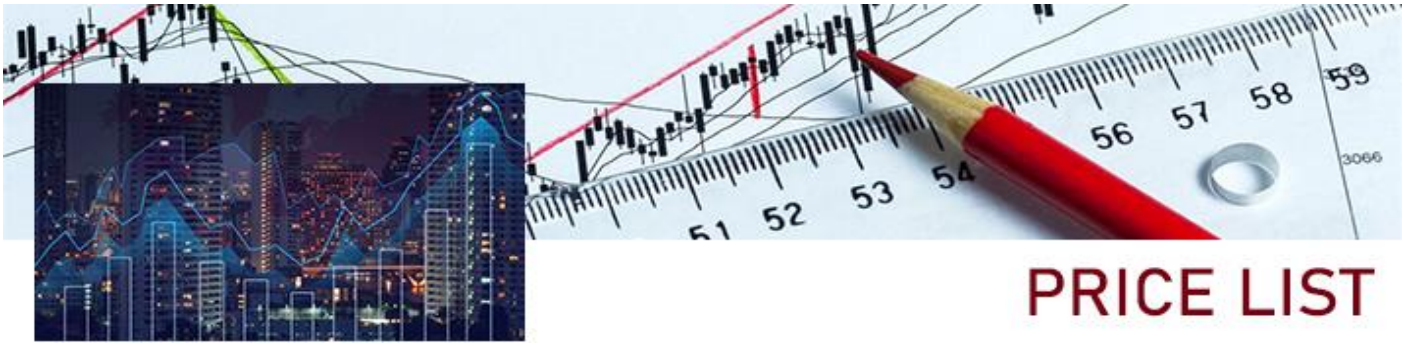
Fumed Silica

All Materials are Available in different grades and sizes.

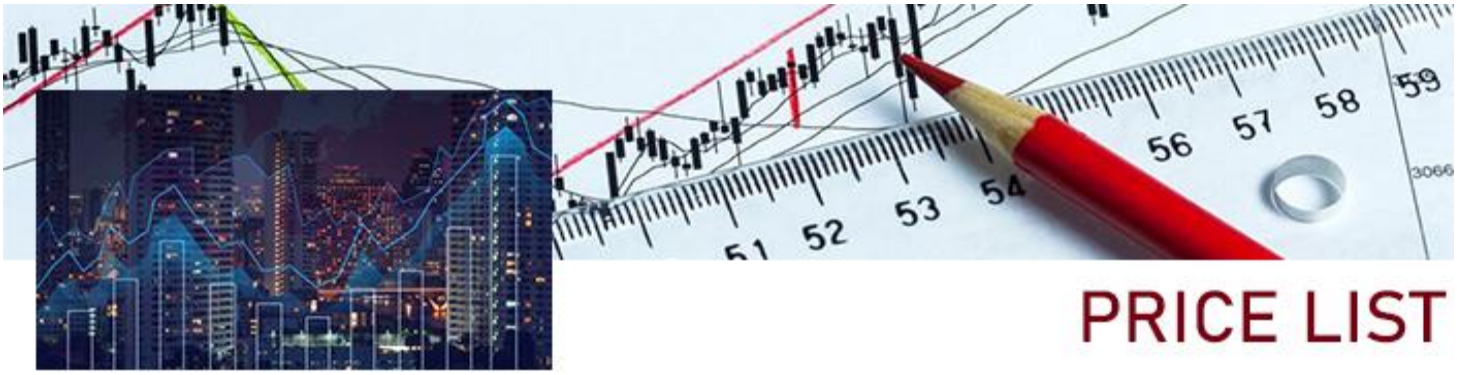
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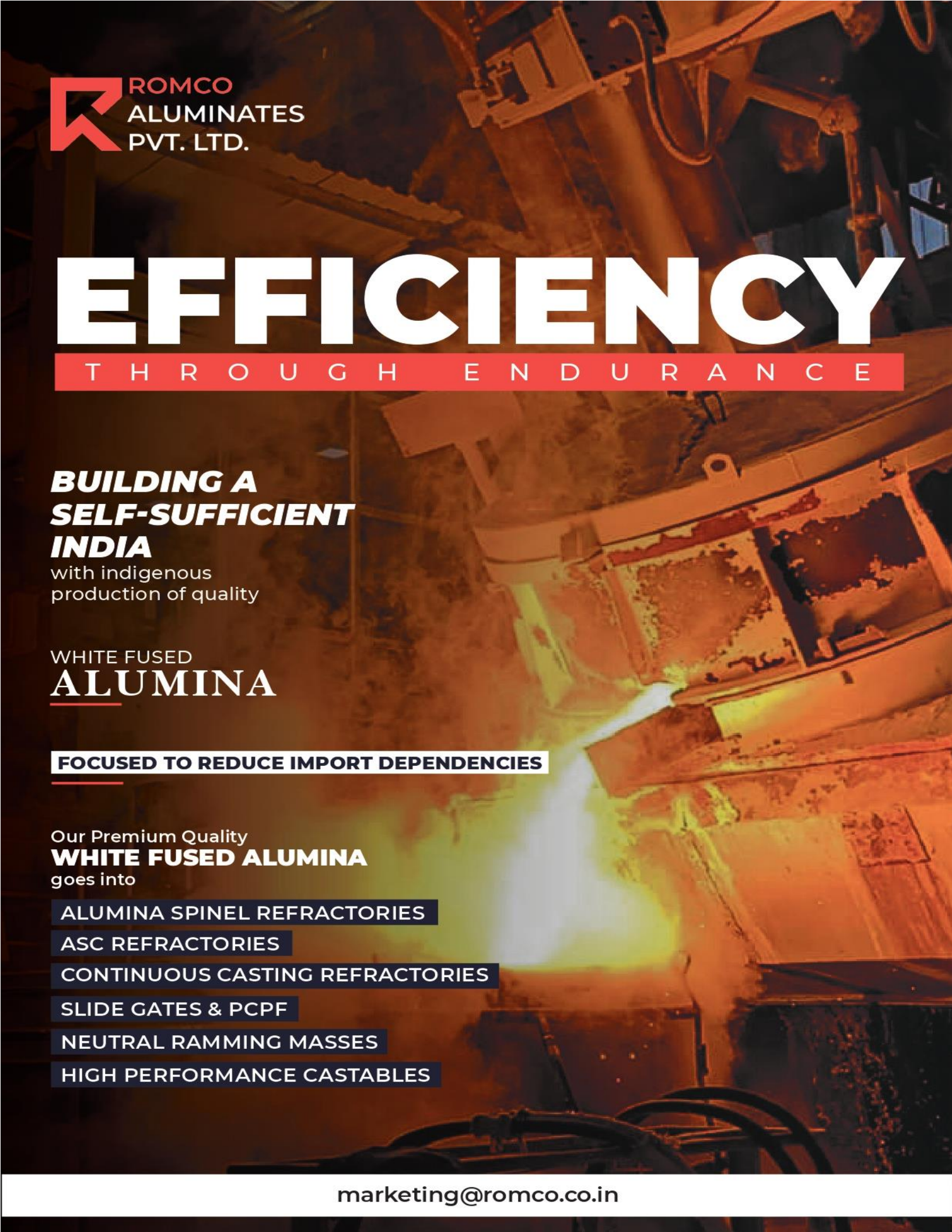


Name	Source	Port	Price (USD/Mt)	Date
Fused Magnesite 97% 2:1 (size:1-3mm)	China	Dalian	814.28	1/4/2025
Fused Magnesite LCF M98	China	Dalian	750	8/4/2025
Dead Burned Magnesite 90%	China	Dalian	207	06/4/2025
Dead Burned Magnesite 97 (Size:10-30 mm)	China	Dalian	363	03/4/2025
Caustic Calcined Magnesite MgO 85% min Size 0-30 mm	China	Bayuquan	195	22/4/2025
Olivine AFS Grade 40-45	Turkey	ALIAGA	153	24/4/2025
Chromite Ore AFS25-35 (White)	South Africa	Durban	595	02/4/2025
Chrome Oxide Green	China	Xingang	4850	5/4/2025
Foundry Grade Chromite Sand AFS 45-50	South Africa	Durban	546	15/4/2025
Calcined Bauxite RK Bauxite – 89%	China	Xingang	535	19/4/2025
Bauxite BRTK 80 1-3 mm	China	Tianjin	429.07	28/4/2025
RK Bauxite (Al_2O_3:80%) (0.5-2mm)	China	XIngang	385	19/4/2025
Calcined Alumina (Non-metallurical grade)	India	N.A.	995	27/4/2025
Artificial Corundum	India	N.A.	1420	30/4/2025
White Fused Alumina	India	N.A.	1280	24/4/2025
White Fused Alumina 98.5%	China	Xingang	921.5	18/4/2025
White Fused Alumina F 1000 Eqv	China	Qingdao	2000	12/4/2025
Brown Fused Alumina Abrasive Grain for manufacture of Coated Abrasives	China	Qingdao	993	15/4/2025
Brown Fused Alumina (BFA 46F)	China	Tianjin	936	11/4/2025
Brown Fused Alumina AC10T P60	China	QINGDAO	909.4	18/4/2025
White Tabular Alumina	China	Ningbo	809.5	14/4/2025
Pink Fused Alumina Crude F80	China	Qingdao	1183	28/4/2025
Ceramic Abrasive Size: Bluecut	China	Qingdao	9524	15/4/2025
Chrome Alumina (SIZE: 0-0.3mm)	France	Antwerpen	350	17/2/2025
Metallurgical Grade Alumina	Vietnam	Kijang	524	7/4/2025
Mullite-60%	China	Xingang	315	16/4/2025
VA Kyanite (100 mesh)	USA	Norfolk	562.7	1/4/2025
Micro Silica (NR96U-A)	China	Xingang	256.4	14/4/2025
Microsilica 920 Astm D	Malaysia	Bintulu	196	7/4/2025
Fire Clay	India	N.A.	32.40	11/4/2025
Chamotte 42 0-1 mm	India	N.A.	180	14/4/2025
Natural Flake Graphite minus 80 mesh	India	N.A.	570	17/4/2025
Natural Graphite Flakes C899	Madagascar	Toamasina	1850	02/4/2025
Silicon Metal Grade 441	China	Xingang	1625	04/4/2025
Zr-MPK Zircon Sand	Indonesia	Banjarmasin	1700	05/4/2025
Iron Ore Pellets (Fe content:63.04%)	India	N.A.	108.07	01/4/2025



PRICE LIST

Name	Source	Port	Price (USD/Mt)	Date
Silicon Carbide (Black) (KSR1 ,KSR2)	Vietnam	Haiphong	1125	29/04/2025
Green Silicon Carbide Grit 16	China	Qingdao	1830	15/04/2025
Silicon Carbide 0-10mm (Fines: 30%Max)	China	Tianjin	696	30/04/2025
Dolomite 0-8-Mm	Bhutan	Pugli Bhutan	19.5	01/04/2025
Dolomite Powder 300 Mesh	India	N.A.	22.3	03/4/2025
Gypsum Crushed	Bhutan	Samdrup-Jonkhar	34.75	01/04/2025
Dry Gypsum Powder	India	N.A.	60.8	03/4/2025
Calcium Aluminate Cement (EN 14647)	Turkey	Mersin	386	2/4/2025
Calcite Powder 10 Micron	India	N.A.	63.61	16/4/2025
Barite Powder API Spec 4.1	India	N.A.	140	10/4/2025
Barite 4.20	India	N.A.	98.7	17/4/2025
Silica Quartz - M Grade	India	N.A.	75.2	07/4/2025
Quartzite (40-100) mm	India	N.A.	36.6	04/4/2025
Potash Feldspar Chips - HG 1	India	N.A.	88	01/4/2025
Sodium Feldspar 200 Mesh	India	N.A.	86.8	24/4/2025
Kaolin (China Clay) Grade-B	India	N.A.	65	08/4/2025
China Clay (Grade 1 Of IS 505)	India	N.A.	114	24/4/2025
Calcined Kaolin 50 (1-3 mm)	India	N.A.	177	14/4/2025
Ball Clay Lump(B-Grade) (API)	India	N.A.	70	24/4/2025
Oil Refining Clay Fullers Earth N- 100	India	N.A.	89.8	05/4/2025
VOLGEL-90	India	N.A.	545.2	01/4/2025
API 13A Section 9 Bentonite (Glo Ben 1000)	India	N.A.	66.4	06/4/2025
SMS Grade Low Silica Limestone Size 30-60mm	UAE	Mina Saqr	27.97	5/4/2025
CP Grade Limestone (40-80 mm)	UAE	Mina Saqr	21.60	07/4/2025
Limestone Lumps Size 5:15 cm	Egypt	Sokhna	35	10/4/2025
Lime Stone Lumps	Bhutan	Phuntsholing	25	1/4/2025
Uncoated Calcium Carbonate Grade:CRECARB MI-2000 mesh	Vietnam	Haiphong	125	1/4/2025
Calcium Carbonate Powder- Grade :Techno-17UC	Vietnam	Haiphong	85	21/4/2025
Soda Ash Dense	UAE	Jebel Ali	241	02/4/2025
Soda Ash Briquette	China	Qingdao	441	12/4/2025
Manganese Ore Assmang Nchwaning Fines (Mn-44.34%)	South Africa	Saldanha Bay	191	12/4/2025
Manganese Ore (MMD)(Mn:46%)	Gabon	Owendo	240	28/4/2025
Acid Grade Fluorspar Powder	South Africa	Durban	472.2	29/4/2025
Laterite (Loose Grade II) (Bauxitic material)	India	N.A.	5.90	25/4/2025


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NEWS DESK

Coal Block Auction



The Ministry of Coal has launched the 12th tranche of commercial coal mine auctions, offering 28 coal and lignite blocks spread across Jharkhand, Chhattisgarh, Odisha, Madhya Pradesh, Maharashtra, West Bengal and Rajasthan. Of the total 28 blocks offered in the latest tranche, 13 are fully explored and 12 are partially explored. Two lignite blocks are also part of the auction. Seven coal mines are offered under the Coal Mines (Special Provisions) Act, 2015 and 18 under the Mines and Minerals (Development and Regulation) Act, 1957. In addition, three blocks from the previous auction round are being re-offered.

Iron Ore dips on US tariffs

Iron ore futures has inched lower after U.S. President Donald Trump unveiled a broad set of reciprocal tariffs, although seasonal demand for the steelmaking ingredient helped cushion the downward trend. The most-traded May iron ore contract on China's Dalian Commodity Exchange (DCE) ended daytime trade 0.32 per cent lower at $108.05 a metric ton. The benchmark May iron ore on the Singapore Exchange was 0.84 per cent lower at $101.95 a ton. U.S. tariffs were more aggressive than expected and that will weigh on ferrous markets, broker Galaxy Futures said in a note.

Mineral Production Increases in Apr 24-Feb 25



The iron ore production in April-February period of the current fiscal rose by 4.4 per cent to 263 million tonne (MT). In the year-ago period, the production was 252 MT, the mines ministry said in a statement. The production of iron ore was 274 MT in 2023-24. Iron ore accounts for 70 per cent of the total mineral production by value.

Manganese ore production increased 12.8 per cent to 3.4 MT in April-February FY25 from 3 MT during the corresponding period of previous year. Bauxite output rose by 3.6 per cent to 22.7 MT in the period from 21.9 MT a year ago.

India extends auction for deep-sea blocks containing critical minerals

India has extended an auction of deep-sea blocks containing critical minerals used in electric vehicle batteries and other products until May 1. India in November launched the first tranche of an auction of 13 offshore deep-sea mineral blocks, including three lime mud blocks, three construction sand blocks, and seven polymetallic nodule blocks.

China's Alumina Export



In March 2025, China's alumina exports reached their second-highest level ever, with 300,000 tonnes of the aluminium raw material shipped overseas, more than doubling the previous year's figure, according to customs data. This surge is attributed to an oversupply in the domestic market, and industry experts anticipate elevated export levels for the coming months.

China's alumina market has seen significant shifts. Last year, prices spiked before dropping sharply as new production facilities increased output, creating a surplus. Unlike other metals like steel and aluminium, which have faced global market challenges, alumina exports have been directed to a select group of countries. To manage overcapacity, the Chinese government has introduced measures to limit new investments in industries with excess supply, including restrictions on new alumina plants in high-pollution areas. The China Nonferrous Metals Industry Association has raised concerns about the sector's rapid expansion, noting that 15 million tonnes of new capacity are under construction, with an additional 20 million tonnes planned. This would add to China's existing annual capacity of 107 million tonnes, potentially exacerbating the surplus.

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New Chairman of NMDC



Mr. Amitava Mukherjee assumed office as the Chairman and Managing Director of NMDC Limited on March 6, 2025. Joining NMDC as Director (Finance) in November 2018, he held the additional charge of CMD from March 2023 onwards. Mr. Amitava Mukherjee is also the Chairman of NMDC Steel Limited and Legacy Iron Ore Limited. A Cost Accountant and a senior officer from the 1996 batch of the Indian Railway Accounts Services (IRAS), he has served the Government of India in various key roles, contributing to the nation's industrial and economic growth. In his leadership, NMDC has achieved the historic milestone of becoming the first iron ore mining company in India to surpass 45 million tonnes output in FY24.

India's Underground Coal Mining Gets Major Boost

In a decisive step towards revitalizing India's coal sector, the Ministry of Coal has introduced a series of transformative policy measures aimed at promoting underground coal mining. These bold reforms reaffirm the Government's resolve to modernize the coal ecosystem while aligning with the broader vision of sustainable development.

- Reduction in Floor Revenue Share: The floor percentage of revenue share for underground coal mines has been reduced from 4% to 2%. This targeted reduction offers substantial fiscal relief and enhances the financial viability of underground projects.
- Waiver of Upfront Payment: The mandatory upfront payment requirement for underground mining ventures has been completely waived off. This measure removes a significant financial barrier, encouraging broader participation from the private sector and facilitating faster project implementation.











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COMPANY NEWS

GAIL & Coal India

GAIL (India) Limited and Coal India Limited has announced the formation of a joint venture, Coal Gas India Limited, to expand the use of synthetic natural gas. The company has been set up with an authorized share capital of ₹11 crore, as per a notification to the stock exchanges. Coal India will hold a 51 per cent stake in the venture, while GAIL will own the remaining 49 per cent. The main objective of this collaboration is to develop and enhance the necessary infrastructure for processing coal into synthetic natural gas.

Meanwhile Coal India Limited (CIL) has reached a production figure of 781.06 million tonnes (MT) in the financial year 2024-25. This figure is less than the target of 838 million tonnes, but more than the production of 773.6 million tonnes in 2023-24.Only three subsidiary companies of CIL – MCL, NCL, WCL have been able to reach the production target. The 2024-25 coal dispatch figure has reached 757.39 million tonnes whereas the target was 838 million tonnes.

Bharat Coking Coal Limited

BCCL has rewritten its history with highest-ever coal production in the 4th quarter (11.44 million tonnes) and March 2025 (4.33 million tonnes) since inception. The company also recorded its highest-ever overburden removal (181.30 million cubic meters) and second-highest annual coal production (40.50 million tonnes), despite facing the heaviest rainfall in 50 years (1747 mm). Offtake reached a second-highest-ever 38.25 million tonnes, bolstered by a 6% growth in rail dispatch, even with high coal stocks at powerhouses. Underground coal production surged by an impressive 49% over last year, while 16 new hired patches were identified this year with a capacity of 13.30 million tonnes annually, out of which 7.0 million tonnes were awarded. For the first time, coal production under the Mine Developer and Operator (MDO) mode commenced at NTST-Kujama, Lodna Area, in April 2024. Additionally, grade confirmation through third-party sampling stood at 94%, exceeding the Ministry of Coal's 90% guideline.

Jindal Steel & Power Ltd

Jindal Steel & Power (JSPL) has won the Saradhapur Jalatap East coal block in the latest commercial coal auctions conducted by the Ministry of Coal. The mine, which holds an estimated 3,257 million tonnes of coal, is located just 11 km from JSPL's Angul steel plant, making it a strategic addition to the company's resource base. JSPL secured the block with a revenue-sharing bid of 10%. The acquisition will help the company reduce its dependence on external coal supplies, ensuring a steady flow of raw materials for its steel production.

Vedanta Group



Vedanta Group firm Hindustan Zinc Ltd (HZL) plans to foray into potash mining and is eyeing a block in Rajasthan which has a fair chance of having lithium reserves also, a top official of the company said. India heavily relies on potash imports and has been exploring ways to reduce its dependence on imports. India's potash imports primarily come from countries like Russia, Canada, Belarus, and Israel.

As per media report, Vedanta is also focusing on critical minerals and energy transition metals, with strategic M&A, tech-driven efficiencies, and sustainability at the heart of its next growth phase.

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SAIL Mining Vertical

The Steel Ministry is mulling formation of a separate vertical at Steel Authority of India Ltd with a focus on mining operations for boosting the production of iron ore, according to an official. A proposal is being discussed at the ministry level for the formation of a mining vertical in SAIL for better operations, the senior government official said. In 2024-25, SAIL produced 33.78 MT of iron ore, 0.59 MT of coking coal, 0.84 MT of thermal coal, 1.31 MT of limestone, and 0.40 MT of dolomite.

CREMER ERZKONTOR

CREMER ERZKONTOR has entered into a new partnership based on a long-term exclusive contract with The Alumina Industrial Company LLC (TAC) in the United Arab Emirates. Through this partnership, CREMER ERZKONTOR is taking its business "Beyond Trading" while ensuring the availability and high quality of critical products to key regions with a unique new source.



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DBM 95
DBM 97

Dead Burnt Magnesite

RKCB 76
RKCB 78
RKCB 80
RKCB 84
RKCB 86
RKCB 90

Rotary Kiln Calcined Bauxite

M 60
M70

Mullite

ALMAG 22/ MA 78
ALMAG 32/ MA 67
ALMAG MA 90

Fused Almag Spinel

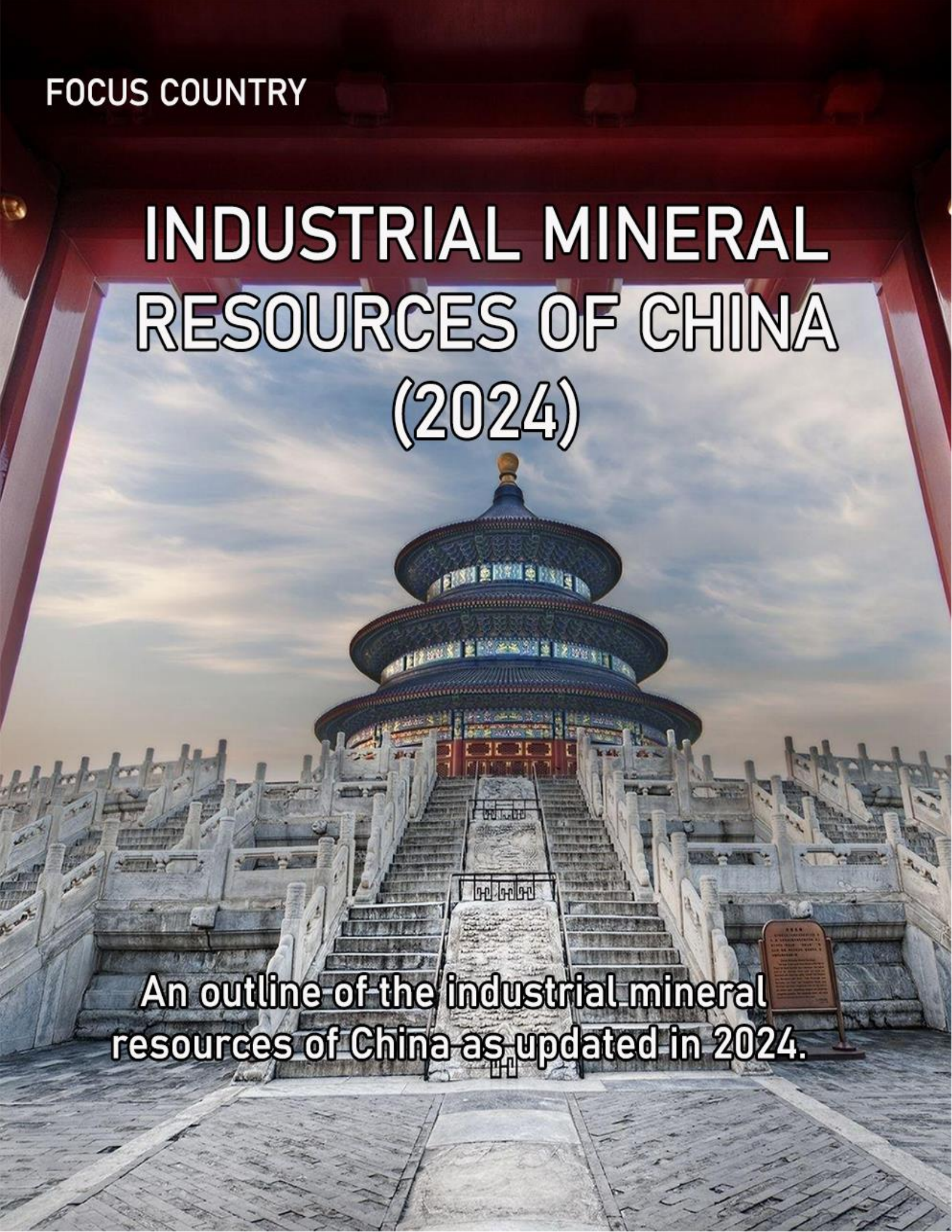
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FOCUS COUNTRY

INDUSTRIAL MINERAL RESOURCES OF CHINA (2024)



An outline of the industrial mineral resources of China as updated in 2024.

In October 2024, the Ministry of Natural Resources of PRC released the 2024 China Mineral Resources Report, which focuses on new progress since 2023 in the geological and mineral survey and evaluation, mineral resource exploration and development, mine ecological restoration, green mine construction, new changes in mineral resource policies and regulations, new measures in mineral resource management. In this brief report, we outline the key industrial mineral resources of China.

People's Republic of China has intensified the search for minerals in its own soil in the past few years. China has a huge appetite for all types of minerals to feed its economy. In 2023, 1 : 50,000 mineral geological surveys of 11,000 square kilometers, funded by the central financial funds, were completed, 96 ore-prospecting targets were delineated, 67 exploration block proposals were submitted. A number of significant discoveries were made in the geological survey and evaluation of various minerals. The resource potentials of 26 minerals including coal, iron ore, manganese and copper were dynamically updated. The potential evaluation of 26 minerals, such as titanium, vanadium, cobalt and niobium, was systematically carried out prediction area delineated, and the resource potential above 2,000 meters estimated. As of the end of 2023, China's magnesite reserves increased by 2.2% compared to the end of 2022, fluorite increased by 24.4%, potash increased by 15.3%, sodium salt increased by 8.7%, barite increased by 12.4%, kaolin increased by 4.0%, and crystalline graphite increased by 23.9%.

Mohong, Leibo County, Sichuan Province, added 770 million tons of resources. The preliminarily evaluated resources in the Yangchang-Mangbu area of Zhenxiong County, Yunnan Province was 1.44 billion tons, which is the largest concealed-single-orebody phosphate-rich deposit discovered so far in Asia.

Table 1 Reserves of Main Non-metallic Minerals in China

No.	Minerals	Unit	Reserves in 2022	Reserves in 2023
1	Magnesite	Million tons of ore	680.12	695.21
2	Fluorspar	Million tons of minerals	85.92	106.90
3	Pyrite	Million tons of ore	1147.86	1046.66
4	Phosphorite	Billion tons of ore	3.69	3.44
5	Potash	Million tons of KCl	287.89	322.01
6	Sodium salt	Billion tons of NaCl	14.29	15.54
7	Mirabilite	Billion tons of Na_2SO_4	1.23	0.92
8	Barite	Million tons of ore	107.36	120.69
9	Kaolin	Million tons of ore	693.45	721.47
10	Crystalline graphite	Million tons of minerals	81.01	100.40
11	Talc	Million tons of ore	60.46	48.44

Table 2 Completion of Main Mineral Exploration Capital Investment and Drilling Work in 2023

Mineral	Investment RMB million	Year-on-year increase / %	Meters drilled million meters	Year-on-year increase / %
Coal	1972	19.3	1.79	29.7
Iron ore	552	30.2	0.59	68.6
Manganese	71	−14.5	0.03	−50.0
Copper	871	32.6	0.49	48.5
Lead-zinc	863	50.9	0.69	81.6
Bauxite	270	5.9	0.27	0
Nickel	104	100	0.24	380.0
Tungsten	186	25.7	0.14	40.0
Tin	52	−5.5	0.04	0
Molybdenum	96	31.5	0.06	0
Gold	1404	31.1	0.98	44.1
Silver	161	32.0	0.16	166.7
Phosphorite	199	−30.9	0.15	−28.6
Graphite	96	−32.4	0.06	−40.0
Potash	83	−1.2	0.02	−50.0

The provincial geological exploration fund had made significant achievements in mineral exploration, with results mainly concentrated in minerals such as gold, copper, coal, geotherm, fluorite, bauxite and lithium. The provincial geological exploration fund disposed of a total of 65 projects, including 56 wholly-owned projects and 9 cooperative investment projects

NEW DISCOVERIES

124 mineral deposits were newly discovered in China, including 44 large-scale, 52 medium scale and 28 small-scale deposits. The top 5 minerals in the newly discovered deposits include limestone for construction (16 deposits), graphite (10 deposits), cement limestone (9 deposits), granite for construction (7 deposits), and fluorite (6 deposits)



REFRACTORIES

CALCINED ALUMINA FROM INDIA

Calcined Alumina is an important raw material for the manufacture of refractories, ceramics, abrasives etc. India is an important producer of calcined alumina which is consumed in the domestic market as well as exported overseas.



The quality of calcined alumina produced in India is excellent, characterized by high purity (up to 99% Al_2O_3), precise grading, and suitability for demanding applications like refractories, ceramics, and electronics. Leading producers like NALCO, Hindalco combined with stringent quality control and modern production techniques, ensure that Indian calcined alumina meets global standards, supporting both domestic industries and a strong export market. Emerging innovations and investments further enhance its quality and competitiveness.

APPLICATIONS OF CALCINED ALUMINA

Calcined alumina, a highly refined form of aluminum oxide (Al_2O_3), is used in various industrial applications due to its high purity, hardness, and thermal stability. Its primary uses include:

- Refractories: Used in the production of refractory bricks, castables, and linings for high-temperature furnaces, kilns, and reactors due to its high melting point and thermal resistance.
- Ceramics: Acts as a key ingredient in advanced ceramics, such as spark plugs, electrical insulators, and wear-resistant components, owing to its hardness and durability.
- Abrasives: Employed in the manufacture of grinding wheels, sandpaper, and polishing compounds because of its high hardness and abrasive properties.
- Catalysts: Serves as a catalyst support or substrate in chemical and petrochemical industries, particularly in refining processes, due to its chemical stability and surface area.
- Coatings and Fillers: Used in coatings for corrosion resistance and as a filler in plastics, rubbers, and composites to enhance mechanical properties and thermal stability.
- Electronics: Utilized in the production of substrates for electronic components and insulators in high-performance applications.
- Glass Manufacturing: Added to glass formulations to improve strength, clarity, and resistance to thermal shock.
- Metallurgy: Used as a flux in steelmaking and as a component in aluminum smelting processes.

CALCINED ALUMINA OF INDIA

India has substantial bauxite reserves (approximately 3 billion tonnes, ~5% of global deposits), providing a strong foundation for high-quality alumina production.

Companies like NALCO and Hindalco have access to high-purity raw materials due to quality bauxite mines critical for producing calcined alumina suitable for applications like ceramics and refractories..

Indian manufacturers use the Bayer process to extract aluminum hydroxide from bauxite, followed by calcination at controlled temperatures (1,000–1,400°C) to produce calcined alumina. Precise control of temperature, pressure, and residence time ensures the desired crystalline structure (e.g., alpha or gamma alumina) and particle size distribution.



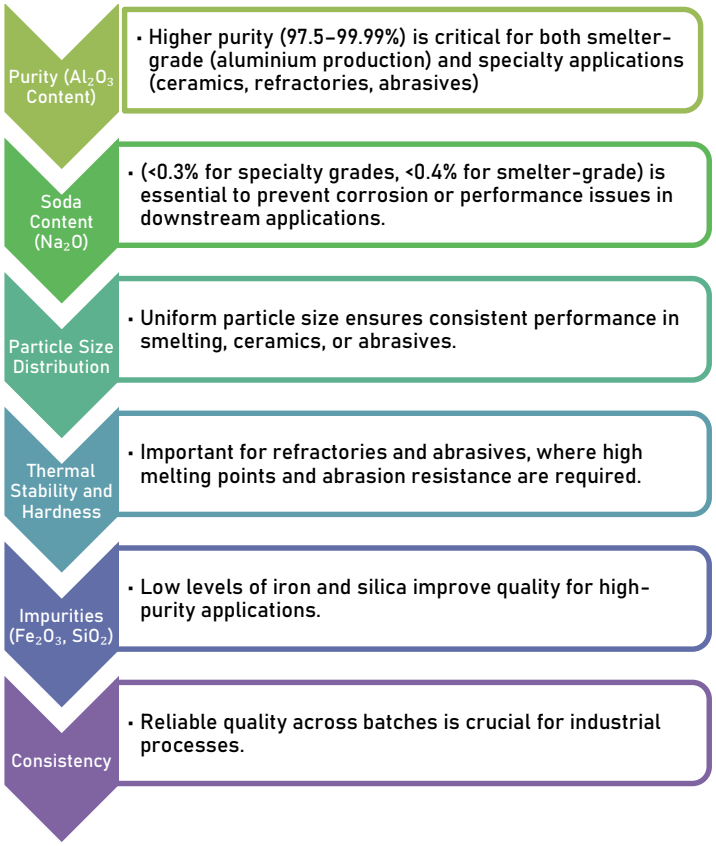
Indian producers implement strict quality control measures throughout the production process. For instance, Mineore Enterprises monitors temperature and pressure during calcination and regularly tests the product for purity and consistency. Grades like S-100, S-300, SCM, and S-300 PT are tailored for specific applications (e.g., technical ceramics, refractories), with defined particle sizes (e.g., passing through 45–150 micron sieves) and high purity levels (97.5–99% Al_2O_3).

Certifications and adherence to international standards are common among major suppliers, ensuring reliability for global markets.

THE QUALITY FACTOR

Indian calcined alumina is produced in various grades, including smelter-grade (for aluminium production) and specialty grades (for refractories, ceramics, abrasives, and polishing). Purity typically ranges from 97.5% to 99.99% Al_2O_3, depending on the application.

KEY QUALITY PARAMETERS FOR CALCINED ALUMINA



The Bureau of Indian Standards (BIS) has implemented the Quality Control Order (QCO) for Calcined Alumina under IS 17441 (Part 1): 2021. This standard mandates that both domestically produced and imported calcined alumina must conform to specified quality parameters and bear the BIS standard mark. Manufacturers are required to obtain a license from BIS as per Scheme-II of Schedule-II of the Bureau of Indian Standards (Conformity Assessment) Regulations, 2018.

Smelter-Grade Alumina (e.g., NALCO, Hindalco, Vedanta):

- Purity: Typically 97.5–99% Al_2O_3, suitable for aluminium smelting.
- Soda Content: Around 0.3–0.4%, within global standards for smelter-grade alumina.
- Particle Size: Sandy-type alumina with controlled granulometry for efficient smelting.
- Impurities: Low levels of Fe_2O_3 and SiO_2, meeting international benchmarks.
- Applications: Primarily used for aluminium production, with some surplus exported (e.g., NALCO to China).
- Quality Standards: Indian smelter-grade alumina, especially from NALCO, is globally competitive, as evidenced by its export market and certifications like ISO 9001.

Specialty-Grade Alumina (e.g., NALCO, Hindalco):

- Purity: Ranges from 98–99.99% Al_2O_3, tailored for ceramics, refractories, abrasives, and polishing.
- Soda Content: Very low (<0.1–0.3%), ideal for high-performance ceramics and electronics.
- Particle Size: Fine and controlled (e.g., 100–300 mesh), ensuring uniformity for niche applications.
- Thermal Stability: High melting point (>2000°C) and hardness (9 on Mohs scale) suit refractories and abrasives.
- Applications: Used in technical ceramics, insulators, spark plugs, polishing compounds, and refractory bricks.

- Quality Standards: Certified under ISO 9001, with consistent quality for industrial and export markets.

Imported Calcined Alumina Quality vis-a-vis Indian Counterpart

India imports calcined alumina from countries like France and Germany, primarily for specialty applications or when domestic supply is insufficient.

Smelter-Grade Alumina:

- Purity: Comparable to Indian alumina at 97.5–99% Al_2O_3.
- Soda Content: Typically 0.2–0.4%, slightly lower in some cases due to advanced refining (e.g., Alcoa's Australian alumina).
- Particle Size: Highly consistent, optimized for smelting efficiency.
- Impurities: Very low Fe_2O_3 and SiO_2, often marginally better than Indian standards due to advanced processing.

Quality Advantage: Imported smelter-grade alumina may offer slightly better consistency and lower soda content, but the difference is minimal for aluminium production.

Indian smelter-grade alumina (e.g., NALCO) is nearly equivalent to imported alumina in purity, soda content, and impurities. Imported alumina may have a slight edge in consistency and lower soda content (e.g., 0.2% vs. 0.3%), but this has minimal impact on aluminium smelting.

Cost-Effectiveness: Indian alumina is more cost-competitive due to lower transportation costs and domestic availability, making it preferable for local smelters like Hindalco and Vedanta.

Global Standing: NALCO's alumina is exported globally, indicating it meets international standards. The quality gap with imported alumina is negligible for smelting.

Specialty-Grade Alumina:

Purity: Often 99–99.99% Al_2O_3, especially from suppliers like Almatis (Germany) for high-end ceramics and electronics.

- Soda Content: Extremely low (<0.05–0.2%), critical for applications like electronic insulators or sapphire production.
- Particle Size: Highly controlled, with customized grades for specific applications (e.g., submicron sizes for polishing).
- Thermal Stability: Comparable to Indian specialty grades, with excellent performance in refractories and abrasives.

Quality Advantage: Imported specialty alumina often excels in ultra-high-purity applications (e.g., sapphire glass, electronic ceramics) due to advanced calcination and purification technologies. Consistency across batches is also a strength.

Indian specialty alumina like Hindalco's is high-quality, with purity up to 99.99% and low soda content (<0.3%). However, imported alumina from companies like Almatis often achieves ultra-low soda content (<0.05%) and finer particle sizes for niche applications like electronic ceramics or sapphire production.

Application-Specific Gaps: For standard refractories, ceramics, and abrasives, Indian alumina is comparable and cost-effective. For cutting-edge applications (e.g., LED substrates, high-purity insulators), imported alumina may sometimes be preferred due to superior purity and customization.

Consistency: Imported alumina often benefits from advanced production technologies, ensuring tighter quality control and batch-to-batch uniformity, which is critical for high-tech industries. Nowadays Indian calcined alumina is at par with world standards due to stringent quality control measures and continuous R & D efforts.

PRODUCTION OF CALCINED ALUMINA

Comprehensive data on company-wise production of calcined alumina in India is limited, as companies do not always publicly disclose detailed production figures, and recent, consolidated statistics are sparse. However, based on available information, a gross outline of calcined alumina produced in India is as follows.

1. National Aluminium Company Limited (NALCO)

Within the Damanjodi refinery, NALCO operates a Special Grade Alumina Manufacturing Division, which includes a Pilot Plant with a capacity of 600 tonnes per year (tpy) for developing customized specialty alumina products and a main plant with a capacity of 26,400 tpy for specialty aluminas, including calcined alumina. These specialty products are a subset of the total alumina output, indicating that the calcined alumina capacity for non-metallurgical grades is relatively small compared to the total 2.275 MTPA.

For metallurgical-grade calcined alumina, the majority of the 2.275 MTPA is used to meet NALCO's smelter requirements at Angul (4.6 lakh TPA aluminium production), with surplus alumina exported. Assuming a significant portion of the refinery's output is calcined alumina for smelting (typically 1.9–2 tonnes of alumina per tonne of aluminium), the calcined alumina capacity for metallurgical use could be estimated at around 0.9–1.0 MTPA, with the remainder including hydrate or other forms.

Thus, NALCO's total calcined alumina production capacity, combining metallurgical and specialty grades, is likely in the range of 1–1.2 MTPA, with specialty calcined alumina explicitly at 27,000 tpy (0.027 MTPA).

Location: Damanjodi, Odisha
Annual Production: Approximately 2.275 million tonnes
Export: Around 1 to 1.2 million tonnes annually
Product Type: Metallurgical Grade Calcined Alumina (Sandy Type) & Speciality Alumina

NALCO is recognized as one of the lowest-cost producers of metallurgical-grade alumina globally and is a significant exporter.

2. Hindalco Industries Limited

It operates alumina refineries, such as the Utkal Alumina refinery in Odisha, which supply alumina to its aluminium smelters. Its alumina refineries have a combined capacity of approximately 3.75 million metric tons per annum (MTPA) along with 0.46 million tonnnes of speciality alumina across facilities in Utkal, Renukoot, Muri, and Belagavi.

3. Vedanta Aluminium Limited (Bharat Aluminium Company - BALCO)

In FY24, the Lanjigarh refinery reported alumina production of 484,000 tonnes in one quarter, up 18% year-on-year. The refinery produces smelter-grade calcined alumina, a key raw material for Vedanta's aluminium smelters in Jharsuguda (Odisha) and BALCO (Chhattisgarh).. Specific production figures for calcined alumina are not publicly available.

Other smaller producers are:

- Mineore Enterprises: Offers calcined alumina with Al_2O_3 content ranging from 96% to 99%, suitable for applications in refractories, ceramics, and abrasives.
- MRB International Pvt. Ltd.: Provides various grades of calcined alumina, including S-100, S-300, and SCM grades, catering to specialized applications in steel heat treatment, ceramics, and abrasives.
- Associated Smelters Pvt. Ltd.: Supplies calcined alumina with a minimum Al_2O_3 content of 98%, suitable for various industrial applications.

THE EXPORT MARKET

The top export markets of Indian calcined alumina are:

- Canada
- Italy
- Japan
- Malaysia
- Saudi Arabia
- South Korea
- Taiwan
- Thailand
- Turkey
- USA

Indian calcined alumina likely commands a market size in the range of USD 750–800 million in 2025, though precise figures are not directly cited. We may expect 7-8% growth rate in the short term.

CONCLUSION

Indian calcined alumina is high-quality, with smelter-grade meeting global aluminium production standards and specialty grades offering high purity (up to 99.99%) for ceramics, refractories, and abrasives. It is favored for its availability, lower cost, and reliable quality for most industrial applications. Companies like NALCO and Orient Abrasives meet domestic demand effectively.

Indian products are high quality products but some imported alumina benefits from cutting-edge calcination and purification technologies, particularly for specialty grades. Along the same breath, imported alumina from established players from Europe carries a premium reputation for advanced applications. Imported suppliers offer highly customized grades (e.g., tailored particle sizes or chemical profiles), which Indian producers sometimes are unable to provide. For high-tech applications requiring ultra-low soda or specific particle sizes, imported alumina may be necessary until domestic capabilities expand.

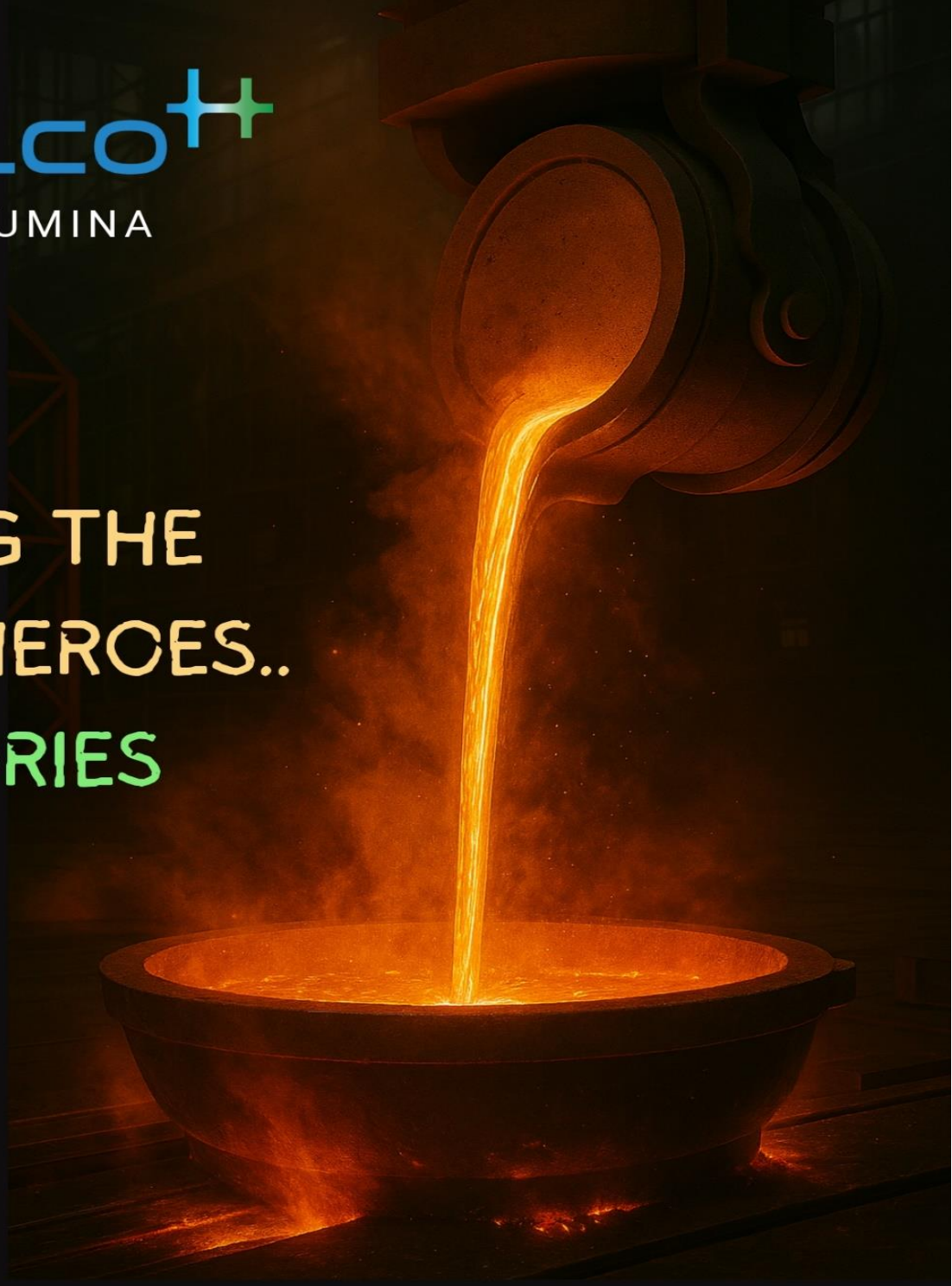
Indian companies are investing in R&D to bridge the gap in ultra-high-purity alumina (UHPA) for electronics and lithium-ion batteries, reducing reliance on imports.

Indian smelter grade calcined alumina is virtually on par with imported alumina for aluminium production, with negligible quality differences. Its cost-effectiveness and local availability make it the preferred choice domestically.



HINDALCO

SPECIALTY ALUMINA



POWERING THE UNSUNG HEROES.. REFRACTORIES

ENGINEERED TO ENDURE

- 1600°C+ HEAT ENDURANCE
- REDUCES THERMAL LOSS & EMISSIONS
- LONGER LINING LIFE
- CRITICAL ZONE RELIABILITY
- SUPERIOR CORROSION RESISTANCE
- ENERGY-SAVING

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ADITYA BIRLA
HINDALCO



VOLATILE PRICE OF MICRO SILICA

Microsilica is a a dry silica fume powder that improves the properties and characteristics of high-performance concrete and specialist mortar formulations, acting physically to optimize particle packing and chemically as a highly reactive pozzolan. As refractory material, microsilica is used for improved strength and service life in high-temperature applications. It also acts as cohesive agent, binder, coagulant, and additive for many refractory products.

It is not a product by itself but a byproduct of the production of silicon metal and ferrosilicon alloys. It is obtained through the reduction of high-purity quartz with coal in an electric arc furnace. During this process, the silicon and oxygen in the quartz react to form silicon dioxide gas, which is then collected and condensed into a fine powder known as micro silica.

The Price Movement: European Microsilica

Month	Price (USD/mt)
Mar-24	812
Sep-24	894
Oct-24	892
Nov-24	888
Jan-25	870
Feb-25	1468
Mar-25	863
Apr-25	876

Table 1

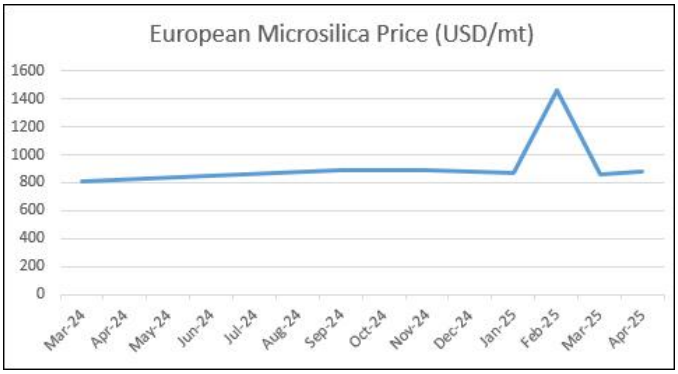


Fig 1

The Price Movement: Chinese Microsilica

Month	Price (USD/mt)
Mar-24	290
Sep-24	335
Oct-24	331
Nov-24	381
Jan-25	340
Feb-25	360
Mar-25	346
Apr-25	350

Table 2

Chinese micro silica is cheaper than its European counterpart because energy cost is cheaper in China as well as they enjoy economies of scale Chinese silicon metal industry produces vast amounts of silica fume as a by-product. However European micro silica is reported to be more consistent in performance.



Fig 2

Factors Affecting Prices

Microsilica prices are influenced by raw material costs, logistics, and demand from construction and other industries.

- Production Costs: The production process for microsilica is energy-intensive, requiring specialized equipment to handle and refine the ultrafine particles. These high production costs account for approximately 15-20% of the total cost of producing concrete using microsilica, often resulting in higher prices for end-users.
- Other Factor: As mentioned earlier, micro silica is a by product of poly silicon, organic silicon and ferro silicon for which its availability depends on the production of the latter. In the past two years, ferro silicon production in China showed muted growth though the country accounts for more than 70% of global ferro silicon production. USA too saw a tepid growth in ferro silicon market with growth ranging from 1.5-2% in the past few months.
- While the drop in industrial silicon production is a key factor behind the silica fume shortage, some manufacturers have altered their smelting processes to boost yields and cut costs. However, this adjustment has resulted in silica fume losing its reactivity and fluidity, rendering it unsuitable for refractory applications. Meanwhile, environmental desulfurization treatments have further reduced the usability of silica fume in the refractory industry.

As of May 2025, the micro silica market continues to face supply constraints, with wide price variations. Most producers have honoured the long term price commitments, but they have adopted a cautious strategy of "no quotation, no supply commitment" for new orders. When quoting for fresh orders, prices are significantly higher than the existing ones.

MICRO SILICA SUPPLIERS

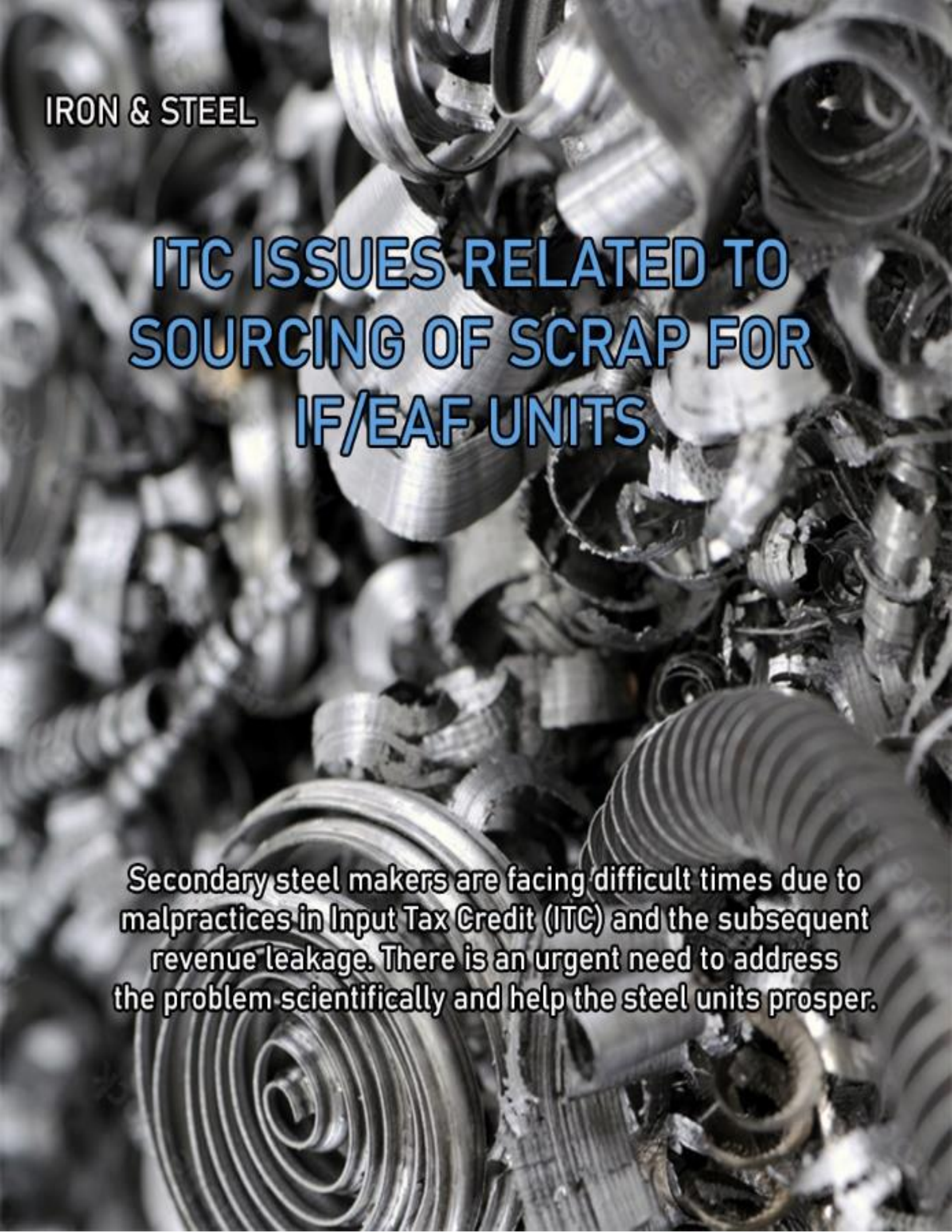
The key suppliers of micro silica to Indian market are:

- BHUTAN FERRO ALLOYS LIMITED
- DOED JUNG KUEN PHEN TRADING HOUSE
- DRUK FERRO ALLOYS LIMITED
- ELKEM ASA
- SHANDONG DONGYUE SILICONE MATERIAL
- UGEN FERRO ALLOYS PRIVATE LIMITED

(Note: All suppliers do not supply all grades of micro silica)

IRON & STEEL

ITC ISSUES RELATED TO SOURCING OF SCRAP FOR IF/EAF UNITS



Secondary steel makers are facing difficult times due to malpractices in Input Tax Credit (ITC) and the subsequent revenue leakage. There is an urgent need to address the problem scientifically and help the steel units prosper.

Steelmaking has two main metallic inputs: iron ore and recycled steel scrap. Around 70% of the total metallic input to steel production globally is derived from iron ore, with scrap making up the rest. In electric steelmaking, electrical energy is used to re-melt charges of up to 100% scrap to make new steel products. Hence scrap is of utmost importance for steel makers who manufacture steel through Induction Furnace or Electric Arc Furnace route.

THE PROBLEM

Melting scrap is generated in various households and other places where the seller is not required to pay in GST. This scrap is purchased by small-time waste buyers (kabadis) who are unregistered under GST. These kabadis sell of their material to larger traders and ultimately to fairly large traders (LT). These traders have turnover more than Rs 40 lacs / year for which they come under the ambit of GST.

The current GST rate on this scrap 18%. Now this trader LT has to discharge his entire tax liability from cash ledger as there is no credit available to him. Thus this 18% tax liability gives him reason and lures him to resort to fraudulent practices where he arranges fraudulent credit to save this 18%. For this reason, many arrange invoices from those dealers/retailers of consumer items (like medicines or electronic items), who are not interested to avail credit or raise proper bill. Eg: A LT gets the bills from the medicine supplier, claims credit in his credit ledger and discharges his tax liability on scrap using fradulent credit claimed on dummy purchase of medicine. In short, this fraudulent credit of 18% of scrap value is injected in the credit chain thus reducing the cash revenue of the Govt. to that extent.

THE CORE ISSUES

1. Blatant violation of ITC by some scrap traders, who do not have a permanent establishment and who are mostly in the unorganized sector with resultant loss of Govt. revenue because the fraudulently availed credit enters the credit chain.
2. The stress is being felt by the steel makers who are eligible for credit as they have actually received the goods along with invoicer and supplier has filed GSTR 1 and GSTR 3B. Manufacturers have also discharged output tax liability on manufactured goods corresponding to inputs received. Their output supply is not disputed by the departments. Since the scrap business is floating in nature, and the traders escape sensing problem, revenue officials hound out steel makers as they have fixed establishment.

IS RCM THE SOLUTION?

Charging GST on a reverse charge basis is not the correct solution because of the presence of multiple/intermediaries in the supply chain of melting scrap. As per Govt. rules, the moment an unregistered supplier crosses the threshold of Rs 40 lakhs turnover, he has to get registrered, and thus has to discharge his GST liability on a forward charge basis. In this scenario, manufacturing units cannot procure more than one percent from an unregistered supplier, as supplies made in a day itself may cross Rs 40 lakhs turnover.



Therefore manufacturing units have to depend on registered suppliers of melting scrap who will continue to charge GST on a forward charge basis. If at all, an RCM is to be introduced, that can be done by exempting supply of melting scrap to a trader (other than a manufacturer), who supplies the melting scrap as it is to other registered persons. In this case, if a reverse charge is created on purchases made by manufacturers, then the entire GST liability on scrap shall be discharged by manufacturing units. But this is not an optimal solution as it will keep all traders and their supplier-related data out of the system.

This may also the purchase of scrap by manufacturing units in cash out of books for the need to dodge the system at their end.

THE WAY OUT

The root cause of ITC fraud is the high rate of GST, which incentivizes fraudulent transactions. By reducing the GST rate on melting scrap to 0.1%, the motivation and sharable amount for fraud is eliminated. The minimal tax rate removes the incenstive for arranging fake invoices for credit while ensuring full transaction traceability within the GST system.

With 0.1% GST rate, the probability of fraudulent injection of ITC gets reduced as sharable amount becomes to meagre to engage in fraudulent trasactions. Also the entire chain of transaction will be captured by GSTIN because of filing of return by traders to have better traceability of transactions.

Also there will be no loss to the Govt. at all as melting scrap is not an item of consumption by an individual but an industrial input and thus whatever tax is genuinely paid is eligible for credit. It should also be noted that the entire GST paid on imported scrap is also creditable.

The Govt. earns revenue if and only if the buyer does not claim GST.

SIMILAR PRECEDENT

The Govt. has already reduced the GST rate to 0.1% on supplies made to merchant exporters for all commodities irrespective of their neutral rate vide Notification No. 41/2017 dated 23rd October 2017. This has been done so that funds of merchant exporters are not blocked towards GST and they are not financially stressed.

CONCLUSION

The 0.1% GST on melting scrap, effectively acts as an RCM where effectively traders are freed from tax burden beyond 0.1% and entire tax liability in the value chain upto the final product i.e. billet/TMT is to be discharged by manufacturers, while at the same time the entire transaction in the steel making value chain is captured by the concerned authority.

Excerpts from the article: Why melting scrap should be subjected to 0.1% GST to increase Govt. revenue, stop ITC fraud and save the bonafide manufacturing industry: Pramod Kumar Rai (AIIFA News Vol. No. XXVI, Issue No. 2, Feb. 2025)



FERRO ALLOYS

GROWTH PROJECTIONS OF FERRO CHROME MARKET



Brief overview of ferrochrome market
and its growth projections.

Ferrochrome is an alloy of Chromium and Iron metals generally containing 50 to 70% chromium by weight. Over 80% of the world's Ferrochrome production is used in production of stainless steel. Increasing stainless steel production around the world is a major driver of ferro chrome market growth.

INTRODUCTION

Ferrochrome is an essential raw material for stainless steel production, accounting for approximately 50-60% of the total chromium content. The automotive industry is a significant consumer of ferrochrome, using it to manufacture high-strength and durable components. In the construction sector, ferrochrome is employed in the production of high-tension steel and alloys steel for infrastructure projects. Additionally, the consumer goods industry utilizes chromium stainless steel in various applications, such as cutlery, kitchen appliances, and water filtration systems. The increasing demand for stainless steel in various industries is driving the growth of the market.

THE MARKET

Indian ferrochrome market, currently at 1.5 million tonnes (MT) in 2025, is expected to witness a steady growth of 6.5- 7% year over year. This growth will be primarily driven by the rising demand for stainless steel, especially in the architecture, building and construction (ABC) sector.

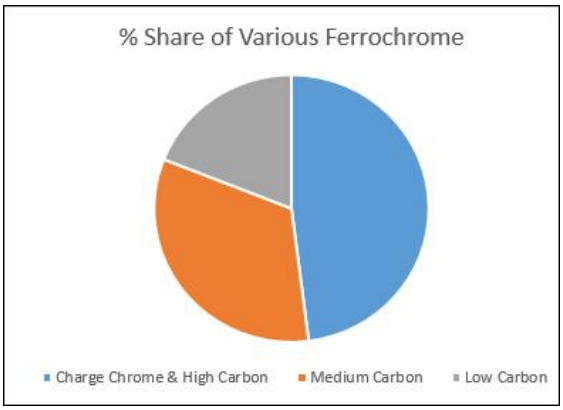


Fig. 1

The top ferrochrome manufacturing countries are China and South Africa, with China being the leading producer globally, and South Africa following closely behind. Other significant producers include Kazakhstan, India, and Turkey.

China is the largest producer of ferrochrome, accounting for about 48% of global production in 2024. South Africa is the second-largest producer, contributing around 20% of global ferrochrome production. On a global scale, India ranks fourth in terms of ferrochrome production. The worldwide production stands at around 15 million tonnes, with China leading the pack at 7.4 million tonnes while India produces 1.2 million tonnes.

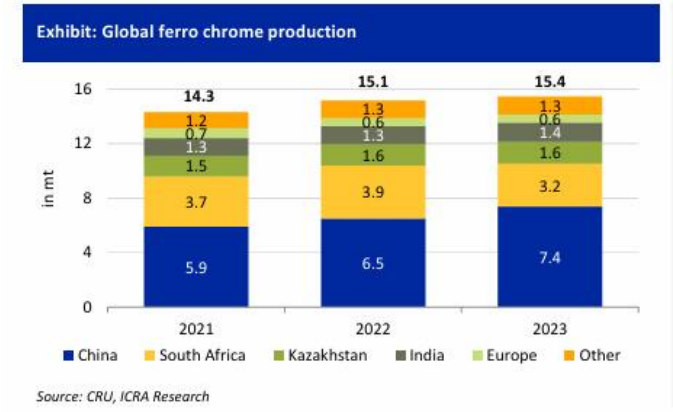


Fig. 2

TOP INDIAN PRODUCERS

Tata Steel Mining Limited (TSML)

A subsidiary of Tata Steel, TSML is a leading ferrochrome producer with eight integrated ferrochrome plants and six processing centers across four states. It operates high-quality chromite mines and follows sustainable practices, producing various grades of ferrochrome with a focus on zero metallic loss and eco-friendly technology. TSML's advanced facilities and efficient smelting processes make it a market leader.

Vedanta (FACOR)

Vedanta's Ferro Alloys Corporation Limited (FACOR) is one of India's significant producers and exporters of ferrochrome, with a capacity of 81.3 ktpa (kilo tonnes per annum) at its Charge Chrome Plant in Bhadrak, Odisha.

FACOR also operates a 100 MW power plant and chromite mines with a 250 ktpa capacity. It achieved a record high-carbon ferrochrome production of 75.3 kt in FY'22, emphasizing quality and ESG (Environmental, Social, Governance) principles.

Indian Metals and Ferro Alloys Limited (IMFA)

IMFA is a prominent ferrochrome producer, benefiting from strong demand in markets like China. IMFA's focus on high-quality ferrochrome and its export-oriented strategy make it a key player.

Balasore Alloys Limited (acquired by Tata Steel)

Balasore Alloys is a major ferrochrome producer with a strong export focus, particularly to China. Its production facilities in Odisha contribute significantly to India's ferrochrome output. The acquisition by Tata Steel has further strengthened its market position, leveraging Tata's integrated supply chain.

Shyam Metalics

Shyam Metalics is one of India's largest ferroalloy manufacturers, producing ferrochrome alongside other alloys like ferro manganese and ferro silicon. It operates through submerged arc furnaces, ensuring cost-efficient, high-quality production. The company serves domestic steel companies and exports to countries like Japan, South Korea, and Thailand.

Additional Notable Producers:

Indiano Chrome Pvt. Ltd. (ICPL): Specializes in low-carbon ferrochrome, with a state-of-the-art facility in Odisha established in 2020. It focuses on high-quality, sustainable production and serves diverse industries globally.

Sharp Ferro Alloys Ltd. (SFAL): Based in Durgapur, West Bengal, SFAL is a promising producer with 25 years of experience, catering to domestic and global markets with a focus on quality and sustainability.

Jai Balaji Industries Ltd.: Known for medium and low-carbon ferrochrome, it is a key supplier in India, particularly for stainless steel production.

VISA Steel: Produces high-carbon ferrochrome meeting international standards, with a focus on stainless steel and special steel applications.

PRICE TREND OF GLOBAL FERRO CHROME MARKET IN THE LAST 6 MONTHS

Month	Ferro-chrome Cr 60%min, C 0.1%max China USD/mt	Ferro-chrome S.A. Cr 50%min, C 8%max USD/mt	Ferro-chrome Cr 60%min, C 0.1%max EU USD/mt	Ferro-chrome Kazakhstan Cr 68%min, C 8.5%max USD/mt	Ferro-chrome India Cr 58% min, C 8%max USD/mt
Nov-24	4034	1940	4387	2161	2116
Dec-24	3924	1918	4189	2161	2094
Jan-25	3902	1830	4145	2161	1962
Feb-25	3924	1874	4079	2161	1962
Mar-25	3924	1874	3990	2161	1962
Apr-25	3924	1874	3990	2161	1962
May-25	3924	1874	3990	2161	1962

Table 1

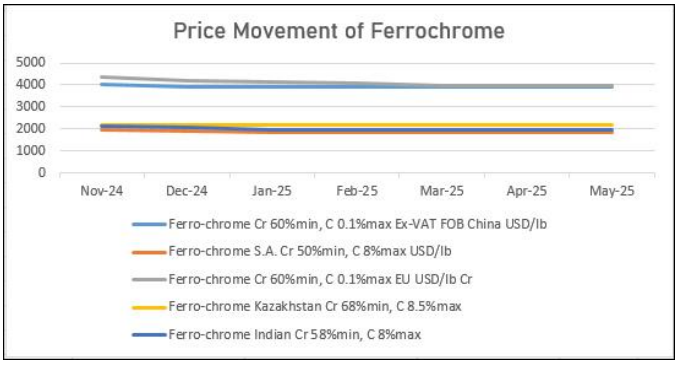


Fig. 3

The above table shows that globally the ferrochrome market has remained flat with some downtrends including that of India where stainless steel industry is witnessing healthy growth. According to the Indian Stainless Steel Development Association (ISSDA), the consumption of stainless steel in India has increased from 4.02 million tonnes (MT) in FY23 to 4.46 MT in FY24, a growth of about 11% over FY23.

Keeping in mind India's internal demand for stainless steel, we see ferrochrome produced in India is slightly higher priced compared to global market. Along with higher raw material cost, Indian power tariff too is pretty high, a key reason for the product's higher price.

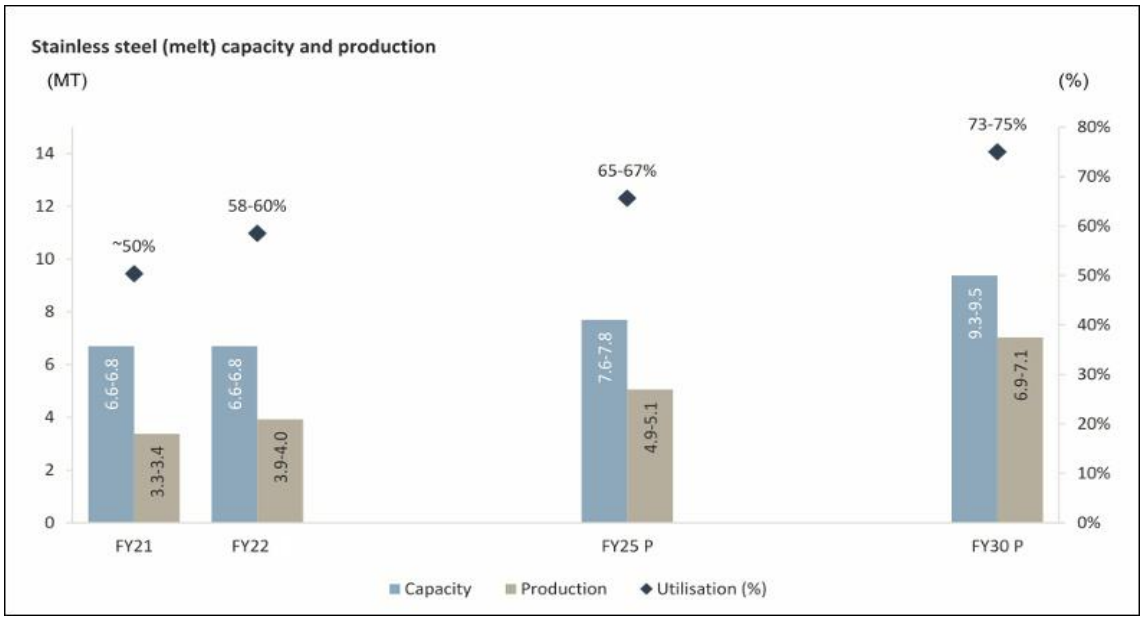


Fig. 4 (Source: JPC, CRISIL & ISSDA)

CONCLUSION

Product	90-day	180-day	360-day
Ferro-chrome - S.A. Cr 50%min, C 8%max CIF China	0.00%	-0.20%	-4.70%
Ferro-chrome - S.A. Cr 50%min, C 8%max In port China	3.28%	5.18%	-1.02%
Ferro-chrome - Cr 52%min, C 8%max EXW China	0.34%	4.39%	-1.70%
Ferro-chrome - Cr 55%min, C 0.1%max EXW China	0.33%	2.74%	-1.04%
Ferro-chrome - Cr 55%min, C 0.25%max EXW China	0.69%	3.34%	-0.40%
Ferro-chrome - Indian Cr 58%min, C 8%max CIF China	0.00%	-1.50%	-5.10%
Ferro-chrome - Indian Cr 58%min, C 8%max In port China	3.24%	5.49%	-1.39%
Ferro-chrome - Cr 60%min, C 0.1%max FOB China	0.00%	-0.10%	-5.37%

Fig. 5

The above figure shows that in the past 90 days the global ferrochrome market has remained flat. In the past one year, as much as 5% decrease in various ferrochrome grades have been observed in India, South Africa and China.

Currently, globally both LC and HC ferrochrome prices are showing going slightly down due to lack of interest shown by the consumers. In India chrome prices are slightly down and the market appears bit sluggish. However we do not expect any major price correction in Indian ferrochrome market as power cost is significantly high in India. While raw material cost is net 48% of ferrochrome production cost, power alone shares 42% and rest merely 10%.

The key issues faced by Indian ferro chrome industry are:

a) High power tariff

b) Increasing cost of chrome ore and reductant.

c) Non-availability of low ash, low phosphorus coking coal in the country for the production of desired coke with low ash,

d) Infrastructural bottlenecks

It is high time the planners and policy makers address these issues in order to make Indian ferrochrome industry globally competitive.



BENTONITE FOR OILFIELDS

Product Application of Bentonite:

- Increases viscosity and reduce fluid loss in water base drilling fluids
- Improve hole-cleaning capability of drilling fluids
- Extracts drill cuttings from the bit
- Stabilizes borehole



Advantage of using Bentonite:

- Cost-effective means of achieving viscosity, fluid-loss control and filter-cake
- Little loss of drilling fluids
- Withstands formation pressure
- Mixes easily and quickly reaches maximum viscosity

RECENT TRENDS AND CHALLENGES

- Price Declines in 2024: In Q3 and Q4 2024, North American bentonite prices dropped significantly (e.g., -20% in the U.S. from the previous quarter), driven by reduced drilling activity, high oil inventories, and oversupply from consistent domestic production in Wyoming.
- Competition and Supply Dynamics: While demand remains strong, competition from lower-priced international sources (e.g., Turkey) and potential adoption of alternative materials could challenge growth.

FUTURE OUTLOOK:

- The demand for bentonite in the oil and gas industry is expected to remain robust through 2030–2034, driven by ongoing exploration, particularly in unconventional resources and offshore fields.
- Technological advancements in drilling and fracking techniques will likely increase reliance on high-quality bentonite to optimize efficiency and safety.
- Emerging economies in Asia-Pacific and infrastructure driven demand in the Middle East will further bolster market growth.

The drilling mud segment is expected to register a revenue CAGR of 6.3% in short term.

ESTIMATED CONSUMPTION

The oil and gas industry globally consumes an estimated 4–6 million metric tons of bentonite annually for drilling fluids, with the U.S. alone accounting for ~1–1.5 million metric tons. Consumption is driven by active rig counts, unconventional drilling (e.g., fracking), and offshore projects.

PROMINENT INDIAN SUPPLIERS:

Ashapura International Limited
CMS Industries
IRIS Impulse India Private Limited
Kutch Minechem Industries
Growmech Industries Private Limited
Gumpro Drilling Fluids Private Limited
Maruti Bentoclay Industries
NND Global
United Mineral Industries

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TECHNICAL SECTION

Specific Consumption of Raw Materials for Production of High Carbon Ferro Chrome (kg/T)

Item	
Chrome Ore Briquette (Cr_2O_3 content: >48%)	2140
Lump Ore	707
Coke	350
Coal	157
Quartzite	116
Bauxite	10
Electrode Paste	20

Specific Consumption of Raw Materials for Production of Low Carbon Ferro Chrome (kg/T)

Item	
Chrome Ore Powder	1350
Ferro silicon chromium	560
Lime	1200
Fluorite (optional)	<50
Electrode Paste	16-18

(Here specific consumption as per electro-silicothermic method is discussed. Specific consumption varies as per process route.)

Composition of Commercial Grades of Ferro Chrome

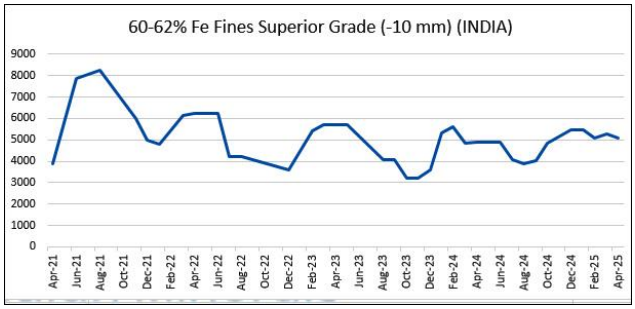
Item	Cr%	Si% (max)	C%	S% (max)	P% (max)
High Carbon Ferro Chrome	50-65	3	4-8	0.03	0.03
Mid Carbon Ferro Chrome	60-70	1.5	1.5-2.5	0.03	0.03
Low Carbon Ferro Chrome	60-70	1.5	0.1-1	0.03	0.03
Micro Carbon Ferro Chrome	60-70	1.0	0.03-0.06	0.03	0.03

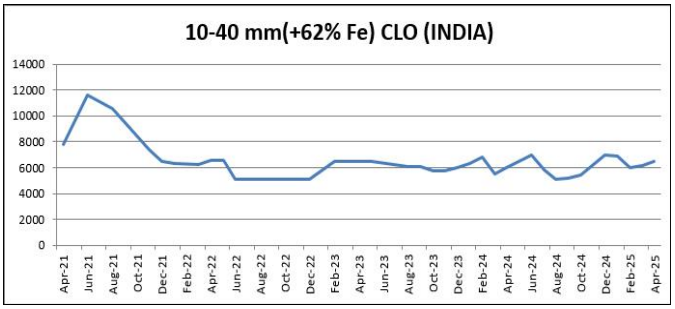
STATISTICS

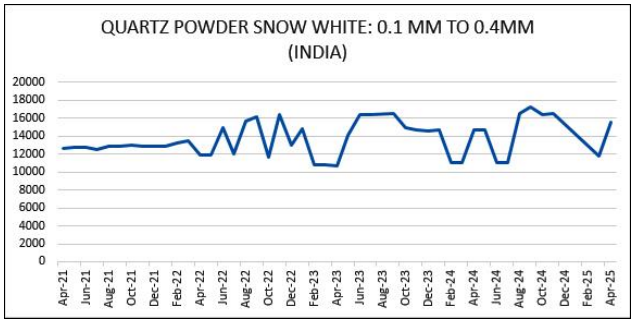
Comparative % Modal Mix for Iron Ore Logistics:

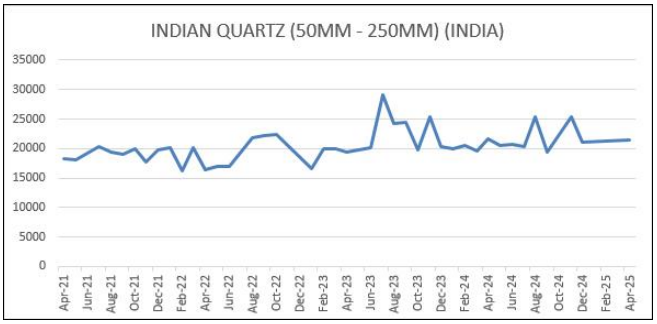
Country	Rail	Road	Coastal Waterways	Slurry
Japan	45	10	40	5
China	55	10	27	8
USA	60	10	25	5
India	72	20	5	3

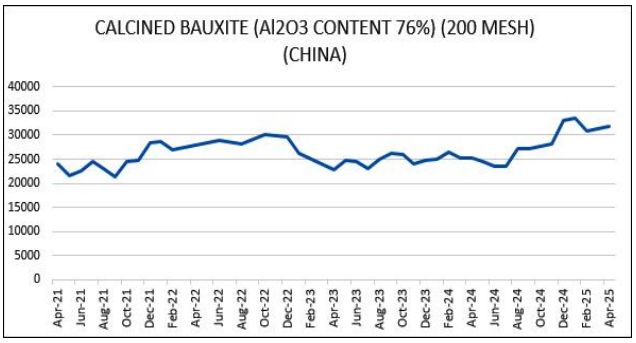
(Source: National Logistic Policy, Ministry of Commerce)

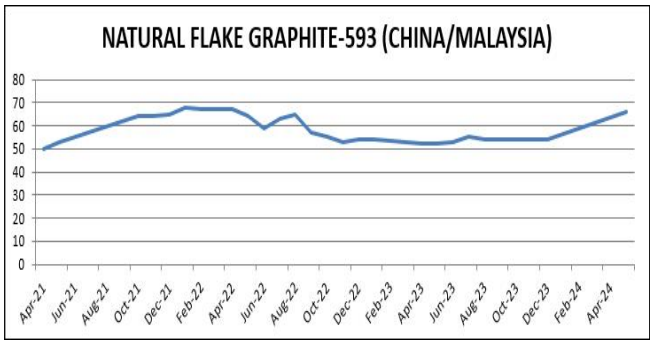


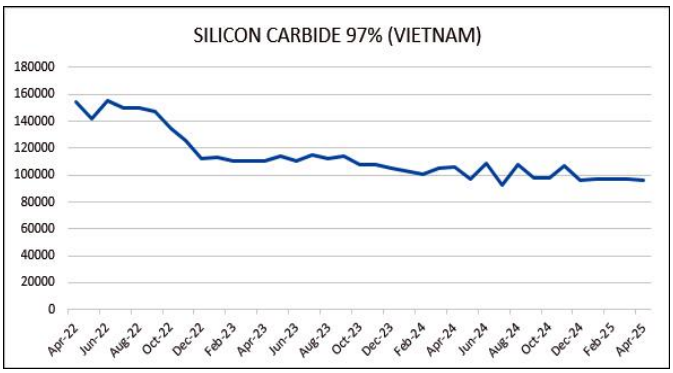




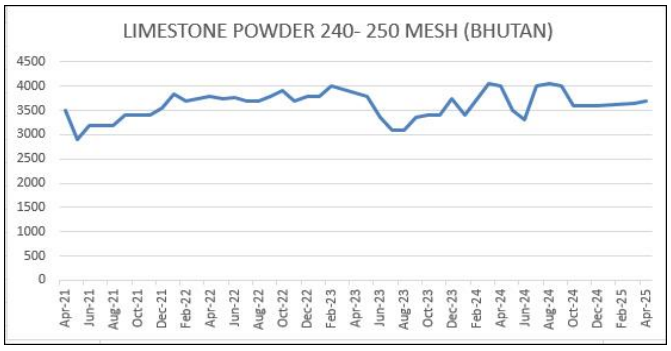


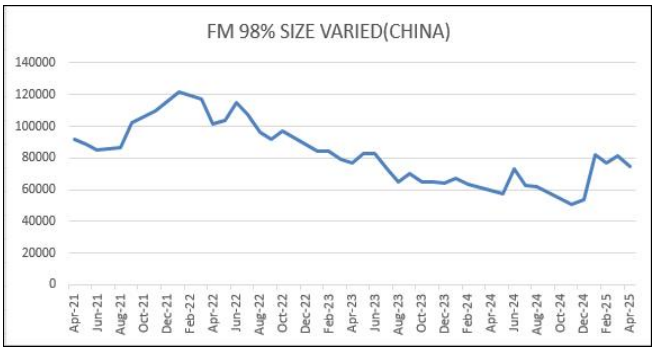












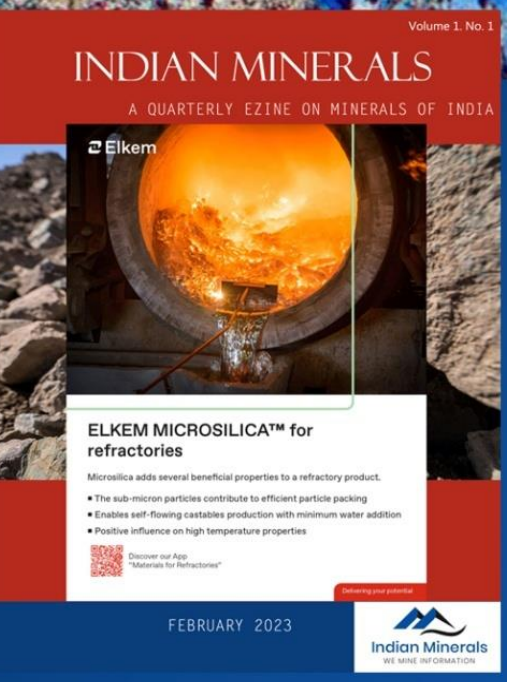
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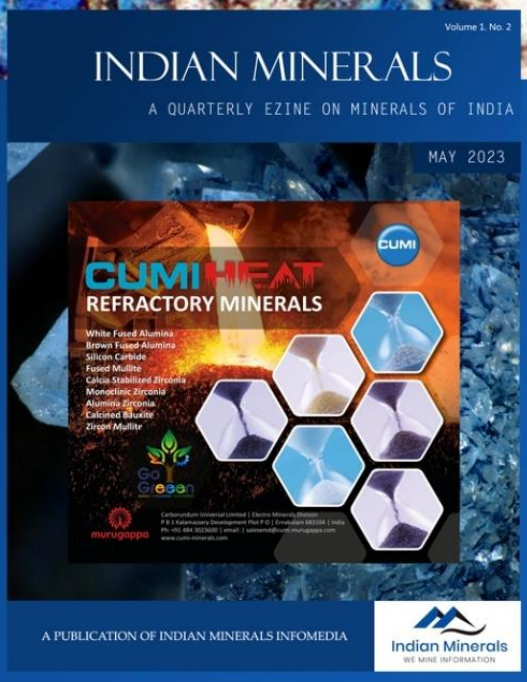
1.the prices of imported raw material are based on "assessable value" as per customs at the landed port
2. Prices of domestic raw materials are based on company notifications, export prices (fob) and market reports
3. Within the same grade, prices may significantly differ as per particle size, impurity content, sudden hike in container tariff etc. Hence an average of prices has been taken where price fluctuation within the same grade has been noticed. Yet differences may still persist.
4. For the above reason, the prices mentioned here are at best indicative ones.

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