Crisil
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Assessment of the granite, quartz and heavy mineral sand industry

Report

Submitted to Midwest Limited

October 2025

by S&P Global

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Contents

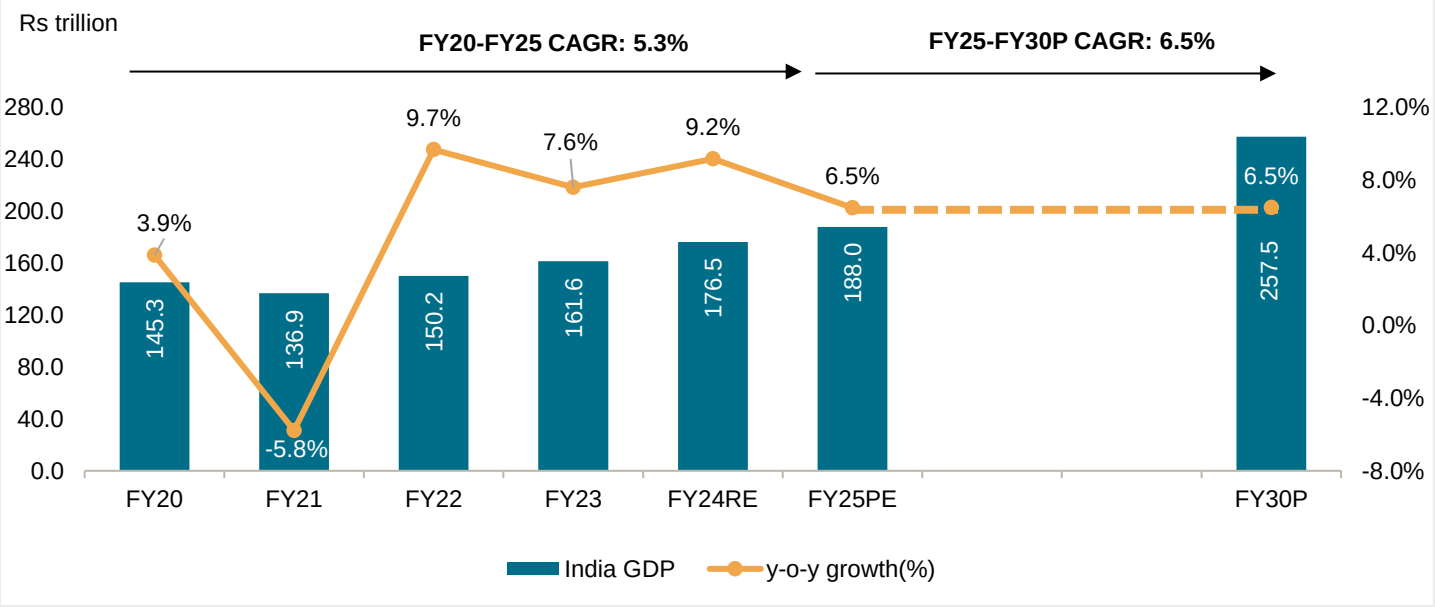
1 Indian macroeconomic overview

1.1 GDP trend and composition by sectors

India's GDP clocked a compound annual growth rate (CAGR) of 5.0% between fiscals 2019 and 2024 to Rs 176.5 trillion,[1] following the change in base year for calculation to fiscal 2012 from fiscal 2005 effected by the Ministry of Statistics and Programme Implementation in 2015.

The pandemic-induced lockdowns led to a 5.8% decline in GDP in fiscal 2021, but the post-pandemic scenario has been positive, starting with a 9.7% on-year growth in fiscal 2022 led by the manufacturing and construction sectors.

India's Real GDP trend (at constant 2011-2012 prices)



For FY24RE: Revised Estimate, FY25PE: Provisional Estimated; FY30P: Projected; FY: Fiscal year

Source: National Statistical Office (NSO), Crisil Intelligence

India's real GDP is estimated to have grown 9.2% on-year in fiscal 2024 compared with 7.6% the previous fiscal. Although there will be support from the demand side on account of a normal monsoon and easing inflation, the second advance estimate has projected growth to slow to 6.5% in fiscal 2025. Manufacturing is projected to experience the sharpest decline, with growth estimates dropping from 12.3% to 4.5%. Other major contributors to GDP, such as trade and hotels, and financial services and real estate, are also likely to grow slower.

On the demand side, investment (gross fixed capital formation) is expected to cool moderately this fiscal (7.1% on-year this fiscal vs 8.8% the previous fiscal). Private consumption is expected to increase. Private consumption expenditure is predicted to grow to 7.2% this fiscal vs 5.6% last fiscal. Government consumption expenditure is expected to grow slower this fiscal by 2.3% on-year compared with 8.1% last fiscal and punch below its weight in overall GDP.

India's net exports are poised to improve significantly compared with the previous fiscal. This optimism stems from a robust export growth forecast of 6.3%, a substantial increase from the 2.2% growth recorded last fiscal. On the other hand, imports are expected to contract in stark contrast to the 13.8% growth seen in the previous fiscal. This divergence

[1] *Statistics from second advance estimates of gross domestic product 2024-25*

in export and import trends is likely to boost India's net exports, thereby supporting the trade balance. The improvement in exports can be attributed to the government's efforts to enhance competitiveness and diversify export markets. Meanwhile, the decline in imports reflects its initiatives to promote domestic production and reduce dependence on foreign goods.

Yearly demand-side real GDP growth

At constant 2011-12 prices	FY19	FY20	FY21	FY22	FY23	FY24RE	FY25PE
Private consumption	7.1%	5.2%	-5.3%	11.7%	7.5%	5.6%	7.2%
Government consumption	6.7%	3.9%	-0.8%	0.0%	4.3%	8.1%	2.3%
Gross fixed capital formation	11.2%	1.1%	-7.1%	17.5%	8.4%	8.8%	7.1%
Exports	11.9%	-3.4%	-7.0%	29.6%	10.3%	2.2%	6.3%
Imports	8.8%	-0.8%	-12.6%	22.1%	8.9%	13.8%	-3.7%

Source: Crisil Intelligence, National Statistical Office (NSO)

For FY24RE: Revised Estimate, FY25PE: Provisional Estimated; FY: Fiscal year

Repo Rate Changes

Effective Date	Repo Rate	Change
04-Apr-19	6.00%	
06-Jun-19	5.75%	-0.25%
07-Aug-19	5.40%	-0.35%
06-Feb-20	5.15%	-0.25%
27-Mar-20	4.40%	-0.75%
22-May-20	4.00%	-0.40%
06-May-22	4.40%	0.40%
08-Jun-22	4.90%	0.50%
05-Aug-22	5.40%	0.50%
30-Sep-22	5.90%	0.50%
07-Dec-22	6.25%	0.35%
08-Feb-23	6.50%	0.25%
07-Feb-25	6.25%	-0.25%

Source: Crisil Intelligence, RBI

India's repo rate adjustments reflect the Reserve Bank of India's strategic and responsive monetary policy management, effectively navigating various economic challenges while promoting sustainable growth. The RBI implemented a series of cuts from 6.00% in April 2019 to 5.15% by February 2020, demonstrating foresight in addressing pre-pandemic economic deceleration. When COVID-19 struck, the central bank responded decisively with historic reductions, slashing rates to 4.40% in March 2020 and further to 4.00% by May 2020, injecting crucial liquidity of into the system. This emergency intervention successfully stabilized markets and protected economic fundamentals during unprecedented uncertainty. As India achieved remarkable post-pandemic recovery with an 7.0% expansion in FY23—the RBI skillfully shifted to inflation management with measured rate increases between May 2022 and February 2023, reaching 6.50%. Throughout this

tightening cycle, India maintained robust growth while effectively bringing inflation within target range. The February 2025 cut to 6.25% represents a balanced pivot toward supporting investment and consumption, particularly benefiting sectors like housing and manufacturing, while maintaining price stability. This sophisticated rate management has been instrumental in India's economic resilience and continued growth trajectory despite global volatility.

GVA trend

On-year supply-side gross value added by economic activity

At basic 2011-12 price	FY19	FY20	FY21	FY22	FY23	FY24P	FY25E
Agriculture and allied	2.1%	6.2%	4.0%	4.6%	6.3%	2.7%	4.6%
Mining and quarrying	-0.8%	-3.0%	-8.2%	6.3%	3.4%	3.2%	2.8%
Manufacturing	5.4%	-3.0%	3.1%	10.0%	-1.7%	12.3%	4.3%
Utilities*	7.9%	2.3%	-4.2%	10.3%	10.8%	8.6%	6.0%
Construction	6.5%	1.6%	-4.6%	19.9%	9.1%	10.4%	8.6%
Services^	7.2%	6.4%	-8.4%	9.2%	10.3%	9.0%	7.3%

**Utilities include, electricity, gas, water supply and other utilities*

^Services include those related to trade, hotels, transport, communication, broadcasting, finance, real estate, public administration, defence, and professional and other services

Source: Crisil Intelligence, CSO

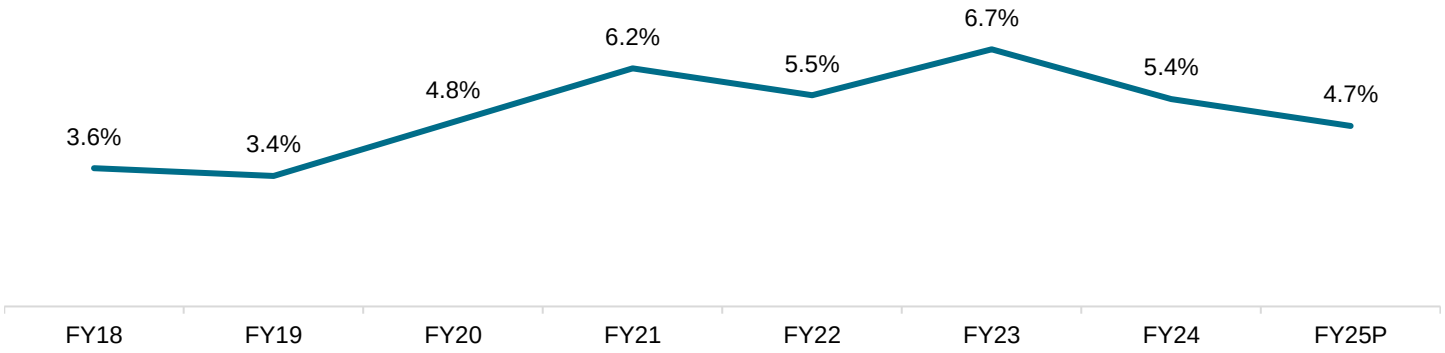
The primary sector, comprising agriculture and mining, shows moderate but stable growth, averaging 3-4%, with notable resilience during the pandemic period. The secondary sector, encompassing manufacturing, utilities and construction, demonstrates high volatility, swinging from a contraction of -1.3% in fiscal 2020 to a robust 12.7% growth in fiscal 2022, driven primarily by the post-pandemic manufacturing recovery and construction boom. The tertiary sector, dominated by services, has performed the most consistently, maintaining growth rates between 6-10% throughout the period, except for the pandemic-induced contraction in fiscal 2021.

As per the latest data, the growth rates for fiscal 2024 are 5.9% for the primary sector, 11.4% for the secondary sector, and 9.0% for the tertiary sector. The estimated growth rates for fiscal 2025 are 4.4% for the primary sector, 5.8% for the secondary sector, and 7.3% for the tertiary sector. This trend underscores India’s evolving economic structure, with the services sector maintaining its role as the primary growth driver. The construction sector, in particular, has shown significant growth, with a rate of 10.4% in fiscal 2024 and an estimated 8.6% in fiscal 2025, driven by government initiatives and infrastructure development. The manufacturing sector has also shown a strong recovery, with a growth rate of 12.3% in fiscal 2024 and an estimated 4.3% in fiscal 2025. Overall, the Indian economy is expected to maintain a balanced growth trajectory, with all sectors contributing to the country's economic expansion.

1.2 Performance of key macroeconomic indicators

Consumer Price Index inflation trend

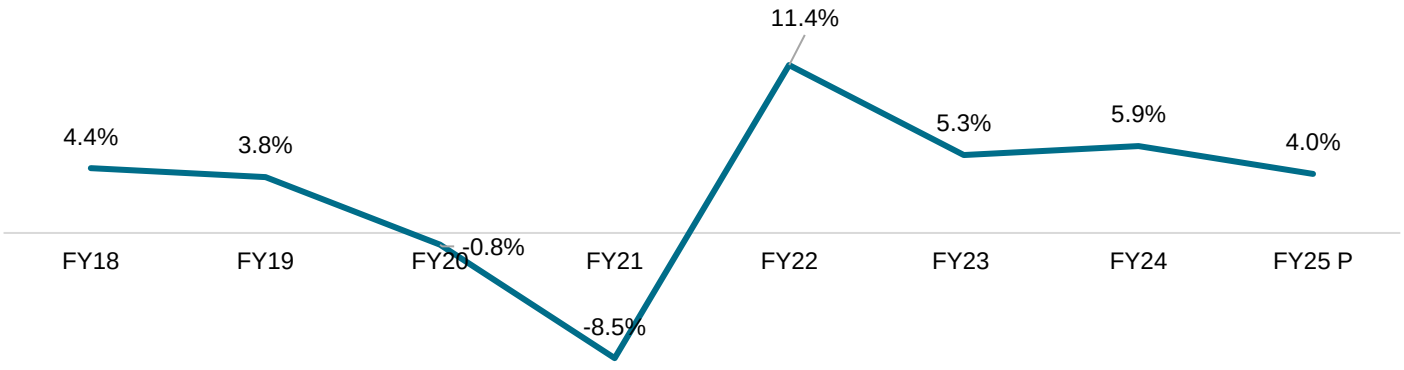
India’s average Consumer Price Index (CPI) inflation rate remained ~4.70% between fiscals 2018 and 2022. However, in fiscal 2023, it increased to 6.70%, mainly led by surging food prices before moderating slightly to an average of 5.4% in fiscal 2024. Although core and fuel inflation numbers have remained low, the food inflation has been keeping CPI inflation above the Reserve Bank of India’s medium-level target rate of 4%. For instance, according to the CPI figures for March 2024, food inflation stood at 8.5%, primarily due to strong accelerations in inflation in foodgrains, meat and fish and slower pace of deflation in edible oils during the month.



Source: National Statistical Office (NSO), Ministry of Industry and Commerce, Crisil Intelligence
P: Projected

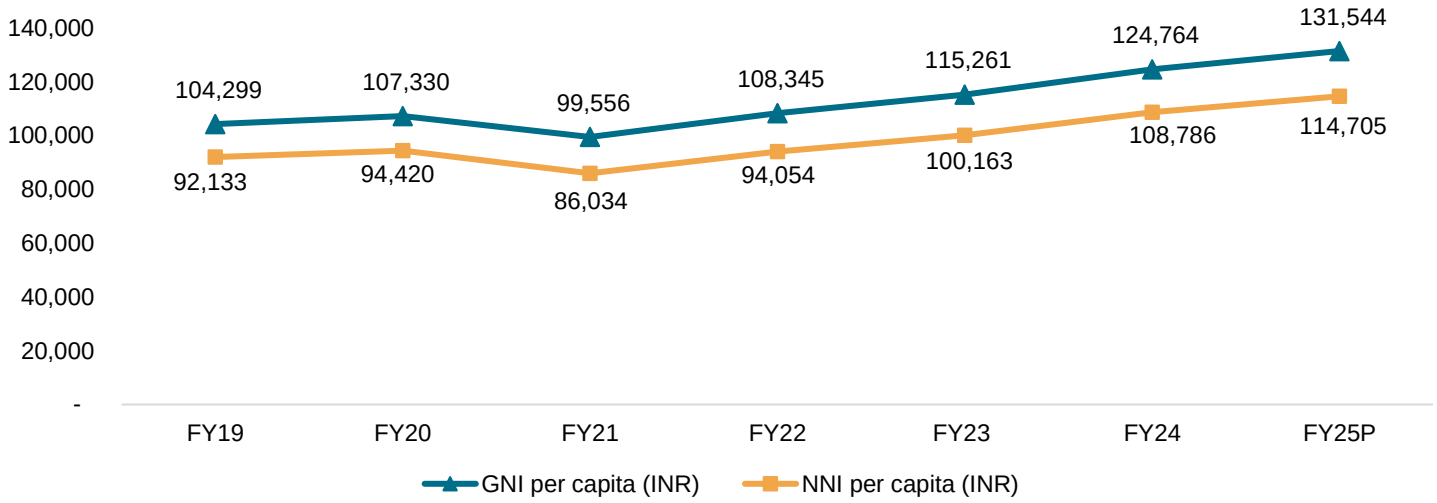
Index of Industrial Production growth trend

India’s Index of Industrial Production (IIP) had a moderate 3.8% growth in FY19, IIP contracted by 0.8% in FY20 and sharply declined by 8.5% in FY21 due to the pandemic. However, a strong recovery was seen in FY22 with 11.4% growth. The growth rate moderated to 5.3% in FY23 and improved to 5.9% in FY24. The uptick in the index was mainly led by strong pick-up in the manufacturing of electrical equipment and basic metals. Further, an uptick in consumer durables sector aided the IIP growth.



Source: NSO, Ministry of Industry and Commerce, Crisil Intelligence
P: Projected

Per capita GDP and income growth trend



Source: NSO, Ministry of Industry and Commerce, Ministry of Statistics and Programme Implementation, Crisil Intelligence

**: Provisional estimates by NSO*

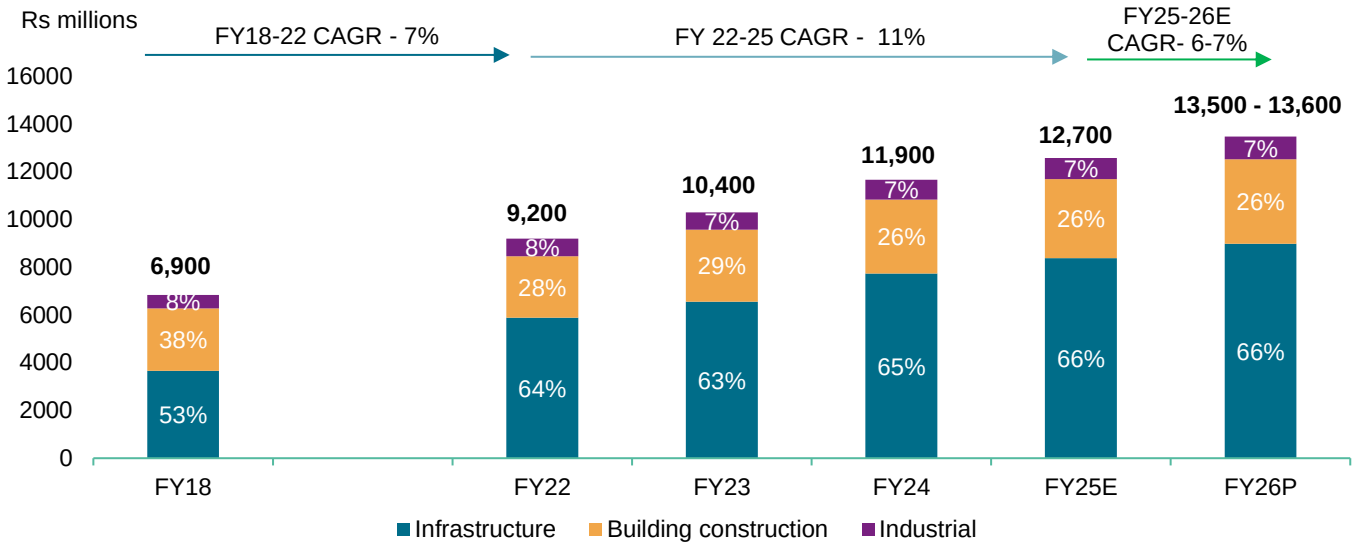
A country's gross national income (GNI) is derived at by adding receipts from overseas to the GDP and subtracting the payments made overseas in the form of wages, salaries and property income. Net national income (NNI) is obtained by subtracting asset depreciation from GNI. The growth trend in both GNI per capita and NNI per capita has largely been positive except for fiscal 2021, when they declined 7% and 9%, respectively on-year. The decline was primarily due to dip in GDP during the fiscal. However, in fiscal 2022, GNI per capita and NNI per capita grew ~9% each on-year, owing to recovery of demand, labour market and consumer sentiments. The growth largely remained rangebound with both the indicators increasing 6-9% on-year in fiscals 2023, 2024 and 2025, on account of economic stabilisation and a positive growth outlook.

1.3 Construction investment outlook in key infrastructure segments

The construction sector is projected to grow at 6-8% CAGR between fiscals 2026 to 2030, with a major contribution from the infrastructure segment, coupled with the increasing pace of progress of schemes such as the National Infrastructure Pipeline (NIP), the National Monetisation Pipeline (NMP) and PM Gati shakti initiatives.

Construction capex is estimated to have risen 13% on-year to Rs 12,000 million in fiscal 2024 led by a visible increase in central and state budget allocations to meet the infra development target outlined in the NIP.

Construction investment review and outlook



Source: CRISIL Intelligence

The overall investment is expected to increase 6-7% to Rs 13,500- 13,600 million in fiscal 2026 compared with the levels over fiscal 2025. The share of infrastructure projects is expected to increase to 66% over the next five years from ~53% in fiscal 2018, as investments in infrastructure are expected to grow faster than that in other segments due to the government's focus on the NIP, NMP and the PM Gati shakti initiatives. The central government's focus on roads, urban infrastructure and railways will also boost infrastructure investments.

Construction investments are projected to grow at a 6-8% CAGR over fiscals 2026 to 2030, led by the infrastructure segment over the medium to long term as the building construction and industrial sectors record sedate growth rates.

Roads and railways dominated by public funds will lead growth in the infrastructure segment. The key infrastructure sub-sectors will see healthy growth over the medium term, led by the government’s infrastructure push and the NIP.

Key infrastructure sub-sectors

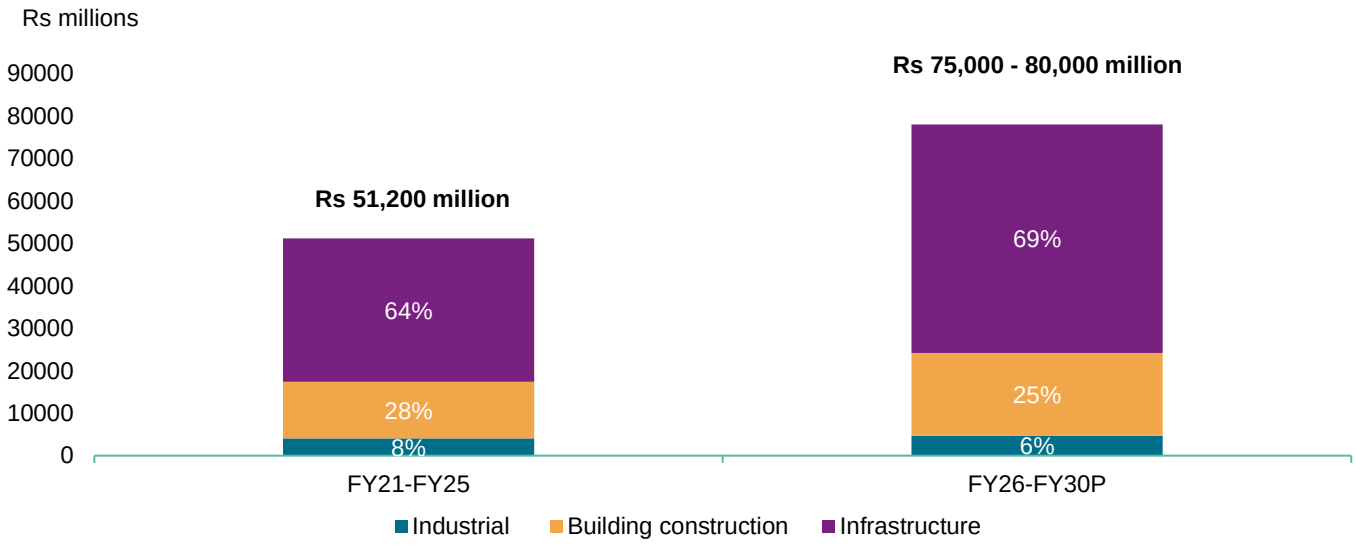
	Sector	FY21-FY25 CAGR	FY25E Rs lakh crore	FY26P % y-o-y	FY26-30P/ FY21-25	Estimated source of funds (FY25E-30P)
	Roads	13%	4.1	5-7%	1.8x	70% 21% 9% / 60% 21% 19%
	Power	17%	0.5	13-15%	1.4x	35% 24% 41% / 18% 29% 53%
	Railways	14%	1.2	0-2%	1.3x	97% 3% / ~1% / 96%
	Urban infra	30%	1.4	4-6%	1.6x	43% 53% 4% / 41% 53% 8%
	Irrigation	6%	0.9	8-10%	1.3x	10% 50% 40% / 18% 47% 35%
	Other infra	16%	0.4	6-8%	1.0x	Center Center / State State / Private Private / FY25E FY26-30P
	Total Infrastructure	**15%**	**8.5**	**6-8%**	1.6x	

Source: CRISIL MI&A Research

Construction investments are projected to rise ~52% over fiscals 2026-30 compared with those over fiscals 2021-25 with investments in infrastructure expected to rise 1.6 times and building construction and industrial segments lagging at 40% and 30%, respectively, over the same period.

Investments in building construction are expected to grow 4-6% in fiscal 2025 mainly led by urban affordable housing, which currently constitutes ~25% of the incremental urban addition and is expected to slowdown in the coming fiscals as the government approaches its targets.

Construction spending (at current prices)



Note: P: Projected

Source: CRISIL MI&A Research

Investments in the sector are expected to rise to Rs 75,000-80,00 million over fiscals 2026-30 from Rs 51,200 million over fiscals 2021-25.

Key budget'2025 & 2026 announcements for construction and infrastructure segments

A record Rs 11.21 trillion has been allocated for infrastructure in union budget 2026, representing 3.1% of GDP and signalling the Government's commitment to long term development across vital sectors including urban development, transport, and power.

Announcements for Building & Urban Development

1. **SWAMIH Fund-2:** INR 150 billion allocated to fast-track the completion of 100,000 dwelling units through blended finance.
2. **National Framework for GCCs**: A national framework will be developed to guide states in promoting Global Capability Centers in emerging tier-2 cities. It will include 16 measures aimed at enhancing talent availability, infrastructure, building by law reforms, and fostering industry collaboration.
3. **National Centers of Excellence for Skilling**: Five National Centers of Excellence for skill development will be established with global expertise and partnerships, equipping the youth with the necessary skills for 'Make for India, Make for the World' manufacturing.

4. **Expansion of Capacity in IIT**: Infrastructure will be expanded in the five IITs established after 2014, adding capacity for 6,500 additional students.
5. **Urban Challenge Fund**: INR 1 trillion will be allocated to implement proposals for 'Cities as Growth Hubs,' 'Creative Redevelopment of Cities,' and 'Water & Sanitation.'
6. **Tourism for Employment-Led Growth:** The government will focus on developing the top 50 tourist destinations in partnership with states. Hotels in these destinations will be added to the Harmonized Infrastructure List. Performance-linked incentives for states will promote employment-led growth, alongside improved ease of travel and connectivity to these destinations. The budget allocated Rs 25.41 billion for infrastructure upgrades, skilling programs, and travel facilitation.

Impact on the Building & Construction Sector

The Union Budget emphasizes urban renewal and affordable housing, catalysing large-scale redevelopment in metro and Tier-2 cities. The Urban Challenge Fund will foster integrated residential, commercial, and transit-oriented development. Simultaneously, SWAMIH Fund-2 will accelerate the completion of stalled mid-income and affordable housing projects, reigniting developer interest and reducing the residential real estate backlog.

The expansion of IITs and the establishment of new skill centers will drive demand for institutional buildings, research facilities, and student housing, transforming nearby areas into construction hubs.

Additionally, the inclusion of hotels in the top 50 tourist destinations under the Harmonized Infrastructure List will allow hospitality developers to secure long-term financing at lower interest rates. With the government’s increased focus on tourism, hotel construction, especially in heritage cities, tourist hotspots, and medical tourism destinations, will rise.

The Union Budget 2025's focus on urban renewal, affordable housing, and infrastructure development will significantly benefit the welding industry, as these projects will drive demand for welded components in construction. The large-scale redevelopment in metro and Tier-2 cities, fueled by the Urban Challenge Fund and SWAMIH Fund-2, will require extensive use of welding for the fabrication of steel structures, frames, and reinforcement in residential, commercial, and transit-oriented developments. Additionally, the growth in institutional buildings, research facilities, and student housing from IIT expansions will also create increased demand for welding services in structural steel and piping. The tourism sector’s development, especially in heritage cities and medical tourism destinations, will spur hotel construction, further boosting the need for welded infrastructure components in these projects.

Announcements for the Infrastructure Sector

1. **Support to States for Infrastructure:** The government will provide INR 1.5 Lakh Crore in 50-year interest-free loans to states for capital expenditure. States will also receive incentives for implementing reforms.
2. **Public-Private Partnership in Infrastructure**: Infrastructure ministries will develop a 3-year pipeline of Public-Private Partnership (PPP) projects. States are encouraged to follow suit and can seek support from the India Infrastructure Project Development Fund (IPDF).
3. **Jal Jeevan Mission (JJM):** The JJM initiative will be extended until 2028 to ensure 100% coverage of clean drinking water across the country. It will receive a significantly enhanced outlay to accelerate its implementation.
4. **UDAN Scheme:** Building on the success of the UDAN scheme, which has connected 88 airports and launched 619 operational routes, the government will introduce an upgraded version. This will add 120 new destinations and serve 40 million passengers over the next decade.
5. **Infrastructure Development in Bihar:** The government plans to develop greenfield airports and provide financial support for the Western Koshi Canal ERM Projects to address Bihar’s future infrastructure needs.

6. **Bilateral Investment Treaties (BITs):** Following the Interim Budget 2024, India signed BITs with two countries to boost foreign investment. To further these efforts, the government will revamp the BIT framework, making it more investor-friendly to align with the 'First Develop India' vision.
7. **Asset Monetization Plan 2025-30**: Building on the success of the 2021 Asset Monetization Plan, the government will launch a new INR 10 Lakh Crore asset monetization plan for 2025-30. Regulatory and fiscal measures will be refined to maximize capital reinvestment into new infrastructure projects.

Impact on the Building & Construction Sector

- One of the major highlights of this budget is the allocation of INR 1.5 Lakh Crore in interest-free loans to states, aimed at stimulating infrastructure projects regionally. This funding will support a wide range of initiatives, including highways, metro systems, airports, and water supply infrastructure. By providing states with greater financial flexibility, the government is decentralizing infrastructure development, ensuring that growth reaches not just metro cities but also emerging industrial and urban centers.
- The development of a 3-year pipeline of PPP projects will encourage private sector participation in large-scale infrastructure initiatives, making these projects more viable by leveraging both public and private sector resources. Additionally, the government's INR 10 Lakh Crore Asset Monetization Plan for 2025-30 will unlock funds from existing infrastructure assets, enabling the construction of new expressways, smart logistics zones, and urban transit corridors.
- The Jal Jeevan Mission's extension until 2028, with an increased outlay of INR 67,000 Crore, will significantly drive construction activity, particularly in water supply projects across rural and urban areas, contributing to a large-scale uplift in infrastructure.
- The revamped UDAN scheme will enhance regional air connectivity, prompting the construction of new airport terminals and aviation infrastructure. This, in turn, will stimulate real estate development and commercial activity around airport zones. Moreover, greenfield airport projects, like those planned for Bihar, will create multi-modal transport hubs and catalyze surrounding real estate and commercial developments.

Overall, these initiatives are set to transform the infrastructure landscape by improving regional connectivity, enhancing public-private collaborations, and driving growth in key sectors such as water, housing, transportation, and tourism.

The Union Budget's infrastructure initiatives and the associated financial allocations will significantly impact the welding industry, directly and indirectly, in several ways:

1. **Increased Demand for Infrastructure Projects**

   Roads, Airports, Metro Systems: With substantial funds allocated to highways, metro systems, and airport development (such as in the UDAN scheme and Bihar's greenfield airports), there will be a surge in demand for welding services used in the construction of steel structures, pipelines, and other critical components. The welding industry will see growth in demand for its services and products, including structural welding, pipeline welding, and fabrication for construction.

   Water Supply Projects (Jal Jeevan Mission): The extension and funding of the Jal Jeevan Mission for rural and urban water supply projects will drive the need for welding in the fabrication of water pipes, water treatment plants, and other infrastructure, supporting the industry's growth.

2. **Public-Private Partnerships (PPP) and Private Sector Involvement:** The development of a 3-year pipeline of Public-Private Partnership (PPP) projects, including large-scale infrastructure initiatives, will increase the need for welding materials and services in public and private construction projects. These partnerships, combining the resources of both sectors, will open new avenues for welding contractors and fabricators to get involved in large-scale projects.

3. **Asset Monetization and Smart Infrastructure:** The government's Asset Monetization Plan will unlock existing infrastructure assets for redevelopment and modernization, including the construction of smart cities, expressways, and logistics zones. The welding industry will benefit from the demand for welding-related services in the construction of new roads, bridges, and transportation hubs. Smart infrastructure development will also require advanced welding technologies and materials.
4. **Industrial Growth from Regional Development:** With the allocation of INR 1.5 Lakh Crore in interest-free loans for state infrastructure development, regional growth will be accelerated, including in industrial hubs and urban areas. This will increase the demand for welded structures and products used in factories, warehouses, and industrial facilities. The expansion of industrial zones will create a consistent demand for the welding industry, especially for the manufacturing of steel frames, equipment, and machinery.
5. **Bilateral Investment Treaties (BITs) and Foreign Investments:** The revamping of Bilateral Investment Treaties (BITs) will encourage foreign investments in Indian infrastructure projects. This will lead to the adoption of international standards and technologies, including advanced welding techniques. The influx of global companies in infrastructure development may also provide opportunities for the local welding industry to partner with foreign companies, leading to enhanced technological expertise and growth.
6. **Increased Manufacturing Activity:** The emphasis on skill development and industrial growth (such as the National Centers of Excellence for Skilling) will create a more skilled workforce. This will not only help in the growth of the manufacturing sector, including the fabrication of welded products, but also lead to better quality and efficiency in welding operations, thus enhancing the overall competitiveness of the industry.
7. **Tourism and Hospitality Sector Growth:** The government's focus on tourism infrastructure, including the development of hotels and transport facilities in top tourist destinations, will increase the need for welding in construction activities. Projects related to building and upgrading hotels, resorts, and transportation infrastructure will require significant welding input for steel structures, frames, and piping.
8. **Technological Advancement and AI Integration:** The creation of Centers of Excellence in AI, particularly for the education sector, may indirectly lead to advancements in automated welding technologies, which will benefit the welding industry by improving efficiency, precision, and safety in welding operations. As the industry adapts to AI and automation, it could see a boost in both domestic and international demand for high-quality welded products.

Overall, the initiatives and budget outlays from the Union Budget 2025 will create a ripple effect in the welding industry, generating demand across multiple sectors, enhancing technological advancements, and providing growth opportunities in both infrastructure development and manufacturing.

2 Sectoral overview of Granite

Overview of the natural stone and engineered stone industry

The natural and engineered stone industry encompasses the extraction, processing, and distribution of both naturally occurring stones such as granite, marble, and limestone, as well as man-made materials such as engineered quartz slabs. Natural stones are valued for their unique patterns, durability, and timeless appeal, making them a popular choice for countertops, flooring, and architectural elements. In 2023, the US produced ~2.3 million metric tonne of dimension stone, according to the US Geological Survey (USGS), highlighting the significant scale of natural stone extraction.

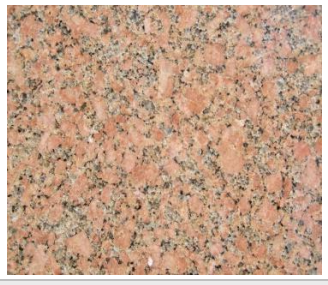
In contrast, engineered stones are manufactured by combining natural stone fragments with resins and pigments, offering durability, uniformity, and a wide range of design options. The Indian Bureau of Mines reported that domestic production of stone products, including both natural and engineered varieties, plays a substantial role in the global stone industry.

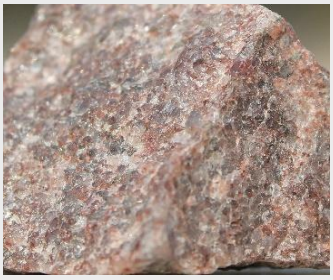
The industry has seen significant growth due to advancements in quarrying and manufacturing technologies, increased consumer preference for sustainable and high-quality materials, and expanding applications in residential, commercial, and infrastructure projects. For example, the adoption of advanced technologies such as diamond wire sawing and computer numerical control (CNC) machinery has improved the precision and efficiency of stone processing.

In recent years, there has been a growing emphasis on sustainable materials and environmentally friendly practices, leading to increased demand for natural stones that are responsibly sourced and have a minimal environmental impact.

Consumers are increasingly seeking certifications such as Leadership in Energy and Environmental Design (LEED) for sustainable construction projects.

The different types of natural stones are given below:

Sr. No.	Type	Picture	Brief description
1	Granite		Granite is the most widespread of igneous rocks, underlying much of the continental crust. An intrusive igneous rock, it is high in quartz (about 25%), feldspar, and mica. It is widely used for architectural facades, construction materials, ornamental stones and monuments. Over 40% of dimension stone quarried is granite.
2	Marble		Appreciated for its beauty and veining, marble is a popular choice for sculptures, building facades, and flooring material

Sr. No.	Type	Picture	Brief description
3	Limestone		Mainly used in construction materials and as a raw material in cement production, limestone is a sedimentary rock rich in calcium carbonate
4	Travertine		Characterised by its porous surface, travertine is commonly used in flooring, wall cladding, and decorative elements
5	Sandstone		With its wide range of colours and workability, sandstone is extensively used in construction, paving, and as a decorative stone
6	Quartzite		Offering high durability and resistance to chemical weathering, quartzite is suitable for countertops, flooring, and wall coverings

Source: Industry, Crisil Intelligence

End-use industries

These stones are used in the following end-use industries:

- **Construction**: Utilised in structural components, cladding, paving and decorative elements for both residential and commercial projects
- **Interior design:** Popular for countertops, flooring, wall panels and decorative pieces due to their aesthetic appeal and variety of finishes
- **Monuments and memorials**: Used for gravestones, statues and memorial structures, with granite and marble being common choices
- **Industrial applications**: Limestone serves as a raw material for cement production, while various stones are used as aggregates in road building

- **Art and sculpture**: Marble and onyx are favoured for sculptures, artistic installations and ornamental objects due to their workability and aesthetic qualities

Overview of granite

Granite, a highly valued natural stone, plays a crucial role in various industries worldwide due to its durability, versatility and aesthetic appeal. The industry encompasses extraction, processing, distribution and utilisation of granite products across diverse sectors. An overview of the industry, including granite types, is provided below:

Types of granite:

Sr. no.	Type		Brief description	Application
1	Coloured granite	White granite, brown granite, blue granite, etc	With its distinct green hue, green granite is popular for its unique appearance and durability	Used in countertops, kitchens, bathrooms, flooring, backsplashes and accent pieces in interior design
2	Black granite		Known for its deep uniform black colour, it is prized for its elegance and versatility	Construction and building: Used extensively for flooring, countertops, wall cladding and decorative purposes in residential and commercial buildings Monuments and memorials: Popular choice for monuments, gravestones and architectural elements due to its durability and aesthetic appeal

Source: Industry, Crisil Intelligence

Out of all the varieties of granite, Black granite is categorised as a premium granite. Replicating the appearance and texture of black granite with synthetic materials is not economically feasible. This is due to the high costs associated with production, the complexity of the manufacturing process, and the challenge of achieving the same durability and aesthetic quality. Additionally, synthetic alternatives often lack the natural variations and unique patterns found in authentic black granite, further reducing their appeal.

Black Galaxy Granite

One of the types of black granite, Black Galaxy Granite, also known as Star Galaxy, Galaxy Granite, and Gold Star Granite.

Picture	Brief description
	1. It is a highly sought-after natural stone that has been quarried in the Chimakurthy village of the Ongole district in Andhra Pradesh, India, for over 35 years 2. It is a unique deposit in the world. Substantiated by the highest tax levied by the government compared to any other Dimensional stone 3. Its exceptional durability and strength have made it a popular choice among architects, designers and builders. Its colour pattern and properties make it highly valuable

Source: Industry, Crisil Intelligence

High demand for Black Galaxy Granite in the export market has resulted in its extensive and intensive quarrying by private entrepreneurs.

This versatile stone can be used in a variety of applications, including:

- **Countertops and vanities:** A popular choice for kitchen and bathroom countertops and vanities due to its durability and resistance to scratches and stains
- **Flooring:** Its elegant and sophisticated appearance makes it an ideal choice for flooring in homes, offices and public spaces
- **Cladding:** Can be used as a cladding material for exterior walls, providing a durable and visually appealing finish
- **Handicrafts:** Its unique veining patterns and colours make it an excellent choice for creating beautiful handicrafts, such as sculptures, tables and decorative objects
- **Swimming pool areas:** Its non-slip properties make it an excellent choice for swimming pool areas, providing a safe and comfortable surface for users
- **Bathroom walls and floors:** A popular choice for bathroom walls and floors due to its resistance to moisture and stains
- **Fireplace walls:** Its elegant appearance and durability make it an excellent choice for fireplace walls, providing a cozy and inviting focal point in any room
- **External and internal aids in construction:** Black Galaxy Granite can be used for various external and internal construction purposes, such as wall cladding, paving and stair treads

Overall, Black Galaxy Granite is a highly valued natural stone that offers a unique combination of durability, beauty and versatility, making it a popular choice for architects, designers and builders around the world.

Value chain of granite

The granite industry operates through a comprehensive value chain, starting from extraction to final utilisation:

1. Extraction	2. Processing	3. Distribution	4. Usage
• Granite blocks are extracted from quarries using various techniques such as drilling, blasting and cutting	• Extracted granite blocks are transported to processing facilities where they are cut, polished and finished into slabs or tiles of different sizes and finishes • Advanced machinery and techniques are used for precision cutting and shaping	• Processed granite products are distributed through various channels, including wholesalers, distributors and retailers, catering to domestic and international markets	• Granite finds extensive use in construction, monuments, landscaping, interior design and industrial applications • It is valued for its durability, aesthetic appeal, and diverse range of colours and patterns

Source: Industry, Crisil Intelligence

Industry characteristics

- **Capital-intensive and requires huge investments:** The granite industry is highly capital-intensive, characterised by long gestation periods and significant entry barriers. Establishing operations in this sector requires substantial upfront investment in mining.
- Further, mechanised mining requires the acquisition and deployment of highly customised and expensive machinery, and technical and skilled personnel with competence in various disciplines such as geology and engineering. It employs complex production methods with significant learning curves. Accordingly, these requirements of the dimensional stone granite mining industry in India offer established players a competitive advantage over new players.
- Moreover, the dimensional stone industry's reliance on natural resources and the complexities of extraction and processing further contribute to its high entry barriers. These factors collectively underscore the challenging, yet lucrative, nature of the granite industry, where strategic planning and substantial financial resources are essential for sustained success.
- **Dependence on price negotiations:** Unlike commodities such as coal, crude oil or iron ore, dimensional stone granite does not have an industry-wide or recognised benchmark index, and pricing is determined through direct negotiations between buyers and sellers.
- **Top producing countries:** The top five granite producing countries are China, Brazil, India, Saudi Arabia and Italy. India possesses one of the best granite deposits in the world, having excellent varieties comprising over 200 shades. India accounts for over 20% of the world resources in granite. It has significant production across states such as Rajasthan, Telangana, Andhra Pradesh, Gujarat, Karnataka, Kerala, Tamil Nadu and Goa.
- **Top consuming countries:** The top granite consuming countries are largely in the Middle East, Asian countries (China, India, Thailand, Indonesia, Malaysia etc.), EU, Australia and the UK, which remain major importers and consumers. China leads the Asia-Pacific region, followed by India and Indonesia.

Quartzite

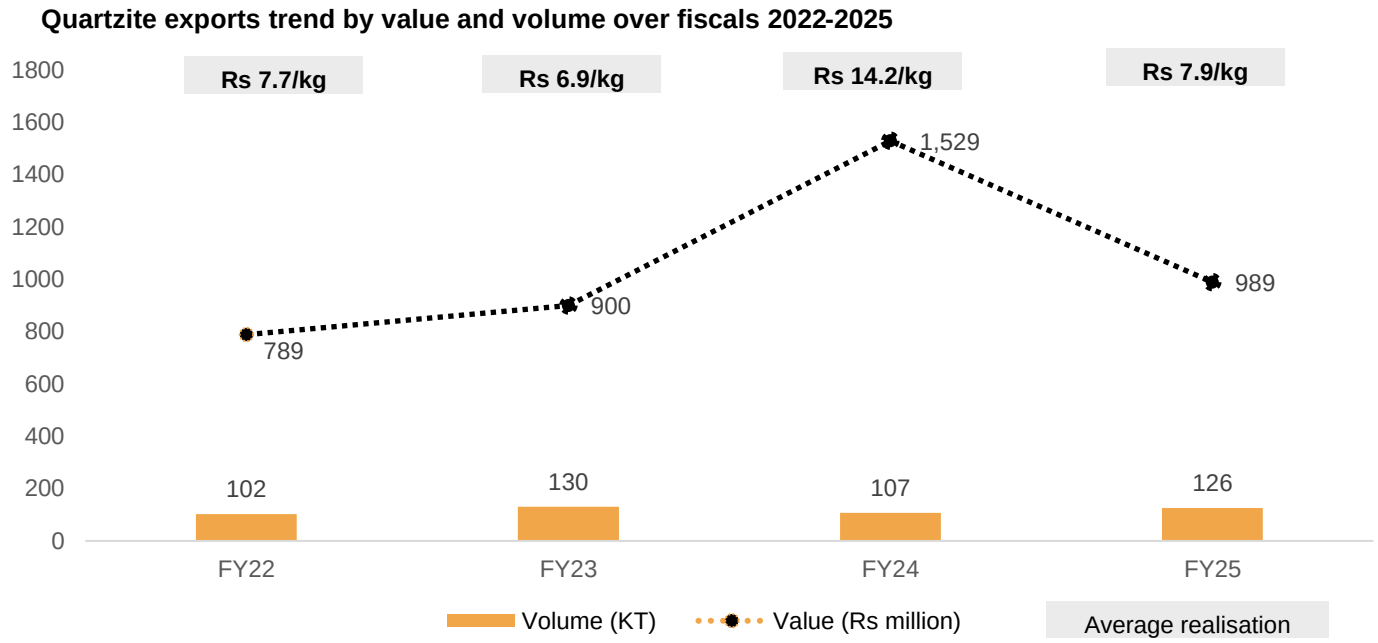
Quartzite is a metamorphic rock that is formed when quartz-rich rocks are subjected to high pressure and temperature. It is considered a high utility product category due to its exceptional durability, aesthetic appeal and versatility in various applications.

It is highly resistant to heat, scratches and stains, making it ideal for kitchen countertops, backsplashes, and flooring where durability is crucial.

Quartzite's natural beauty, with unique patterns and colours, also makes it a popular choice for decorative uses in both residential and commercial settings. Its robust physical properties and aesthetic versatility contribute to quartzite being highly valued in the construction and interior design industries worldwide.

It is emerging as a lower cost alternative to ultra-premium marble varieties as it possesses similar aesthetic attributes while also having certain advantages over marble which is being imported. Quartzite scores 7 out of 10 on the Mohs hardness index while granite scores 6 and marble scores 3, making quartzite ideal for building walls, flooring, roofing tiles, stair steps and countertops in kitchens.

Quartzite exports trend by value and volume over fiscals 2022-2025



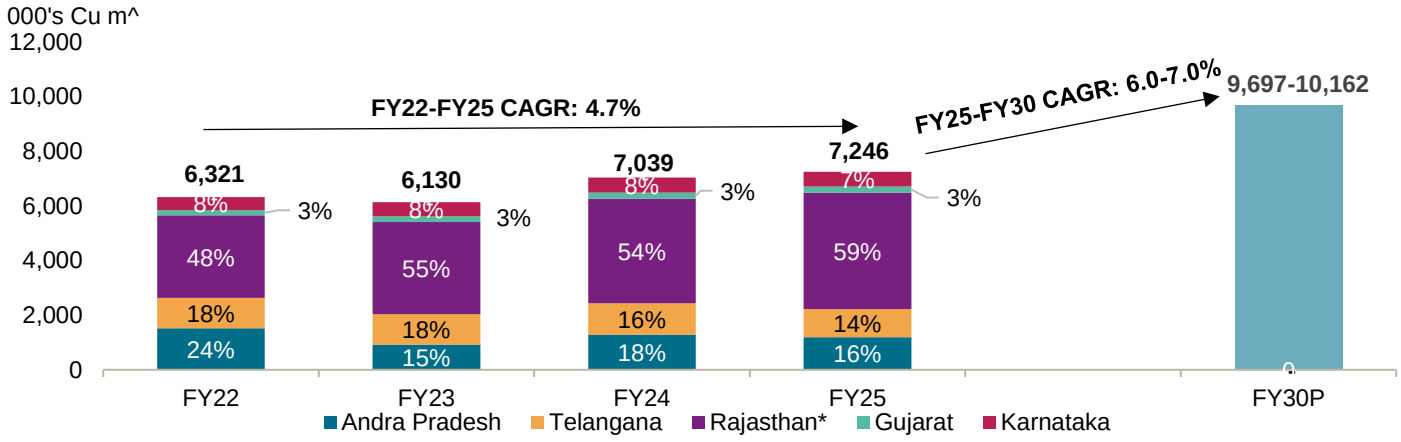
Source: DGFT, Crisil Intelligence

The exports volume of quartzite from India increased from 102 KT in fiscal 2022 to 126 KT in fiscal 2025 whereas the exports value of quartzite increased till fiscal 2024 to Rs 1,529 million but experienced sharp decline in fiscal 2025 owing to weakening global demand. Overall, the registered a CAGR of 7.3% over fiscal 2022-2025.

2.1 Overview of the granite market in India

In India, the granite industry significantly impacts the economies of states such as Tamil Nadu, Andhra Pradesh, Telangana, Karnataka and Rajasthan. While granite is considered costly for decorative purposes domestically, its export potential surpasses its utilisation and trade within the country. As per IBM, the total granite resources in India stood at an estimated 46,320 million cubic metre as on April 1, 2015. In terms of classification by grade, ~7% of total resources consist of black granite, while 92% consist of coloured granite. About 1% of the resources remain unclassified.

Granite production overview (fiscal 2022-2025) and outlook (fiscal 2030)

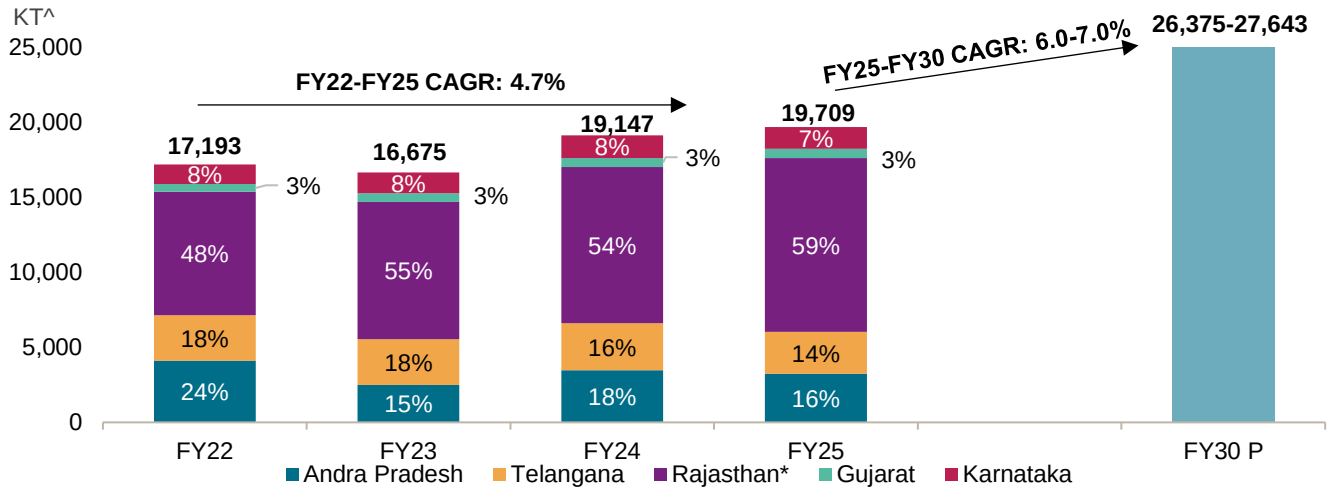


^ *Average density of granite stone= 2.72 metric tonne per cubic meter; *Numbers reflective of dispatches on gross basis*

P: Projected

Source: State DGMs and their websites, Crisil Intelligence

Granite production overview (fiscal 2022-2025) and outlook (fiscal 2030)



^ *Average density of granite stone= 2.72 metric tonne per cubic meter; *Numbers reflective of dispatches on gross basis*

P: Projected

Source: State DGMs and their websites, Crisil Intelligence

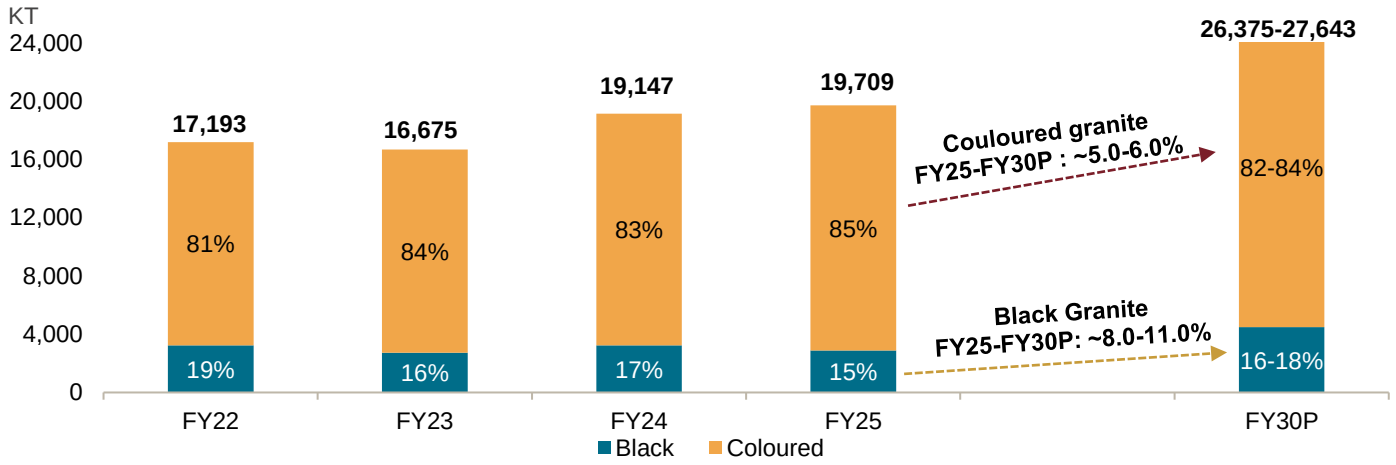
Granite production increased from 17,193 KT in fiscal 2022 to 19,709 KT in fiscal 2025, clocking a CAGR of 4.7%, driven by domestic demand for granite from the building and construction industry.

Rajasthan is the largest producer of granite in India, accounting for 59% (~11,586 KT) of the total granite produced in fiscal 2025. Other significant granite producing states are Andhra Pradesh and Telangana, which accounted for 16% (~3,237 KT) and 14% (~2,801 KT), respectively, of production in fiscal 2025. Rajasthan's share in overall granite production increased from 48% in fiscal 2022 to 59% in fiscal 2025.

The Directorate of Mines and Geology (DMG), Telangana, has constituted a task force to curb illegal quarrying and transportation of minerals. Consequently, demand notices have been issued, and certain lease IDs in the state have been blocked. As a result, some mines of a few producers were not operational for the entire fiscal year 2024-25, which led to reduced production during the period.

Granite production is projected to grow to 26,375-27,643 KT in fiscal 2030, logging a CAGR of 6.0-7.0% between fiscals 2025 and 2030. Production is expected to be driven by increased domestic demand as well as exports of granite.

Black vs coloured granite production overview (fiscal 2022-2025) and outlook (fiscal 2030)



P: Projected

Note: Numbers reflective of dispatches on gross basis

Source: State DGMs and their websites, Crisil Intelligence

Out of the total production of 19,709 KT in fiscal 2025, coloured granite accounted for 85% (~16,832 KT) and black granite for 15% (~2,877 KT).

Midwest's black granite production accounted for 15.7% (~166,297 cubic metre) of overall black granite production during fiscal 2025 in India.

In fiscal 2030, the share for black granite is expected to be ~16-18% (~4,227-4,848 KT) of overall domestic granite production, increasing at a CAGR of ~8-11%, owing to increase in corresponding demand for black galaxy granite from both domestic market as well as exports.

The royalty paid on granite varies by type. For example, in Andhra Pradesh, the royalty charged by the state government on granite for Black Galaxy Granite is Rs 1,550-4,600 per cubic metre; for black granite – Rs 1,150-3,450 per cubic metre; and for coloured granite – Rs 1,100-2,700 per cubic metre. Among all the granite varieties, royalty charged on black galaxy granite is the maximum, establishing its position as a premium material.

To boost productivity in the cutting and polishing industry, the Government of Andhra Pradesh introduced a slab system under G.O. Ms. No.58 dated March 28, 2022. This system levies royalty on granite blocks consumed at processing plants rather than at the quarrying field, with the rate fixed per blade per month. A unit holder can procure up to 22 cubic metres of granite from quarries before extra royalty is charged. These measures aim to streamline the process and reduce costs for granite block players, potentially increasing their profitability and market competitiveness.

According to the Andhra Pradesh's mining and geology department's data, the average sale price for Black Galaxy Granite is Rs 50,000-1,00,000 per cubic metre, black granite is Rs 30,000-75,000 per cubic metre, and coloured granite is Rs 15,000-35,000 per cubic metre. The price range for black granite is wide and varies as per its quality, size, look and appeal. Among all the granite categories available in India, average realisations are the highest for Black Galaxy Granite.

Production of Black Galaxy Granite during Fiscal 2025

Black Galaxy Granite is only produced in Andhra Pradesh region of the country. As per the data received from the state DMG and production numbers reported by Midwest Limited, it is observed that the company has a market share of 20% in overall production of Black Galaxy Granite in the country.

Particulars	Production in Fiscal 2025 (in cubic meters, except % data)
Overall Production for Black Galaxy Granite (A)	590,000^
Midwest Production for Black Galaxy Granite (B)	117,497*
Midwest Limited market share for Black Galaxy Granite ((B/A) *100)	20%
M/s Sri Surya Granites (i.e., second highest producer in Fiscal 2025) Production for Black Galaxy Granite (C)	19,893^
M/s Sri Surya Granites market share for Black Galaxy Granite ((C/A) *100)	3%

^Source: Production data received from Department of Mines and Geology, Andhra Pradesh

**Source: Midwest Ltd.*

Royalty received for black galaxy granite by Department of Mines and Geology, Andhra Pradesh

Particulars	Royalty paid in fiscal 2025 (in INR Million)	% share in Andhra Pradesh State Minerals revenue of Rs. 130.950 Cr
Midwest*	349.3*	26.67%
Sri Surya Granites	75.3	5.75%
Pallava Granites Industries I Pvt Ltd	57.7	4.41%
Krishna Sai Granites	54.0	4.12%
Pearl Mineral & Mines Pvt Ltd	52.8	4.03%
Golden Granite	36.0	2.75%

**Consolidated figure for Andhra Pradesh Granite (Midwest) Private Limited and Midwest Granite Private Limited*

Source: Department of Mines and Geology, Andhra Pradesh, Crisil Intelligence

Midwest leads the industry in royalty payments for Black Galaxy granite and paid the highest between 2020 and 2025, with a notable contribution of Rs 349 million in fiscal 2025, accounting for 26.67% of the total royalty for black galaxy granite.

Dispatches of Black Granite (other than black galaxy granite) during Fiscal 2025

The table below highlights the top 5 players/ lease holders' Absolute Black Granite dispatches data provided by the respective state DMGs. Based on the dispatches data, Midwest Limited tops the list and has contributed the highest share (~132.7 KT), almost 2 times the second largest dispatch quantity (67.1 KT), in overall black granite (excluding black galaxy) dispatches.

Top 5 players/lease holder's Black Granite (other than black galaxy) dispatches data for Fiscal 2025

SN	Lease Holder's Name	State	Dispatches* (in KT)
1	**Midwest Ltd**	Telangana	132.7
2	**Kamepalli Granites and Exports**	Andhra Pradesh	67.1
3	**Sri Vishnu Granites**	Andhra Pradesh	33.6
4	**Brindavan Granites**	Andhra Pradesh	21.2
5	**Andhra Granites**	Andhra Pradesh	19.5

**The details provided above have been reported on a gross block basis*

Source: Black granite (other than black galaxy granite) dispatches data received from respective Department of Mines and Geology's - Andra Pradesh, Telangana and Karnataka

Midwest produces only two types of Black Granite, namely, Black Galaxy and Absolute Black Granite and hence the above quantity (132.7 KT) reflects Midwest's absolute black granite dispatches, establishing it as the largest producers in Absolute Black Granite for fiscal 2025 in India.

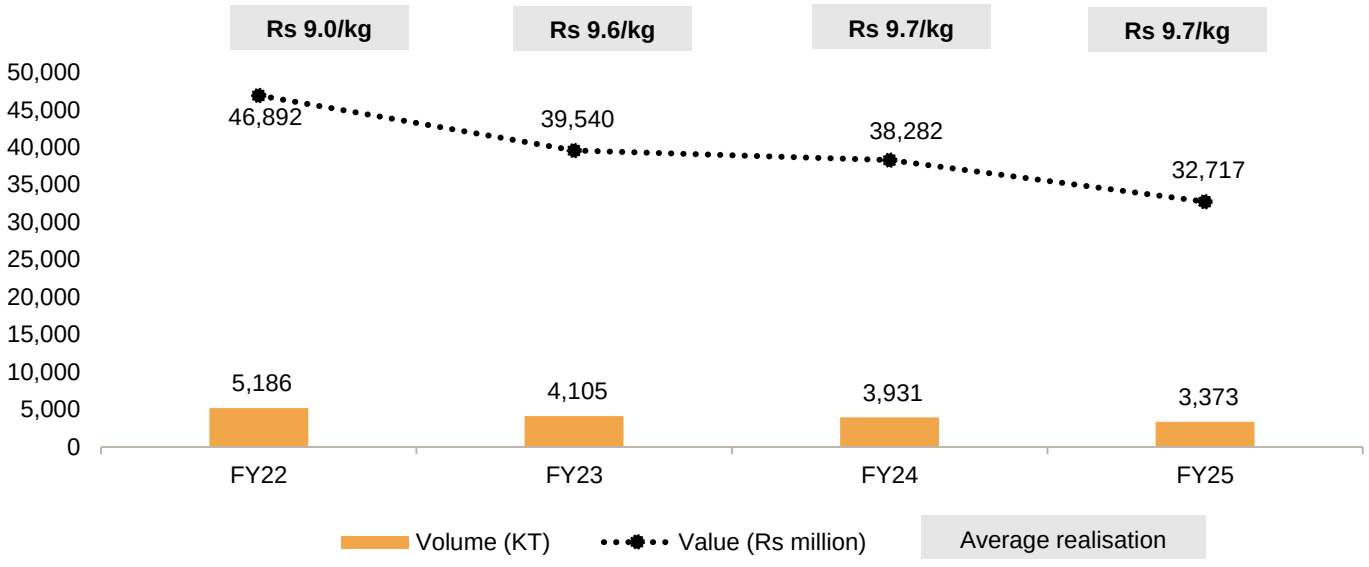
2.2 Trade overview of granite

Export

India's granite exports witnessed a steady decline in both volume and value over the fiscals 2022-2025. Export volumes fell from 5,186 KT in FY22 to 4,105 KT in FY23, marking a 20.8% drop, the downward trend continued into FY25, with volumes slipping to 3,373 KT. Correspondingly, the export value dropped from Rs 46,892 million to Rs 32,717 million in FY25. The downward trend in export are due to increased demand in domestic consumption reasons being attributed to the rising demand in construction sector. Moreover, conversion time is faster for domestic supply.

A significant proportion of raw materials in the granite industry is commonly sent to China for processing before being distributed to the rest of the world. This practice underscores China's pivotal role as a major processing hub within the global granite supply chain. By sending materials to China for processing, companies benefit from the country's extensive infrastructure, expertise and cost-effective manufacturing capabilities. Such strategic approach allows granite producers to ensure high-quality standards and competitive pricing for their products when reaching international markets. This is further supported by pro industry export policies like exports cash back credits and other benefits like power subsidy. Moreover, leveraging China's processing capabilities enables efficient global distribution, facilitating the seamless supply of granite products to meet diverse market demands worldwide.

Granite export trend by value and volume over fiscals 2022 to 2025

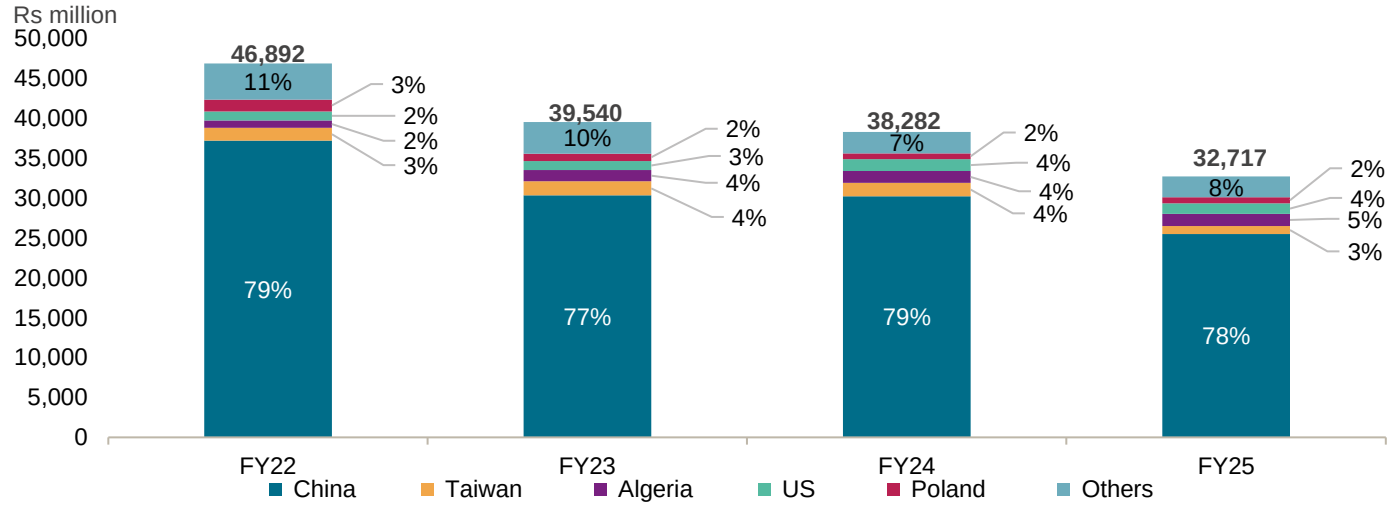


Source: Directorate General of Foreign Trade (DGFT), Crisil Intelligence

As much as 90-93% of India's granite exports head to five countries: China, Taiwan, Algeria, the US and Poland. Among these, China is the largest importer, maintaining a significant share of 77-79% of the total exports over fiscals 2022 to 2025. Despite a decline in the overall value of granite exports during this period, the proportional share of exports to these

countries has remained largely unchanged, indicating while the total export value has decreased, the distribution of exports among the major importing countries has remained stable.

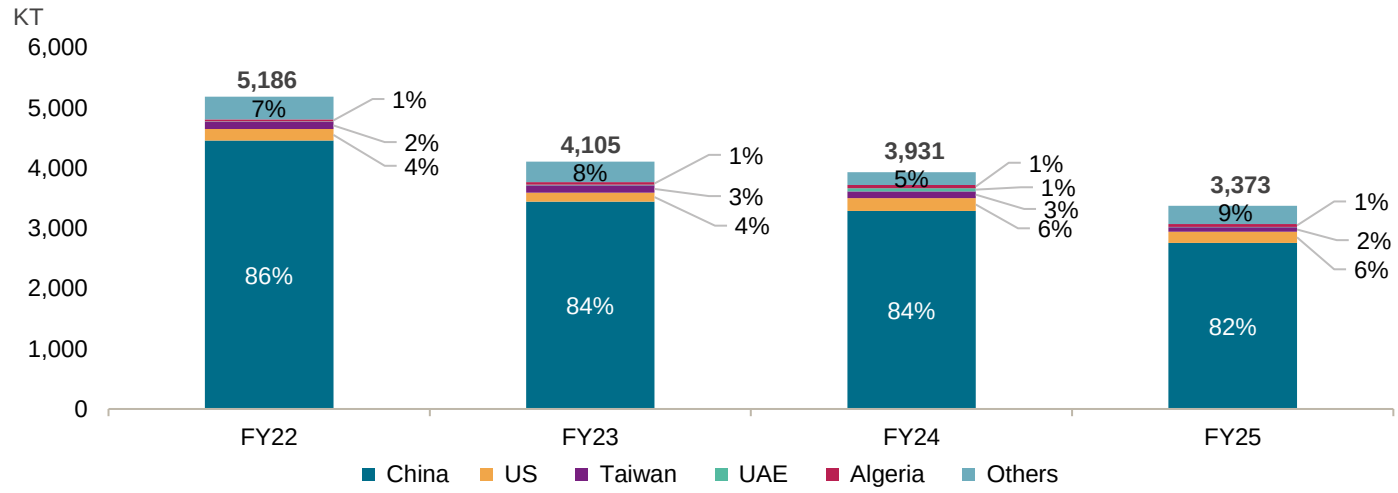
Country-wise granite export value over fiscals 2022 to 2025



Source: DGFT, Crisil Intelligence

China is the largest importer by volume, consistently accounting for 82-86% of India's total granite exports over fiscals 2022 to 2025. However, while China dominates in terms of volume, it contributes a slightly lower percentage to the overall export value, at 77-79%, indicating that although the country imports the largest quantity of granite, the value per unit is lower compared with other importing countries. Despite these differences, the distribution of exports among these primary countries has remained relatively stable over the years.

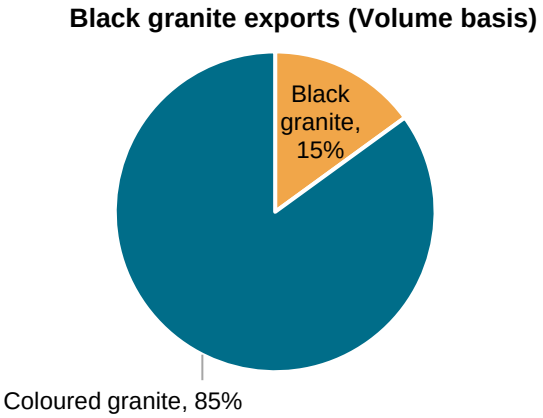
Country-wise granite export volumes over fiscals 2022 to 2025



Source: Directorate General of Foreign Trade (DGFT), Crisil Intelligence

The decline in Indian granite exports can be attributed to increased domestic consumption of granite due to a corresponding increase in the construction activities. Other reasons for a downfall in exports includes higher pricing of granite due to which the domestic sellers are inclined to sell locally.

Exports of black granite for fiscal 2025 (based on volume)



Note: Coloured granite includes the categories of granite other than black granite like- tan-brown granite, red granite etc

Source: Crisil Intelligence

In fiscal 2025, the coloured granite accounted for 85% of the overall granite exports and black granite accounted for 15%.

During fiscal 2024, almost 99.6% (527 KT, on gross block basis) of the black galaxy granite was exported through Krishnapatnam port in Andra Pradesh on account of proximity to mines.

Particular	Exports of Black Galaxy Granite during Fiscal 2025 (in Kilo tons)*
Overall exports of Black Galaxy Granite	529
Exports from Krishnapatnam Port^	527

^ *Source: Krishnapatnam Port's Export Data*

**The details provided above have been reported on a gross block basis*

Top player wise exports data from Krishnapatnam Port (fiscal 2025)

Name of Exporter	Quantity Exported* (in Kilo tons)
Midwest^	340^
Pallava Granite Industries I Pvt Ltd	55
Siri Exports	21
Sri Vijaya Mines	16
Satyanarayana Nalluri	13
Southern Rocks and Minerals Pvt. Ltd.	12
Rasun Exports Pvt. Ltd.	10
Kanniah Exports	9

Pearl Mineral and Mines Pvt Ltd	7

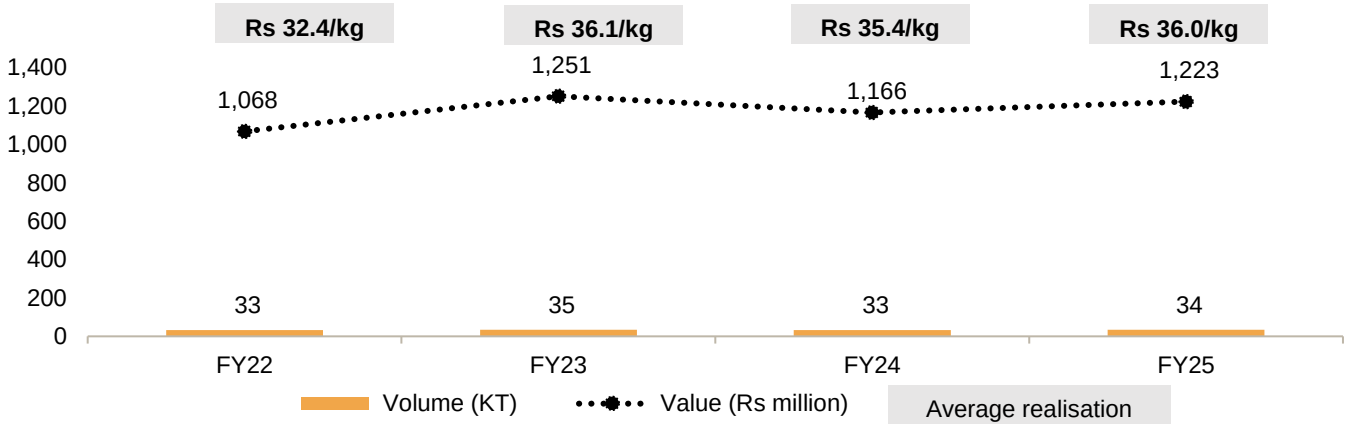
^Consolidated figure for Andhra Pradesh Granite (Midwest) Private Limited and Midwest Granite Private Limited
**The details provided above have been reported on a gross block basis*
Source: Krishnapatnam Port's Export Data

Midwest, is the largest producers and largest exporters of black galaxy granite in India. It accounted for 20% of the production and ~64% of the export of overall black galaxy granite volume during fiscal 2025.

Imports

India's granite imports have shown modest fluctuations in recent years, both in volume and value. In fiscal 2022, India imported 33 KT of granite valued at Rs 1,068 million. While the import volume remained constant in fiscal 2024, the import value fluctuated. In fiscal 2025, the import value again increased to 34 KT with similar increase in export value to Rs 1,223 million, signalling an on-year increase of ~4.67% in volume. This fluctuation in import value despite a consistent import volume suggests potential factors such as changes in market dynamics, fluctuations in exchange rates, or variations in the quality and origin of imported granite impacting the import value over the years.

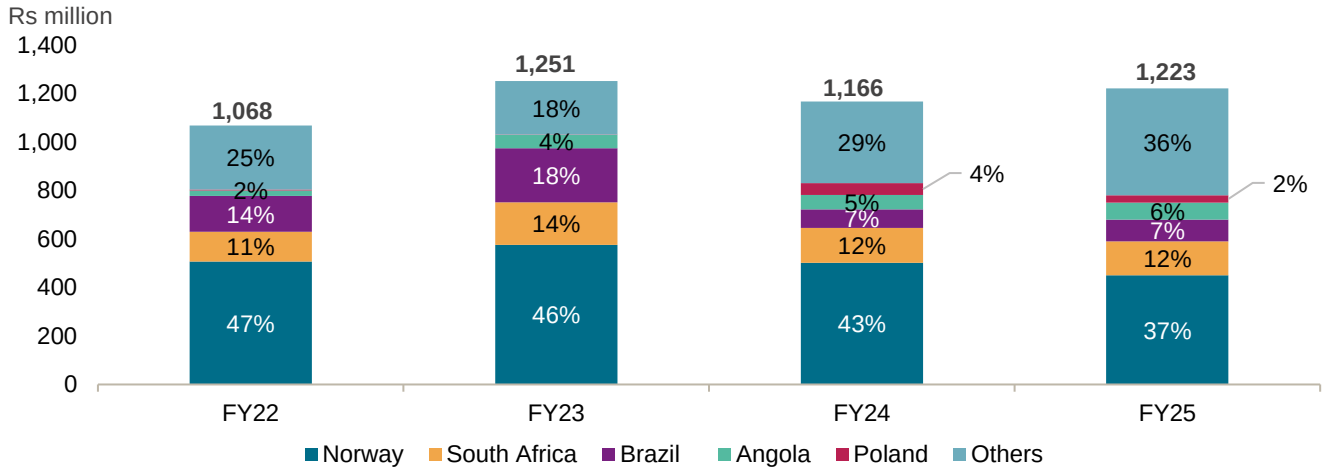
Granite import trend by value and volume over fiscals 2022 to 2025



Source: DGFT, Crisil Intelligence

Some 70-75% of India's total granite imports by volume are sourced from five countries — Norway, South Africa, Brazil, Angola and Poland. Among these, Norway has consistently held the highest share, ranging from 37%to 47% between fiscals 2022 and 2025. Notably, Brazil's share experienced significant fluctuations, increasing from 14% in fiscal 2022 to 18% in fiscal 2023 before sharply decreasing to 7% in fiscal 2025. This variability suggests variations in India's sourcing patterns, potentially influenced by factors such as changes in supplier relationships, market conditions or regulatory environments.

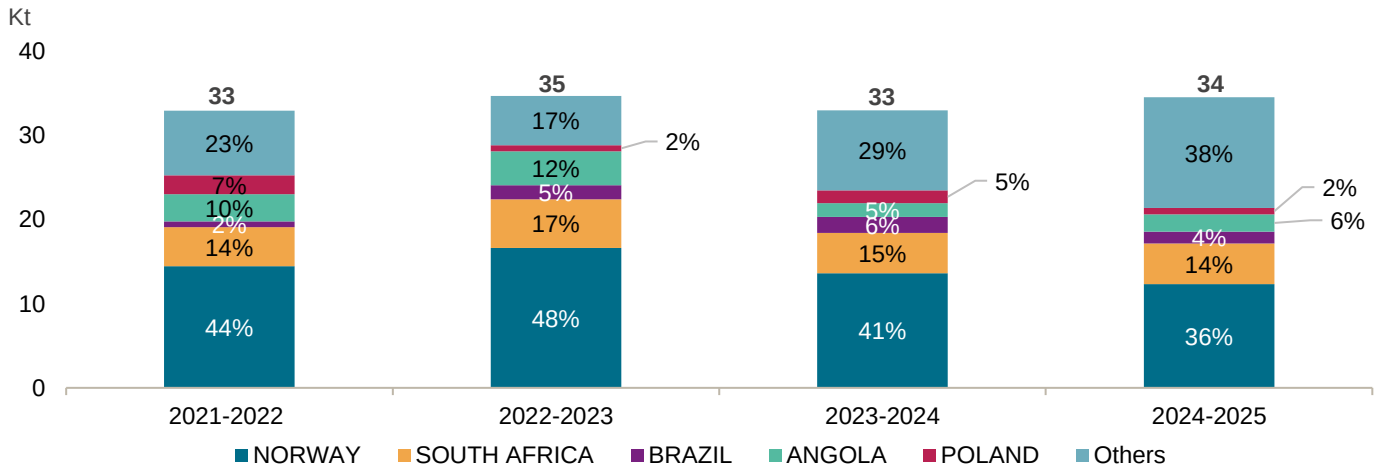
Country-wise granite import value over fiscals 2022 to 2025



Source: DGFT, Crisil Intelligence

Mostly, varieties of black, brown and white granite are imported to India. This includes Angola Black Granite, which contains feldspar and labradorite in a medium-sized grain, making it a popular choice for kitchen or bathroom countertops. Its prominence in the market is due to its unique and attractive appearance. Moreover, imported granite is often available in large slabs due to the advanced manufacturing facilities of foreign producers. These facilities allow for more efficient production of larger slabs, making them more accessible to Indian consumers. Imported granite is often used in high-end applications, such as luxury homes, commercial buildings and public spaces, where aesthetic appeal and durability are paramount.

Country-wise granite import volume over fiscals 2022 to 2025



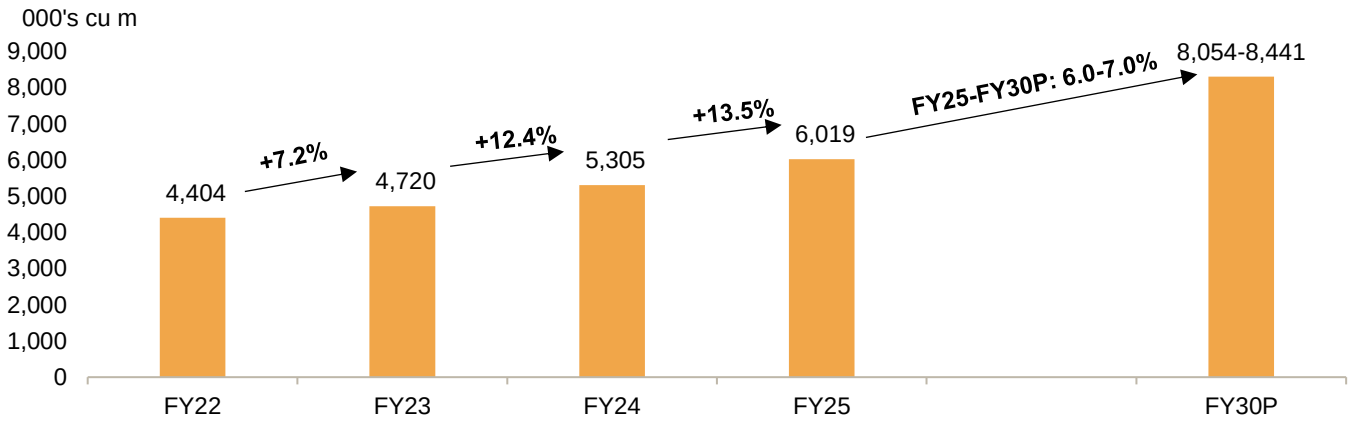
Source: DGFT, Crisil Intelligence

Between fiscals 2022 and 2025 India consistently exported significantly larger volumes and values of granite compared to the imports. This trend indicates India is a net exporter in the granite industry. In fiscal 2022, India imported 33 KT of granite valued at Rs 1,068 million. While the import volume remained constant in fiscal 2024, the import value fluctuated. In fiscal 2023, the import volume increased to 35 KT, with a corresponding rise in value to Rs 1,251 million, indicating an on-year increase of ~5.28% in volume and ~17.12% in value. Despite the stable import volume, the import value decreased to Rs 1,166 million by fiscal 2024, representing a ~6.74% on-year decrease in value. This fluctuation in import

value despite a consistent import volume suggests potential factors such as changes in market dynamics, fluctuations in exchange rates, or variations in the quality and origin of imported granite impacting the import value over the years.

2.3 Assessment of domestic consumption of granite

Domestic demand for granite- overview (fiscal 2022-2025) and outlook (fiscal 2030)

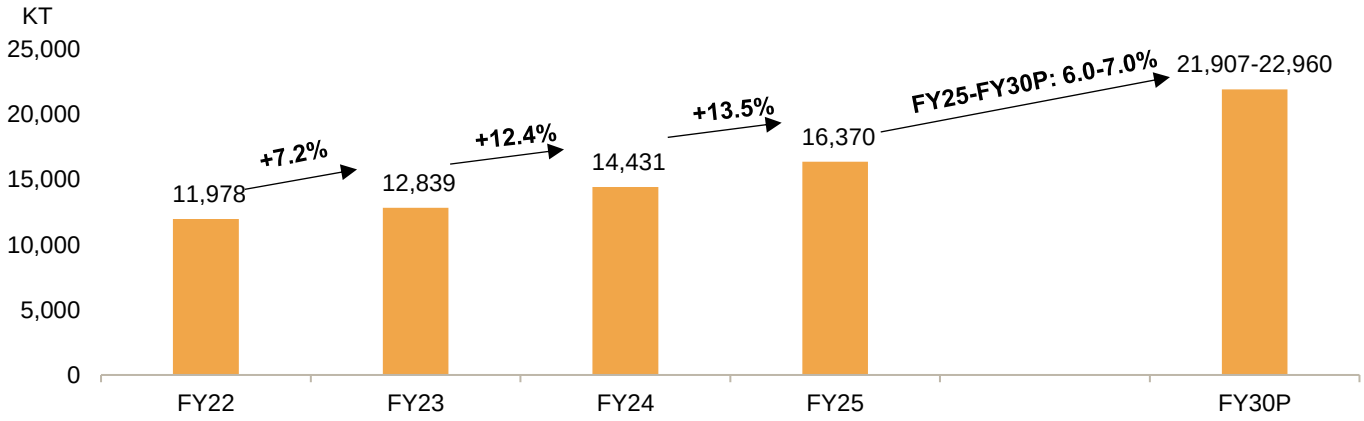


^ *Average density of granite stone= 2.72 metric tonne per cubic meter*

P: Projected

Source: Crisil Intelligence

Domestic demand for granite-overview (fiscal 2022-2025) and outlook (fiscal 2030)



^ *Average density of granite stone= 2.72 metric tonne per cubic meter*

P: Projected

Source: Crisil Intelligence

The domestic demand for granite saw an upward trend over fiscal 2022 to fiscal 2025, increasing at a 11.0% CAGR. Domestic demand stood at 11,978KT in fiscal 2022, which increased 7.2% to reach 12,839 KT in fiscal 2023 and further by 12.4% to reach 14,431 KT in fiscal 2024. The demand further increased by 13.5% to reach 16,370 KT in fiscal 2025. The demand from Indian consumption for granite blocks has increased over the years owing to increased offtake by processing industries as well as an increased demand from the residential sector.

Granite’s domestic demand is projected to grow to 21,907-22,960 KT in fiscal 2030, logging a CAGR of 6.0-7.0% between fiscals 2025 and 2030 driven by increased demand from housing and construction sector.

3 Sectoral overview of quartz

Quartz, a crystalline mineral composed primarily of silicon dioxide (SiO2), is one of the most abundant minerals found in the Earth's crust. It occurs in various forms and is widely distributed across different geological environments worldwide. It exhibits a wide range of physical and chemical properties, including hardness, transparency and resistance to chemical weathering. It has a distinctive hexagonal crystal structure and often forms well-defined crystals with six-sided prisms and pointed terminations.

Quartz occurs in a variety of geological settings, including igneous, metamorphic, and sedimentary rocks. It is commonly found in veins, pegmatites, and hydrothermal deposits, as well as in sandstone and quartzite formations and has numerous industrial applications due to its hardness, abrasion resistance, and electrical properties. It is an industrial mineral having a wide range of applications including building materials such as engineered stone, glass, and industrial application such as solar glass, foundries, refractory, crucibles, semi-conductors, fillers in paint and rubber and ceramics. Though it is abundant in nature, very few mines qualify to meet the large volume and good quality.

It is available in the following varieties:

S no	Type	Picture	Brief description
Crystalline varieties			
1	**Vein quartz**		Massive crystalline quartz found in mineral veins
2	**Milky quartz**		Opaque to translucent quartz with a milky appearance due to microscopic inclusions
3	**Pegmatite**		Coarse-grained igneous rocks formed from the crystallization of magma, characterized by large crystals and often containing rare minerals

Source: Industry, Crisil Intelligence

Applications areas

Quartz is a versatile mineral with diverse properties and applications, ranging from industrial uses to decorative and ornamental purposes. Major end-use industries where quartz finds its application are as follows:

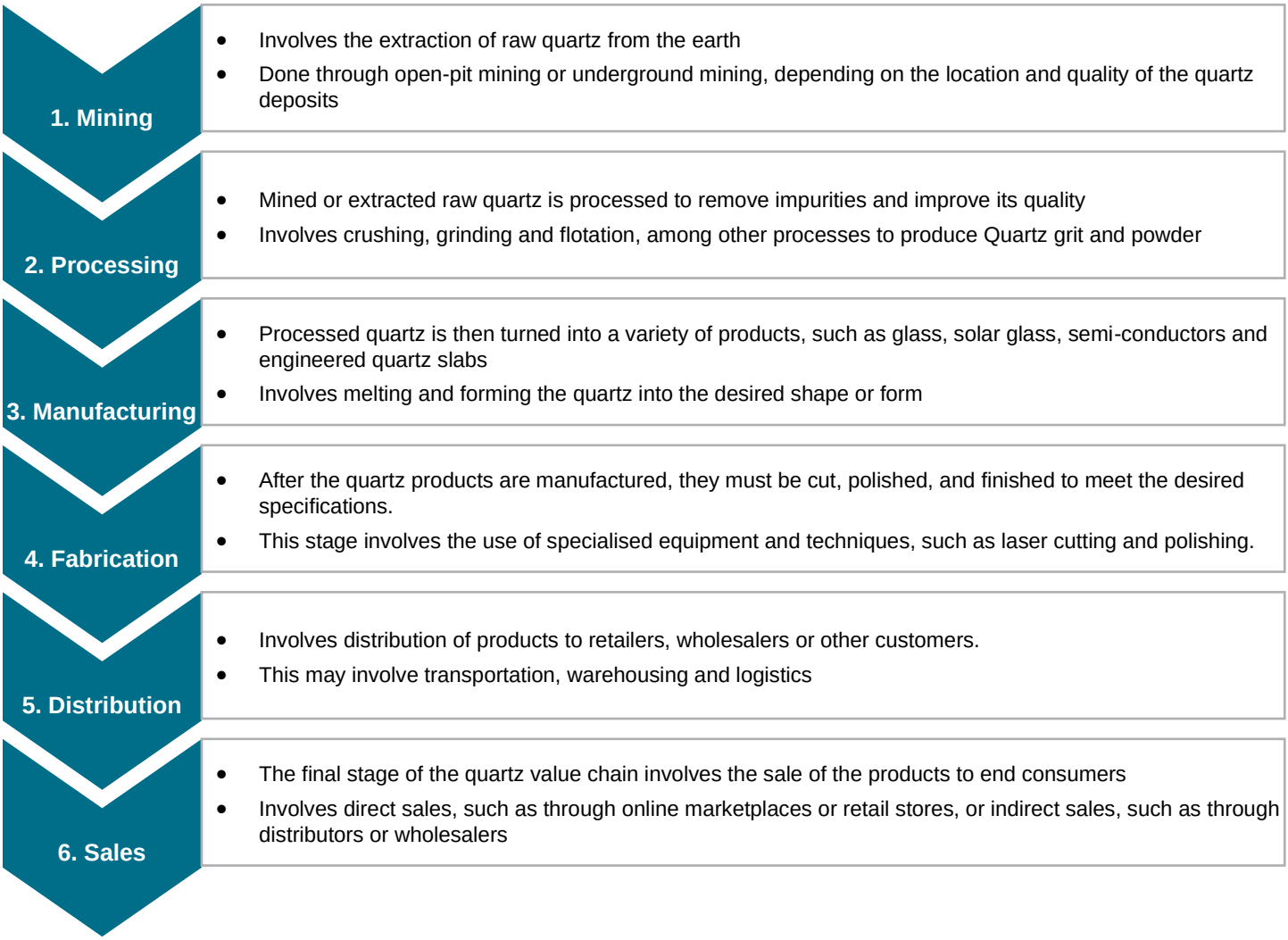
- Kitchen and bathroom countertops**:** Quartz is highly valued for its durability, stain resistance and wide range of colours and patterns, making it a preferred material for countertops
- Interior designing: Used for backsplashes, flooring and vanity tops in residential and commercial interiors due to its aesthetic versatility and low maintenance

Its abundance and wide distribution make it an essential component of various geological formations and a valuable resource in numerous industries worldwide.

It is a highly unorganised sector in India wherein the mines or processing facilities required to process quartz are of small scale. There are very few large-scale integrated players in India having the ability to mine, process and market it.

Value chain of quartz

Here are the key stages of the quartz value chain:



Source: Industry, Crisil Intelligence

After-sales service: After the sale, the quartz products may require maintenance, repair or replacement. This stage involves providing after-sales service, such as warranty and maintenance programs, to ensure customer satisfaction and loyalty.

Classification of quartz based on size and purity - Grit, cristobalite and high purity quartz

Grit, cristobalite and high-purity quartz are commonly used in various industries, including the electronics, optical and materials science sectors.

Sr. no.	Quartz type	Size/properties	Application
1	Grit quartz	Fine powder, typically ranging from 0.1mm to 1.2mm	• Abrasive blasting: Used to clean and polish surfaces through abrasive blasting, which involves blowing compressed air or water through a nozzle to remove impurities and smooth out surfaces • Abrasive cutting: Used in abrasive cutting tools, such as saw blades and grinding wheels, to cut through hard materials, such as metal, stone and manufacture engineered stone • Water filtration: Used in water filtration systems to remove impurities and contaminants from water • Used in manufacturing of Engineered Slab Industry, Solar and Glass Industries
		0.1mm to 1.2mm	• Solar glass manufacturing: For production of solar glass used in solar panels • Used in manufacturing of Engineered Slab Industry, Solar and Glass Industries
2	Cristobalite	Fine grain sized, typically ranging from 0.1 to 1 micron in diameter	• Electronics: Used in electronic components, such as semiconductors and transistors, owing to its high thermal conductivity and electrical insulation properties • Optical: Used in optical lenses and prisms because of its high refractive index and optical transparency • High-power electronics: Used in high-power electronic devices, such as power transistors and diodes, owing to its high thermal conductivity and electrical insulation properties
3	High purity quartz	High purity level, typically having SiO2 purity above 99.99%	• Electronics: Used in semiconductors and transistors, owing to its high purity level and electrical insulation properties • Optical: Used in optical lenses and prisms because of its high refractive index and optical transparency • Advanced material: Used in piezoelectric material and optical fibres • Solar cells: Used in the production of solar cells. Low-iron sands and dolomite are used to make the glass cover for solar panels. The low-iron properties help increase light transmission, which maximises the level of electricity generation

Source: Industry, Crisil Intelligence

Quartz grit and powder are essential materials in the manufacturing of engineered stone and solar glass. They are used as the primary components in the production of high-quality, durable and energy-efficient products.

Prices of different types of quartz by grade and related products are as follows:

Product name	Unit*	Price range
Quartz Grit	*INR/Ton*	13,000-15000
Quartz Powder	*INR/Ton*	9,000-11,000
Feldspar	*INR/Ton*	6,500-7,000
Mica	*INR/Ton*	17,136-17,388
Solar grade Grit	*INR/Ton*	6,300-6,500
High Purity Quartz sand (Quartz crucible for the outer layers)^	*INR/Ton*	185,218-239,695
High Purity Quartz sand (Quartz crucible for the middle layer)^	*INR/Ton*	294,170-359,542

Source: Industry, Crisil Intelligence

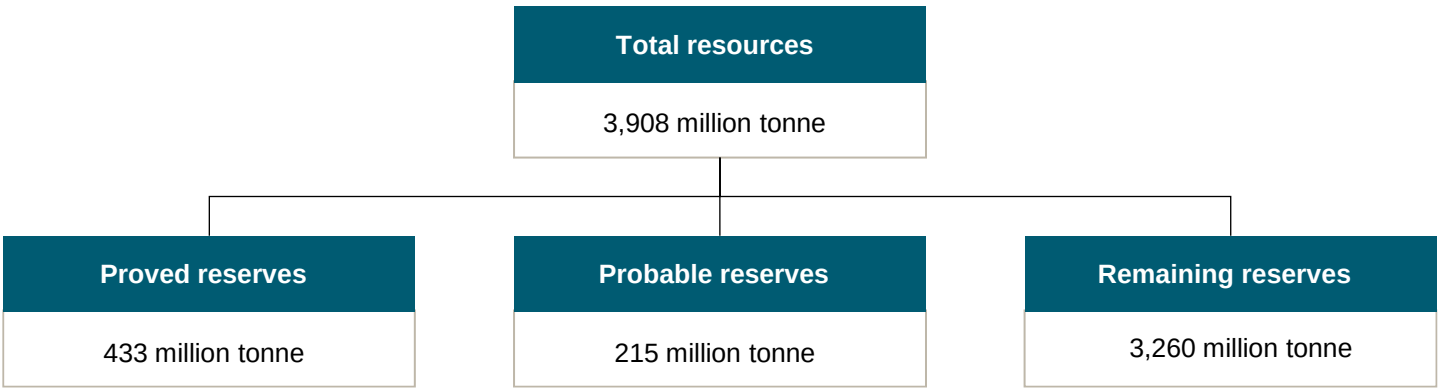
^High Purity Quartz (HPQ) sand price as on 17th September as per Shanghai Metals Market, Conversion factor for HPQ taken as 1 USD=87.752 as per RBI's Reference Rate

**Conversion factor taken as for values other than HPQ, 1USD=84INR, 1CYN=11.9INR*

3.1 Overview of the quartz market in India

1. State-wise quartz and silica sand reserves and resources available in India

The total quartz and silica sand resources in India as on April 1, 2015 is estimated to be 3,908 million tonne, the details of which are:

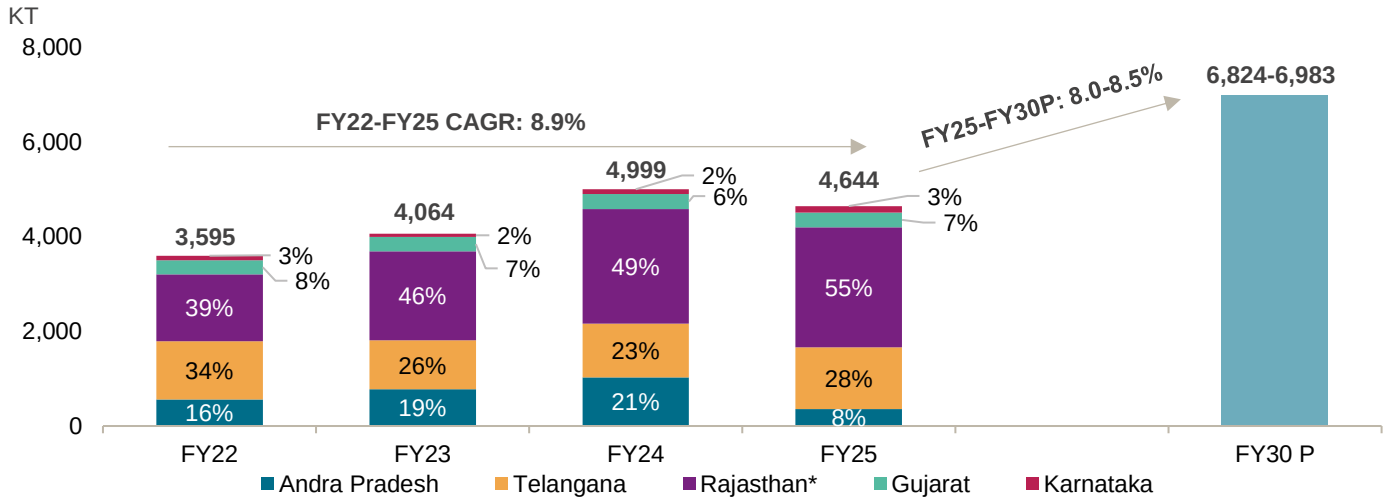


Source: IBM

Out of the total resources of 3,908 million tonne, ~11% (~433 million tonne) are proved reserves-resources that have been discovered, have a known size and can be extracted at a profit. Around 215 million tonne of the total resources are probable reserves- with odds of commercial extraction over 50-90%, with 3,260 million tonne accounting for the rest. Rajasthan houses 55% of the proved reserves, followed by Andhra Pradesh (~22%), Tamil Nadu and Gujarat (~6% each).

The silica sand includes sands and gravels with high silicon dioxide (SiO2) content. These sands are used in glassmaking; for foundry, abrasive, and hydraulic fracturing (frac) applications.

Quartz production review (fiscal 2022-2025) and outlook (fiscal 2030)



**Numbers reflective of dispatches*

P: Projected

Source: State DGMs and websites, Crisil Intelligence

The quartz production logged a CAGR of 8.9% over fiscal 2022-2025 to reach 4,644 KT in fiscal 2025 from 3,595 KT in fiscal 2022. The increase is mainly derived by higher exports and domestic demand for quartz and its products in glass, foundry, ferroalloys, refractory industries and building materials industry.

Rajasthan is the largest producer of quartz in India and accounted for almost 55% (~2,532 KT) of the produce in fiscal 2025. Other significant quartz producing state include Telangana, which accounted for 28% (~1,309 KT) of the production in fiscal 2025.

During FY 2025, the Department of Mines and Geology in Andhra Pradesh conducted a resurvey that resulted in restrictions on mineral production activities during that period. Consequently, this led to a decline in the overall quartz production reported for FY 2025 in the state.

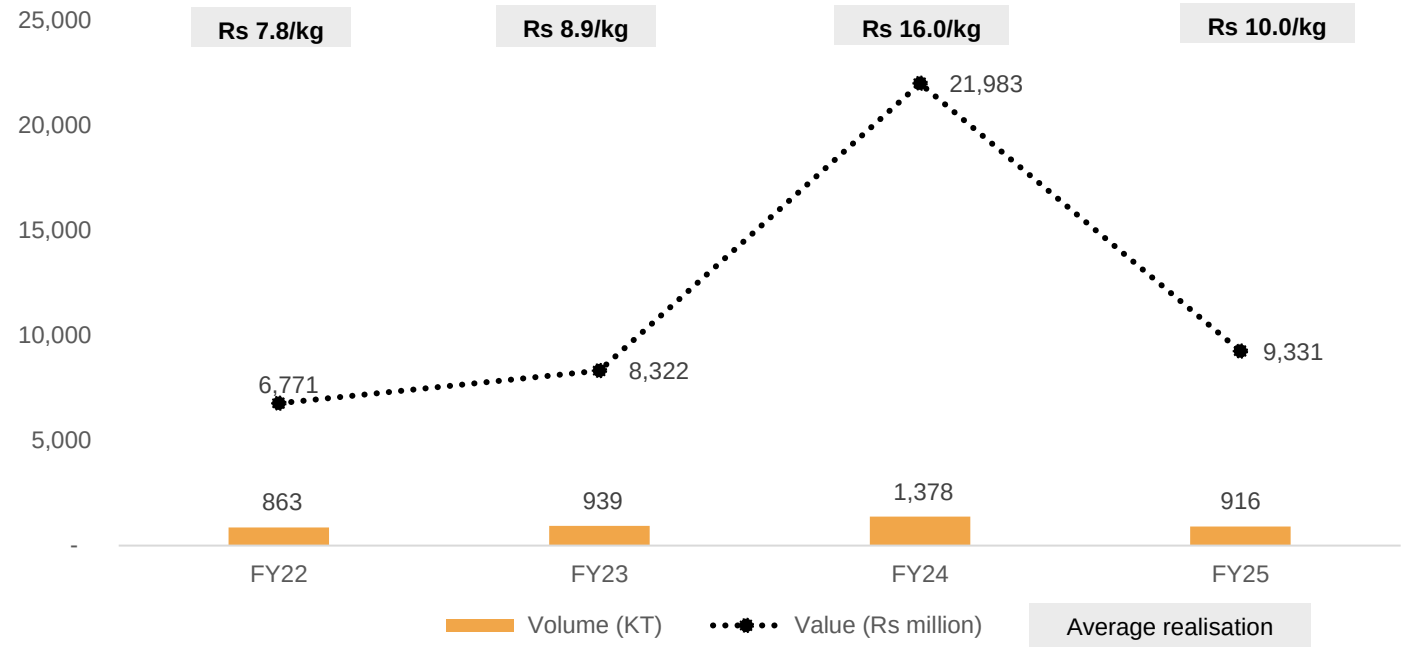
The quartz industry is projected to register a CAGR of 8-8.5% and the production is expected to reach 6,824-6,983 KT in fiscal 2030 from the 2025 level. The demand for quartz and quartzite has been increasing catering to the requirement of refractories, glass and engineered stone industries.

3.2 Trade overview – Quartz

Exports

In fiscal 2022, India exported 863 KT of quartz valued at Rs 6,771 million, which steadily grew over the subsequent years. In fiscal 2024, the export volume further rose to 1,378 KT, reflecting a notable growth rate of ~47%, while the export value saw a significantly higher growth rate, reaching Rs 21,983 million. In fiscal 2025, the export volume however decreased to 916 KT reflecting a growth rate of ~34% along with decrease in value to Rs. 9,252 million. However, despite robust growth in export volume and value, the export values increased 164% at a much higher rate in fiscal 2024 but decreased to 58% in fiscal 2025.The primary reasons for this drop was due to steep reduction in supply from India due to reduced production volumes and r.

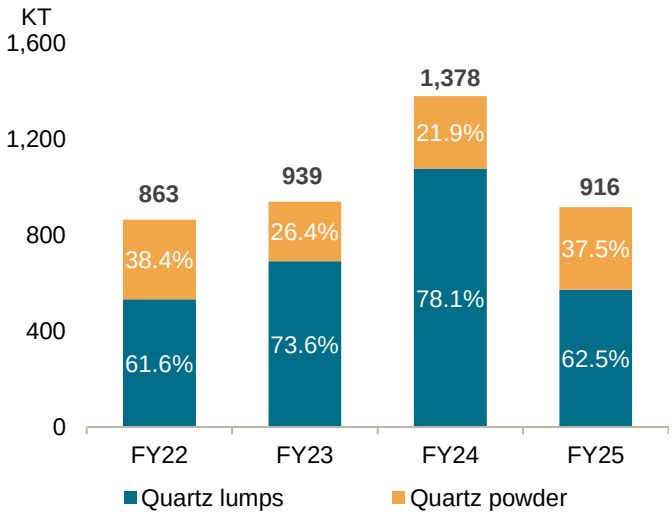
Quartz exports trend by value and volume over fiscals 2022-2025

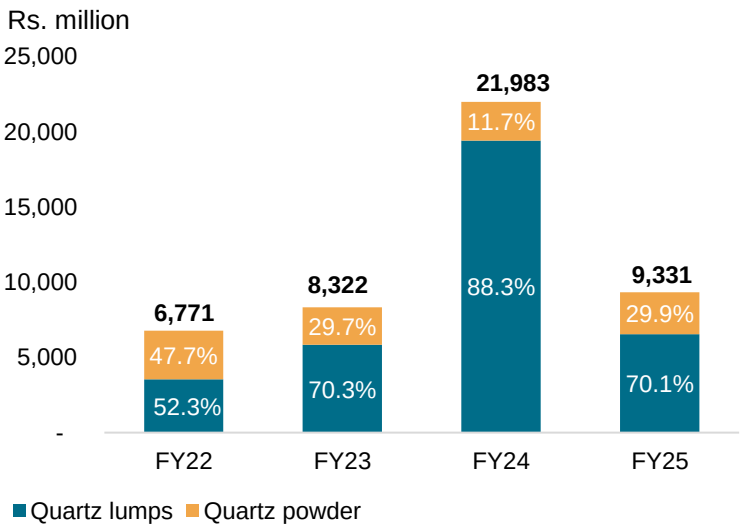


Source: DGFT, Crisil Intelligence

Quartz from India are exported in the form of lumps as well as powder.

Quartz exports bifurcation based on Quartz lumps and Quartz powder (value and volume over fiscals 2022-2025)





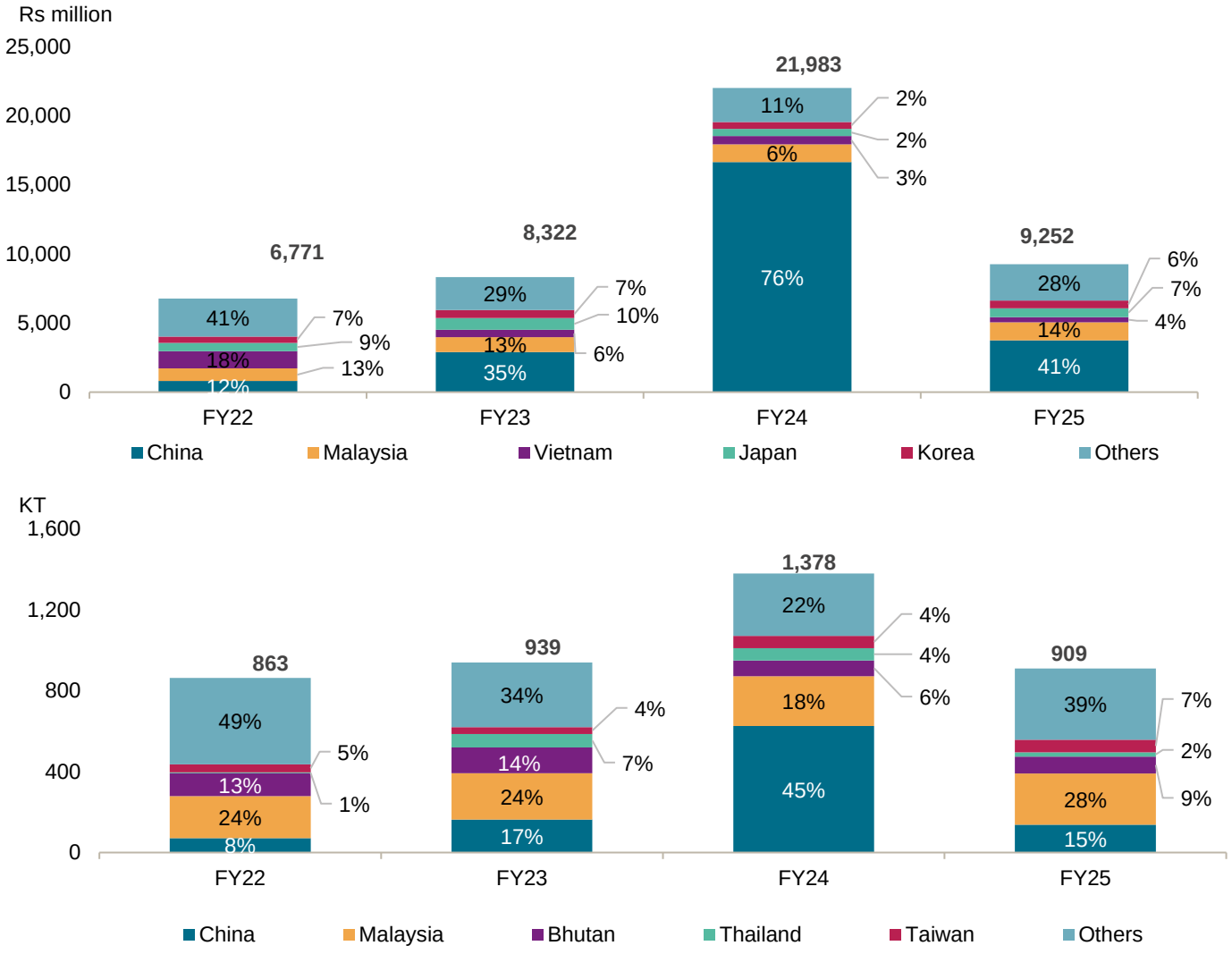
Source: DGFT, Crisil Intelligence

The share of quartz lumps exports in overall quartz exports has increased over fiscals 2022-2025. While the share of quartz lumps in overall export volumes increased from 61.6% in fiscal 2022 to 78.1% in fiscal 2024 but again decreased to 62.5% in fiscal 2025, its share in overall quartz exports value increased much faster (from 52% in fiscal 2022 to 70% in fiscal 2025), highlighting a significant increase in the average exports' realisations from quartz lumps.

In fiscal 2025, quartz lumps exports of ~572 KT was valued at ~Rs 6,542 million.

In fiscal 2025, Quartz powder accounted for ~29.9% of overall quartz export value (~Rs 2,789 million) and ~37.5% by volume (~344 tonne), highlighting lower average realisations from exports when compared to quartz lumps. Its share had decreased over fiscals 2022-2024 but revived in fiscal 2025.

Country-wise quartz export value and volume over fiscals 2022-2025



Source: DGFT, Crisil Intelligence

In fiscal 2025, China, Malaysia, Vietnam, Japan and Korea emerged as the dominant players in the quartz export market, collectively accounting for 72% of the total export value. This is slightly lower than their combined share of 89% in fiscal 2024 but still significantly above 59% in fiscal 2022. China stood out as the leading importer, responsible for 15% of volumes import in fiscal 2025 compared to 45% in fiscal 2024. However, exports to China contributed to 41% of the total export value in fiscal 2025, much lower than 76% in the previous year, indicating a decline in both value share and pricing

premium. Conversely, Malaysia's share in export volume was 28% in FY25, while its contribution to export value increased to 14%. This suggests Malaysia played a larger role in both volume and value terms in FY25, narrowing the gap with China. This pricing trend shows that while China still dominates, other countries are gaining ground as China's pricing effect weakens.

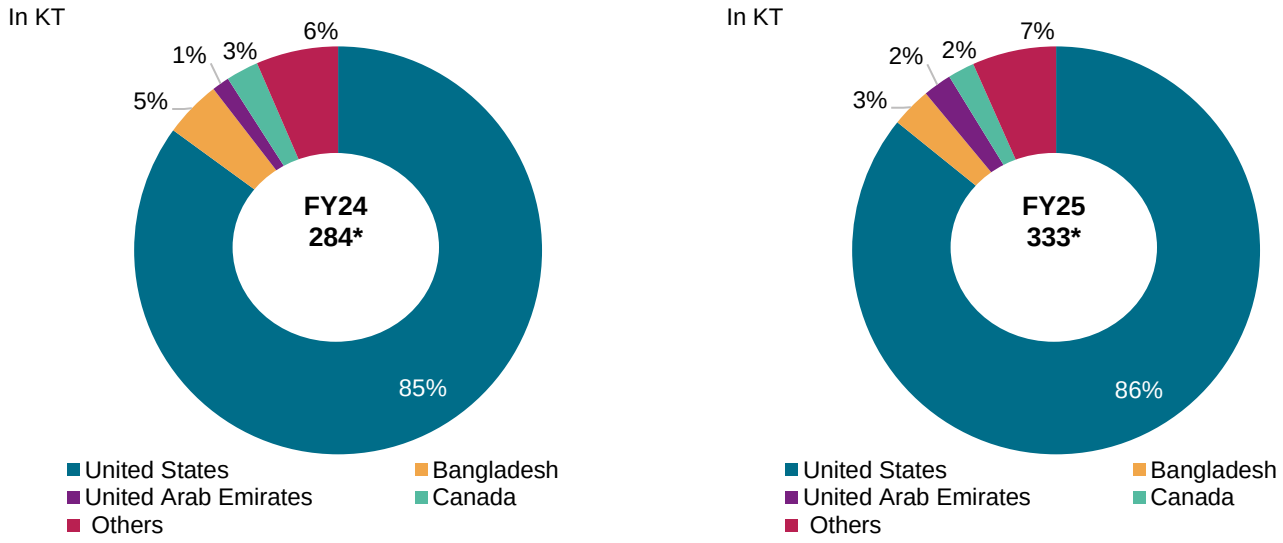
In fiscal 2022, India exported 863 KT of quartz valued at Rs 6,771 million, which steadily grew over the subsequent years. In fiscal 2023, the export volume increased to 939 KT, representing a growth rate of ~8.82%, with the export value rising to Rs 8,322 million. In fiscal 2024, the export volume further rose to 1,378 KT, reflecting a notable growth rate of ~47%, while the export value saw a significantly higher growth rate, reaching Rs 21,983 million. However, despite robust growth in export volume and value, the export values increased 164% at a much higher rate in fiscal 2024.

Engineered Quartz Slab

Quartz grit is used for manufacturing of Engineered slabs. Quartz grit is a type of abrasive material that is used to create a uniform and consistent texture in engineered stones and slabs. It is made by crushing and grinding natural quartz into small particles, which are then mixed with a binding agent and other materials to create a composite material. The resulting product has a smooth, uniform texture and is used in the production of countertops, vanities and other decorative surfaces.

The global demand for engineered quartz slabs has led to a significant surge in exports from major producing countries. China, India, and Turkey are among the top exporters of engineered quartz slabs.

Engineered quartz slabs exports from India- by volume for 2024 and 2025



** Volumes in Kilo Tons*

Note: Data corresponding to the HSN Code 68109990

Source: DGFT, Crisil Intelligence

The total exports volume of Quartz Slabs increased at a decent rate of 17% from 284 KT in fiscal 2024 to 333 KT in fiscal 2025.

United States (US), Bangladesh, United Arab Emirates and Canada are the top importers of Indian Quartz Slabs. The US market accounted for ~85% (241 KT) and ~86% (286 KT) of total engineered quartz slabs volume exported from India in fiscal 2024 and 2025 respectively. India is a significant exporter of quartz slabs to the US market with a long-standing reputation for quality craftsmanship and innovative designs.

The surge in India's quartz slab exports to the US can be attributed to several key factors, including its vast manufacturing capacity, competitive pricing, and a well-established network of exporters and distributors. By capitalizing on these strengths, Indian manufacturers are able to offer a diverse range of high-quality quartz slabs that meet the exacting standards of the US market.

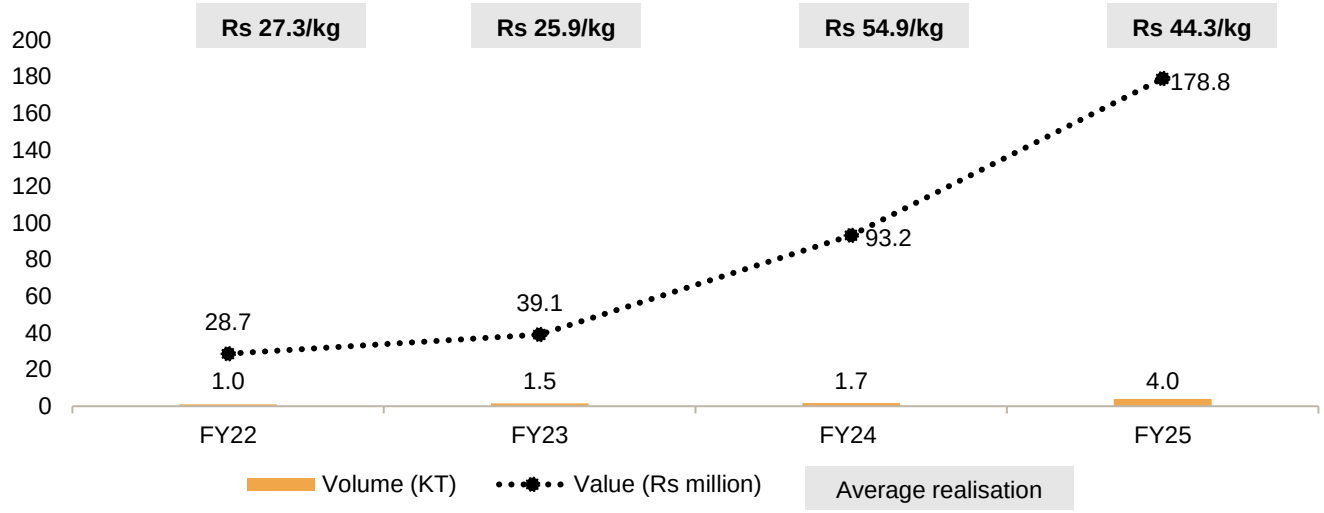
As the global construction and interior design industries increasingly seek out durable and low-maintenance surfacing materials, India's engineered quartz slab exports are poised to continue their upward trajectory, driven by growing demand.

As mentioned in the annual report of 2024-2025 of Global Surfaces, the global engineered stone market size reached US$ 27.6 billion in 2025. Looking forward, it is expected that the market to reach US$ 35.5 billion by 2029, exhibiting a growth rate (CAGR) of 6.5% during 2025-2029. The engineered quartz stone market in India has been experiencing significant growth, with an estimated value of $3,643 million in 2022. It is projected to grow at a compound annual growth rate (CAGR) of 7-8% between 2022 and 2027, reaching $7,355 million by 2032.

Imports

In fiscal 2022, India imported 1 KT of quartz valued at Rs 28.7 million. In the subsequent years, both import volumes and values showed an increasing trend. Notably, in fiscal 2024, the import volume remained relatively stable at 1.7 KT, but the import value experienced a remarkable 138.18% surge, reaching Rs 93.2 million. In fiscal 2025, imports accelerated further, with volume more than doubling to 4 KT, while value nearly doubled to Rs. 178.8 million. This highlights while both import volumes and values have been increasing, the rise in import value is primarily driven by higher volumes rather than pricing, suggesting potential shift in market dynamics

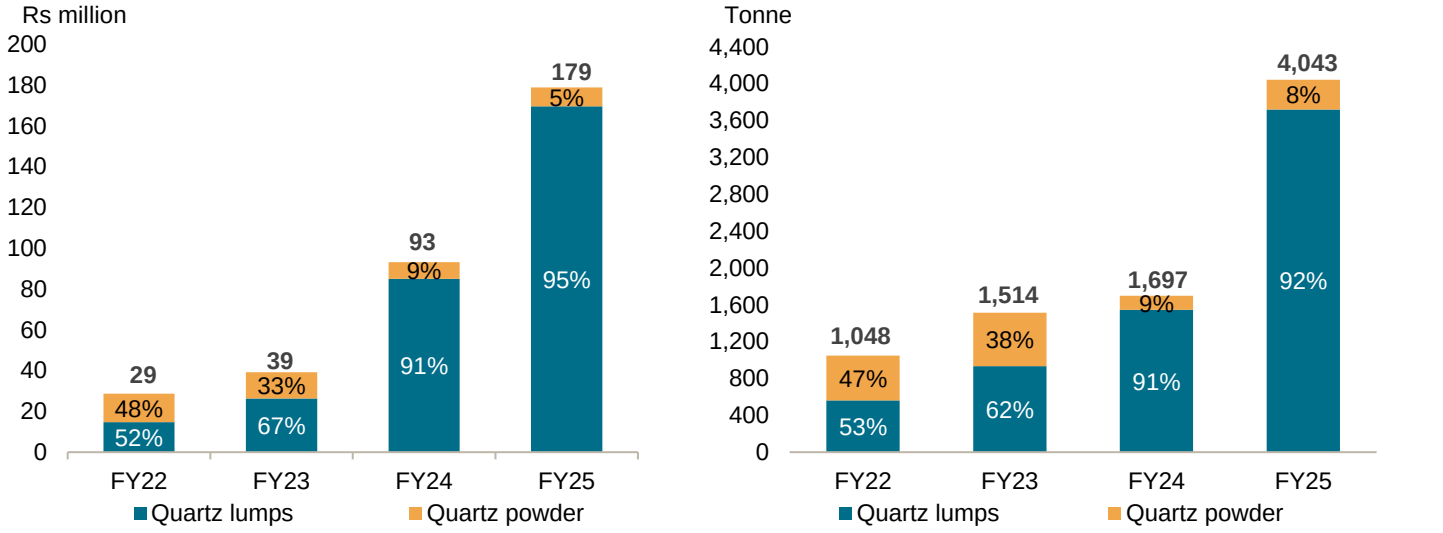
Quartz imports trend by value and volume over fiscals 2022-2025



Source: DGFT, Crisil Intelligence

Quartz is imported in the form of lumps as well as powder.

Quartz imports bifurcation based on Quartz lumps and Quartz powder (value and volume over fiscals 2022-2025)



Source: DGFT, Crisil Intelligence

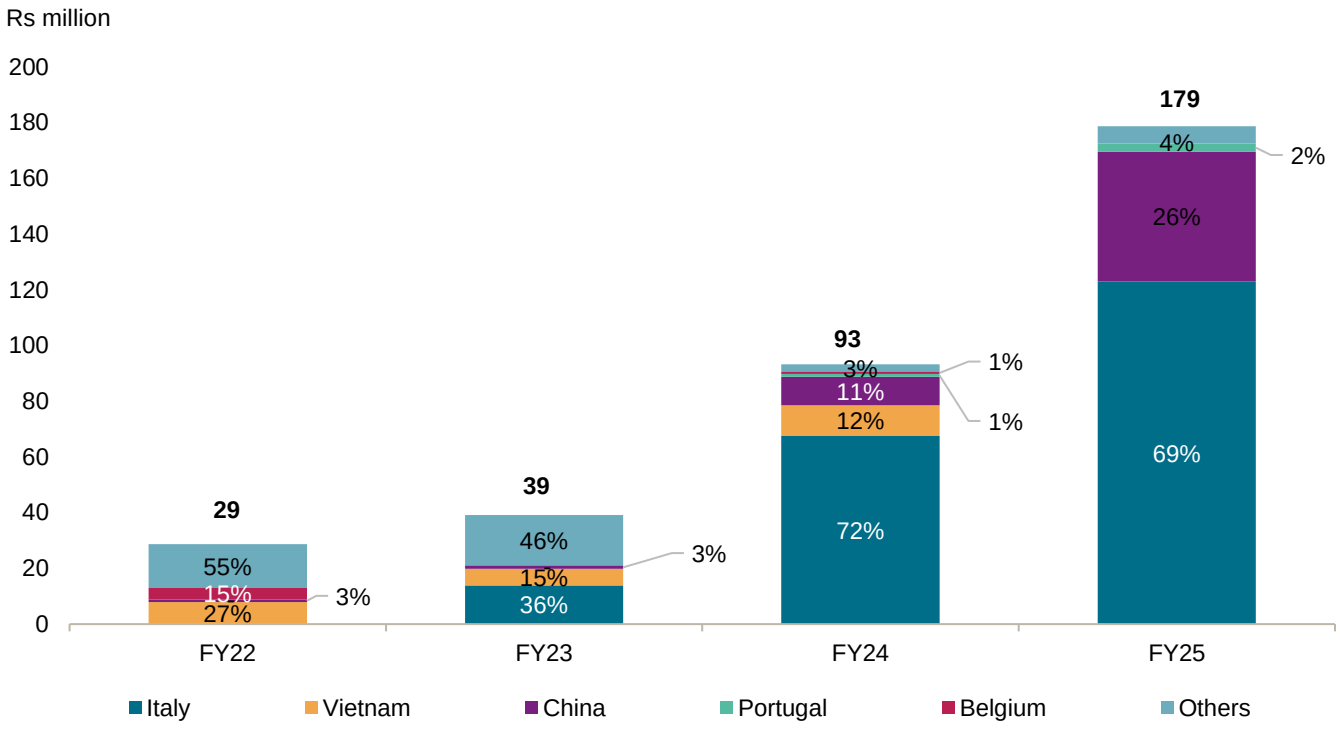
The share of quartz lumps in overall imports has increased over fiscals 2022-2025. Import volumes of lumps increased from 53% in fiscal 2022 to 62% in fiscal 2023, further to 91% in fiscal 2024, and reached 92% in fiscal 2025. Its share in overall quartz imports value increased faster (from 52% in fiscal 2022 to 67% in fiscal 2023), highlighting an increase in average import costs for quartz lumps. In fiscal 2025, quartz lumps accounted for 95%value wise (~Rs 170 million) and 92% volume wise (~13,722 tonne).

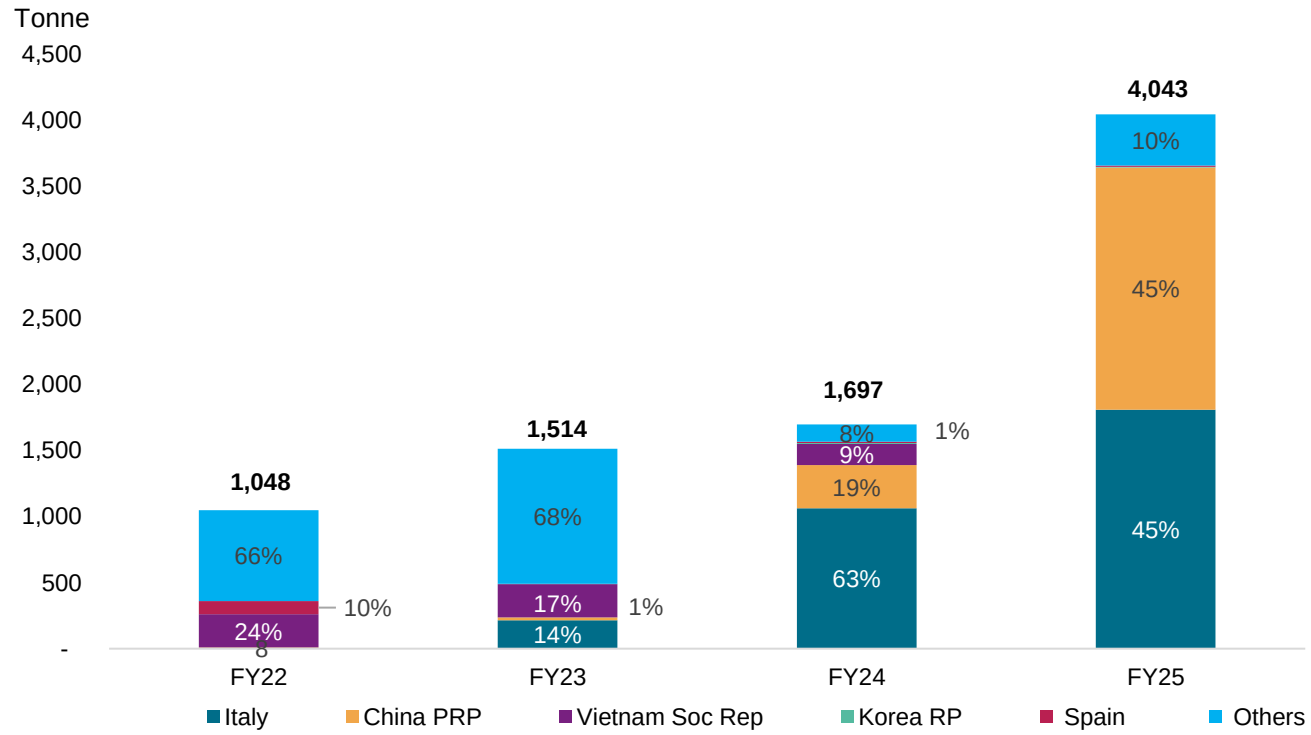
Quartz powder accounted for 8% of overall quartz import value (~Rs 9 million) and volume (~322 tonne). Its share has decreased over fiscals 2022-2025.

In fiscal 2024, Italy, Vietnam, China, Portugal, and Belgium emerged as the key players in quartz imports, collectively contributing 97% of the total imports value. This represents a substantial increase from their combined contribution of 45% in fiscal 2022 and 54% in fiscal 2023. Notably, Italy dominated the market in fiscal 2024, accounting for 72% of import value, and continued this leadership into fiscal 2025 with a 69% share. Vietnam's share declined from 27% in fiscal 2022 to 12% in fiscal 2024. Belgium also experienced a reduction in its import value share alongside an increase in Portugal's share to 2% in fiscal 2025. The US, previously a major player with a 20% in fiscal 2023, recorded negligible imports in fiscal 2024.

In fiscal 2025, India exported quartz worth Rs 3,713 million to China (~41% of its total quartz export value), while imports of quartz from China into India were just Rs 46 million, negligible compared to the export value.

Country-wise quartz import value (in lakh) and volume (in tonne) over fiscals-2025





Source: DGFT, Crisil Intelligence

In fiscal 2025, the quartz import landscape witnessed a significant transformation, with Italy and China emerging as the major players collectively responsible for 90% of total volume of quartz imports. Italy became the largest importer, accounting for 63% of quartz imports by volume, a remarkable rise from its minimal share in preceding years. There has been a growing preference for sanitaryware, and other bathroom products, such as sinks, wash basins and bathtubs

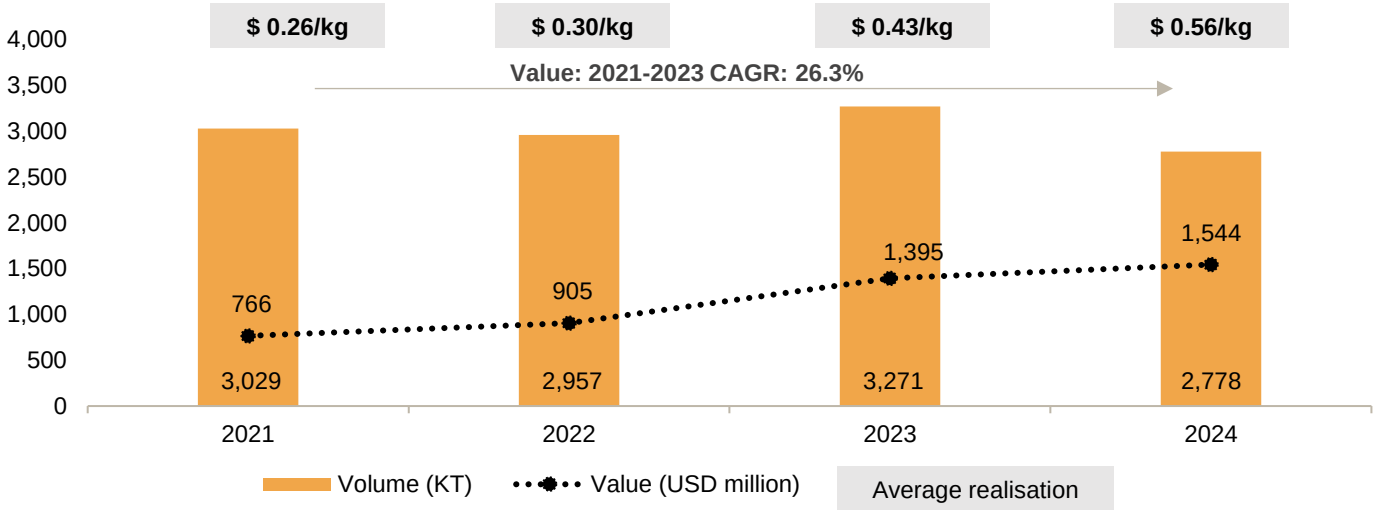
made from quartz imported from Italy. Similarly, China saw a noteworthy surge, with its share increasing from a mere 1% in fiscals 2022 and 2023 to 19% in fiscal 2024 and subsequently to 45% in fiscal 2025.However, amidst these developments, Vietnam, previously a significant player in the market, witnessed a dramatic decline, virtually ceasing imports in fiscal 2024 after consistently exporting substantial volumes in earlier years.

Between fiscals 2022 and 2025, India consistently exported significantly larger volumes and values of quartz, compared with the imports. This trend indicates that India is a net exporter in the industry.

Global Quartz trade

In 2021, global quartz imports were 3,029KT, valued at USD 766 million, which stood at 2,778 KT, valued at USD 1,544 million in 2024.

Quartz global imports trend by value and volume over fiscals 2021-2024

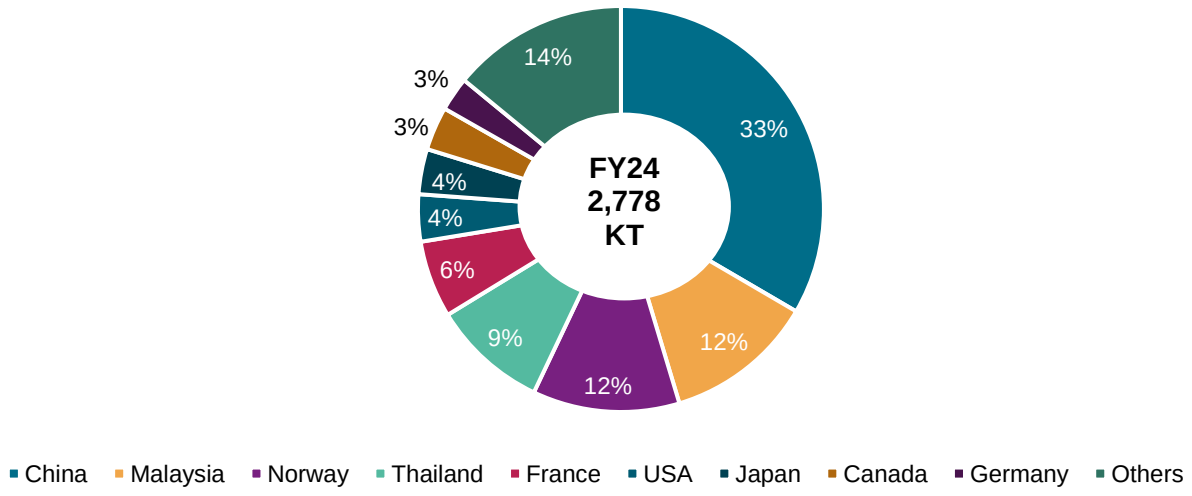


Note: Volume analysis based on reported countries' data

Source: UN Comtrade Database, Crisil Intelligence

During 2021-2024, the value increased at a CAGR of 26.3%, highlighting an increase in average realisations.

Country-wise imports trend by volume for fiscal 2024



Note: Volume analysis based on reported countries' data

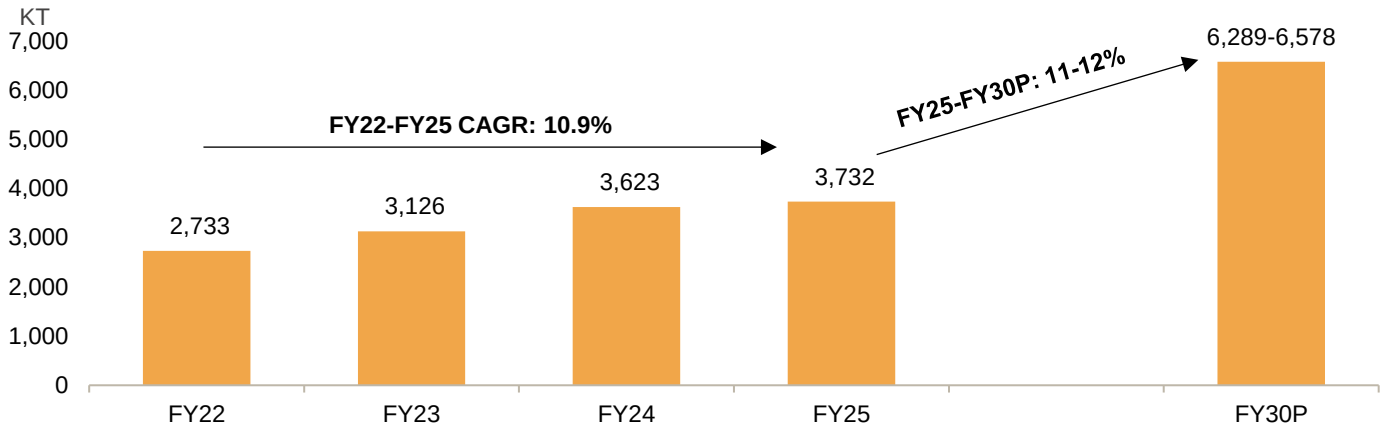
Source: UN Comtrade Database, Crisil Intelligence

During 2024, top 9 importers- China, Norway, Canada, Malaysia, Thailand, Germany France, Italy and US contributed to 86% (~2,327 KT) of the global imports by volumes. China topped the list of importers, accounting for 33%% (~909 KT) of the global imports, followed by Norway and Malaysia.

The value contribution of these 9 players stood USD 1,418 million, ~92% of the total value of global imports.

3.3 Assessment of domestic demand of quartz

Domestic demand of quartz- review (fiscal 2022-2025) and outlook (fiscal 2030)



P: Projected

Source: Crisil Intelligence

The domestic demand for quartz saw an upward trend over fiscal 2022-2025 logging a decent CAGR of 10.9%.

The domestic demand stood at 2,733 KT in fiscal 2022, which increased to 3,732 KT in fiscal 2025.

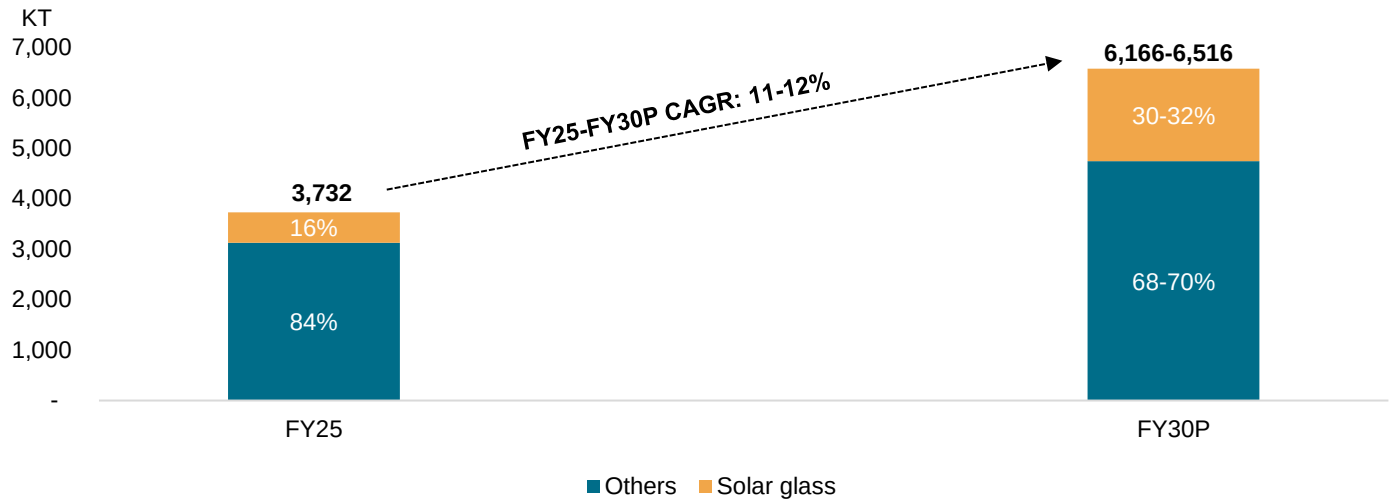
The requirements of these products are linked directly to the iron and steel industry, including alloy steel production, and sunrise industries like Solar, Electronics, Glass and Slabs. There are large prospects of increasing the production and the export of quartz and silica minerals to the neighbouring countries.

The quartz domestic demand is projected to register a CAGR of 11.0-12.0% and the consumption is expected to reach 6,289-6,578 KT in fiscal 2030 from the 2025 level, driven construction, solar glass, electronics and engineered stone industries.

Quartz for solar glass

Quartz is a crucial component in the production of solar glass; a high value glass used in solar panels to convert sunlight into electricity. The grit is a premium quality product in which the iron content is lower than 100-120 ppm, making it a suitable raw material to produce solar panel glass. Quartz grit constitutes ~65-70% of raw material used to produce the glass for solar panels. It is mixed with other materials and melted to create a thin, flexible sheet of glass that can be used in solar panels.

Domestic demand of quartz by end use applications (solar glass vs others)



P: Projected

Note: Others- includes all the applications other than solar glass like- engineered stone, electronics etc.

Source: Crisil Intelligence

In fiscal 2025, the demand for quartz to manufacture solar glass is estimated to be ~550-600 KT, accounting for ~16% of overall quartz demand. Others include the share from other applications such as engineered stone and electronics, among others.

Today, most of the glass required for the solar industry is made using silica derived from silica sand. However, this quality of glass, especially bifacial solar module which the industry targets to improve yields, is mostly imported from China and Vietnam. The solar glass industry is focused on replacing these imports and increasing domestic capacity. Quartz demand is expected to substantially increase in the coming years driven by the shift from silica sand to using quartz grit for producing higher quality glass in a sustainable and environmentally friendly way.

Currently, India has high import dependency for solar glass where almost 65% of demand is met through imports and the rest (~35%) through domestic supply. But this scenario is expected to reverse in next 4-5 years with domestic supply to increase to 70-80% by fiscal 2030. Over 2.6 MnT of solar glass manufacturing capacity is planned by various players in the country over the next 4-5 years.

The thickness of dual-layer solar glass increases beyond the standard 3.2 mm tempered monolayer glass, leading to greater quartz grit consumption during its manufacturing than that required for the monolayer glass.

The demand for quartz to manufacture solar glass is expected to increase at a strong CAGR of 30.7%-31.4% to reach ~1,840-2,000 KT in fiscal 2030, accounting for ~25-27% share of overall quartz demand, driven by an expected increase of ~147 GW of solar capacity additions over fiscal 2026-2030.

Midwest, with a planned capacity addition of 0.5 MnT of quartz grit used for solar glass -manufacturing is expected to cater to 11-13% of the demand in fiscal 2030.

The solar additions momentum from previous fiscals did not falter in fiscal 2025, with 24 GW solar capacity added during the year, an increment of 60% on year. With a robust pipeline project and easing supply chain pressures, fiscal 2026 is expected to add 28-32 GW and fiscal 2026-30 is expected to continue the momentum.

Growth drivers for solar industry in the country are as follows:

1. Other central schemes: The Solar Energy Corporation of India (SECI) tenders under the Inter-State Transmission System (ISTS) scheme, currently has tendered and allocated capacity more than 40 GW (including hybrid).
2. State solar policies: ~48 GW of projects are under construction and are expected to be commissioned over fiscal 2026-2030. Based on tendered capacities by states at the as of June.
3. PSUs: The Central Public Sector Undertaking (CPSU) programme under JNNSM had been extended to 12 GW in February 2019. The government is also encouraging cash-rich PSUs to set up renewable energy projects. In particular, NTPC has already commissioned a total of over ~3.7 GW of new capacity in fiscal 2025 so far under various schemes. It has a target of installing ~35 GW of renewable energy capacities by fiscal 2028. Similarly, NHPC had allocated 2 GW of projects in 2020, while the Indian Railways has committed to 20 GW of solar power by 2030. Other PSUs such as NLC, defence organizations, and governmental establishments are also expected to contribute to this addition.
4. Rooftop solar projects: We expect 30-35 GW of rooftop solar projects to be commissioned by fiscal 2030, led by PM Surya Ghar Yojana and industrial and commercial consumers under net/gross metering schemes of various states.
5. Open-access solar projects: We expect 33-37 GW of open-access solar projects (under the capex and opex mode) to be commissioned by fiscal 2030, led by green energy open access rules 2022, sustainability initiatives/RE 100 targets of the corporate consumers, better tariff structures and policies of states such as Uttar Pradesh and Karnataka, which are more long term in nature.
6. Push for Green hydrogen: Production for green hydrogen is expected to start from fiscal 2026 with production of 0.5-1 million tonnes of production. Government has set the target production of 5 million tonnes of green hydrogen by 2030. As per announcement, we expect 2.0-2.2 MTPA of green hydrogen to commission which can lead to further upside of solar capacity of 32-37 GW, by fiscal 2029. However, since developers may tie-up via grid / open access and not go to the captive route generation under this segment will remain a monitorable.
7. Renewable generation obligation (RGO): As per the guidelines upcoming coal plants are obligated to establish renewable generating capacity at a minimum of 40% of their generating capacity. This will be applicable for plant commissioning from April 2023 onwards. Plant commissioning prior to March 2025 will be required to achieve 40% RGO by April 1st, 2025. All plants commissioning after April 1st 2025 will be required to comply with RGO from the day of commissioning. However, upcoming coal power plants may also tie-up these capacities via the grid or open access as most of these projects would be in advanced stages of construction, where land and financing would already be tied-up. Hence, this segment may possibly add capacity of 8-10 GW by fiscal 2029, which as per tie-up is an upside to our current outlook.

Further, an amendment to open access regulations via the green energy open access rules through energy banking regulations, changes in minimum contract demand, standardizing calculation of charges, etc will solve the key issues of high levies, absence of banking provisions, and standardization across procedures prevalent in the open access market.

4 Sectoral overview- heavy mineral sand minerals

Heavy minerals sand, occur as placer deposits, are formed by the action of water and wind concentrating valuable minerals from weathered rocks in coastal and near-coastal environments. Heavy minerals have a higher density than typical sand minerals, which causes them to concentrate in certain areas through the action of waves and currents.

Heavy minerals sand-They are found on beaches, often in the form of sand and include:

- Quartz: The most abundant mineral, forming the bulk of sand on most beaches
- Feldspar: Another common mineral, often found alongside quartz
- Mica: Flaky minerals that can be present in small amounts
- Magnetite: A heavy, magnetic mineral often black or dark brown in colour

4.1 Overview of heavy mineral sand

Mineral sand deposits are characterised by their grade (the percentage of heavy minerals found in a particular deposit) and their assemblage (the relative proportion of different products of heavy minerals like ilmenite, zircon, etc. in the beach sand deposit). A typical composition of a mineral sands deposit has a heavy mineral grade ranging from 0.5% to above 20%. It means 100 tonnes of heavy minerals' beach sand deposit contain heavy minerals in the range of 0.5 to 20 tonnes.

Common heavy minerals sand include:

Sr. no.	Heavy mineral sand	Picture	Brief description
1	Rutile		A titanium dioxide mineral, also an important source of titanium, valued for its high purity and brightness in pigments
2	Ilmenite		An iron titanium oxide, a major source of titanium dioxide, used in pigments, cosmetics and aerospace components

Sr. no.	Heavy mineral sand	Picture	Brief description
3	Garnet		A hard, dense mineral, having a vitreous lustre, which means it has a glass-like appearance used as an abrasive and in water filtration
4	Zircon		A zirconium silicate, used in ceramics, refractory materials and as a foundry sand due to its high melting point and resistance to corrosion
5	Monazite		A phosphate mineral containing rare earth elements, thorium and uranium. Rich in rare earth elements, essential for electronics, renewable energy technologies and various advanced materials

Source: Industry, Crisil Intelligence

The two main product streams of heavy minerals are:

1. **Titanium dioxide minerals, slag and metal alloys**: The titanium dioxide minerals, slag and metal alloys are made from ilmenite, rutile, and leucoxene. Ilmenite is also used to manufacture titanium slag and synthetic rutile products; and
2. **Monazite:** Monazite, a phosphate mineral rich in rare earth elements, is emerging as one of the most critical resources for the clean and green technology sectors. It contains 55–65% rare earth oxides and is a key source of elements such as neodymium, praseodymium and dysprosium, which are indispensable for high-performance permanent magnets used in electric vehicle (EV) drive trains, wind turbines, defence technologies, electronics, space, and other strategic industries. India has an estimated 12.73 million tonnes of monazite reserves in its beach sands. With China tightening its rare earth exports, global manufacturers are actively seeking alternative sources to secure the supply chains for EVs, renewable energy and advanced technologies. This places monazite in a pivotal position to support the establishment and scaling up of green industries worldwide.

   There is a global frenzy for Rare Earth Elements (REEs), critical for making permanent magnets that power EVs, renewable energy systems, defence, and medical technologies. Monazite, a key source of REEs, has gained strategic importance as China curbs exports. To counter this, the U.S. government has partnered with MP Materials, becoming its largest shareholder, and has guaranteed a floor price of $110/kg for key REEs, nearly double the Chinese market

price of ~$52/kg. This move underscores the urgency among global economies to build non- Chinese supply chains and secure critical minerals for green industries.

The titanium dioxide products (ilmenite, rutile, etc.) are normally in the greater preponderance, relative to zircon. It has been observed that in a typical heavy mineral deposit, an average ratio of titanium dioxide minerals to zircon is around 5:1 i.e. heavy mineral consists of 83.3% of titanium dioxide minerals and 16.7% of Zircon.

Australia, South Africa, India and Mozambique are key producers of heavy mineral sands. Countries such as Kenya, Madagascar and Sri Lanka are developing their heavy mineral sand mining capabilities, contributing to global supply.

In India, heavy minerals are mainly found along the country's coastal areas and inland placers.

According to IBM, the details of total reserves and resources are as follows:

Mineral	Unit	Reserves/resources#
Ilmenite*	*Million tonne*	629.57
Rutile	*Million tonne*	33.95
Zircon	*Million tonne*	33.71
Garnet	*Million tonne*	56.01
Monazite	*Million tonne*	12.73
Sillimanite	*Million tonne*	72.27
Titanium (P)	*Million tonne*	427.11

Source: IBM

Note: As per the letter received from Department of Atomic Energy, Mumbai dated July 26, 2018. The resources of beach sand minerals (BSM) viz. Ilmenite, Rutile, Zircon, Garnet, leucoxene, monazite and Sillimanite were last updated in 2016 by AMD.

P: Provisional (IBM)

 # Inclusive of indicated, inferred and speculative categories

** Including leucoxene*

^The yield for Ilmenite is ~44-70% and that of Rutile is ~90-95% (titanium feedstock)

Prices of Heavy minerals sand are as follows:

Mineral	Unit*	Price range
Ilmenite (TiO2≥56%)	*INR/Ton*	48,972-51,148
Rutile (TiO2≥90%)	*INR/Ton*	139,297-143,650
Zirconium Dioxide (Zr (Hf)O2≥99.5%)	*INR/Ton*	489,716-506,040
Sillimanite	*INR/Ton*	40,000-43,000
Garnet	*INR/Ton*	20,000-20,500
Monazite Concentrate	*INR/Ton*	587,660-598,542
High Titanium Slag (TiO2≥90%)	*INR/Ton*	59,854-60,942
Titanium Concentrate (TiO2≥47%)	*INR/Ton*	23,979-25,824

Source: Shanghai Metals Market

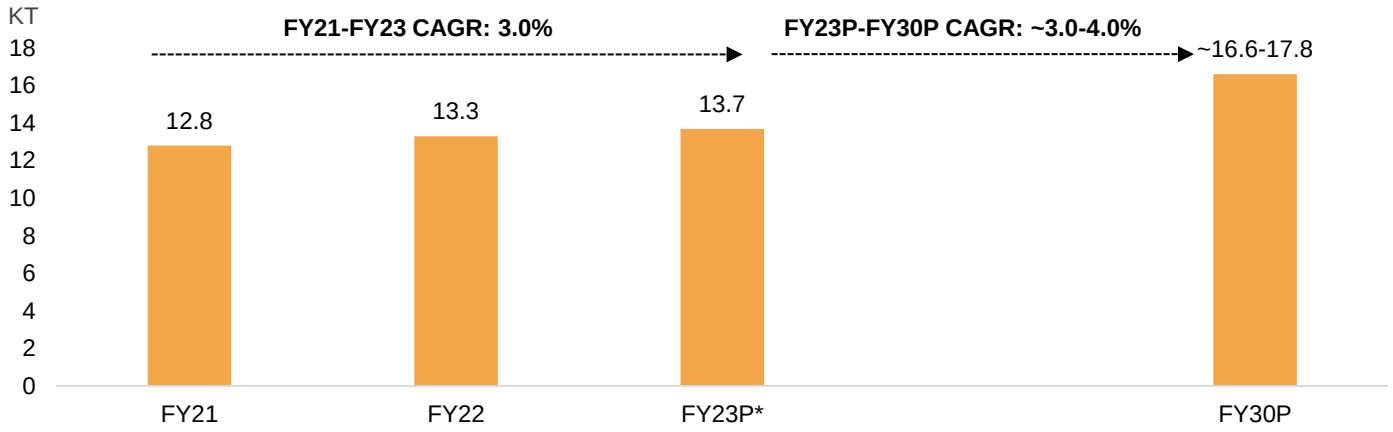
**Conversion factor taken as, 1USD=87.75INR (Average of August'2025)*

Note: prices as of August 2025 (between Aug16th to Sep16th)

Rutile

Rutile is a mineral composed primarily of titanium dioxide (TiO2). It is a significant ore of titanium and known for its high refractive index and optical dispersion, making it valuable in various industrial applications. It is a mineral with a distinctive combination of red, reddish-brown, yellow and black colours, exhibiting adamantine to metallic lustre.

Domestic production review- Rutile



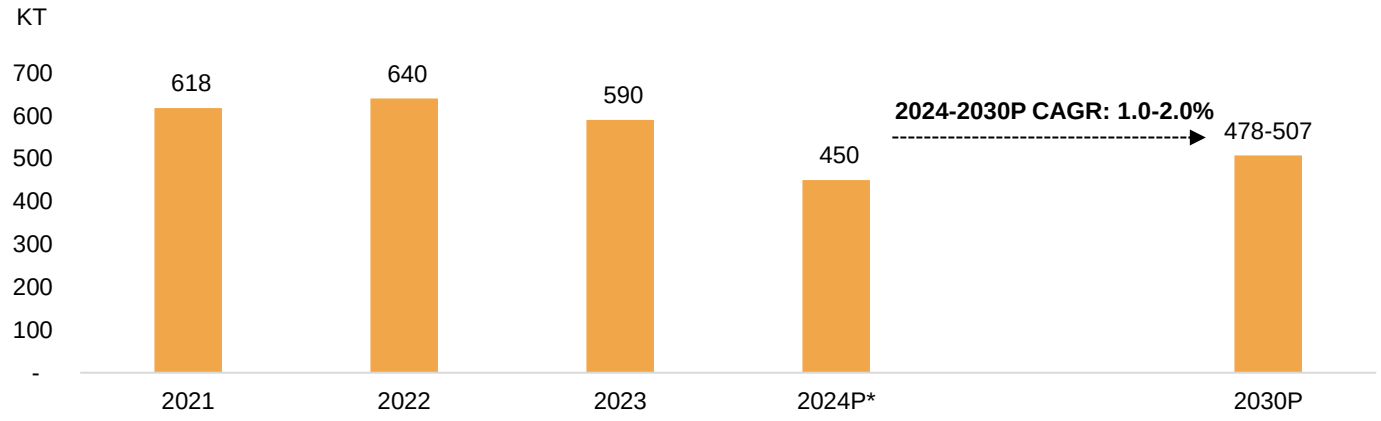
P: provisional*
P: projected
Sources: IBM, Crisil Intelligence

The domestic production of rutile increased from 12.8 KT in fiscal 2021 to 13.7 KT in fiscal 2023, clogging a CAGR of 3.5%. In India, the production of rutile is done by only 2 players- Indian Rare Earths Limited (IREL) and Kerala Minerals and Metals Ltd (KMML), accounting for ~89% and 11%, respectively, in overall domestic production for rutile.

During fiscals 2023-2030, the domestic production of Rutile is expected to increase at a similar CAGR of ~3.0% to reach ~16.6-17.8 KT.

The prices of Rutile were in the range of Rs 92,138- 93,052 per tonne during fiscal 2020, as reported by IBM.

Global production review- Rutile



P: provisional*
P: projected

Sources: USGS, Crisil Intelligence

Global production of rutile stood at 450 MT in 2024. In 2024, the global production of rutile experienced a decline because of reduced production in Ukraine which accounted for 24% (~95 MT) in 2023 and just 4% (10 MT) in 2024 of the overall

rutile production, caused by the ongoing Russai-Ukraine war. Major producers around the globe for rutile include South Africa and Sierra Leone.

During 2024-2030, the global production of Rutile is expected to increase at a CAGR of 1.0-2.0% to reach ~478-507 MT, driven by global demand for titanium minerals.

Rutile finds its application as follows:

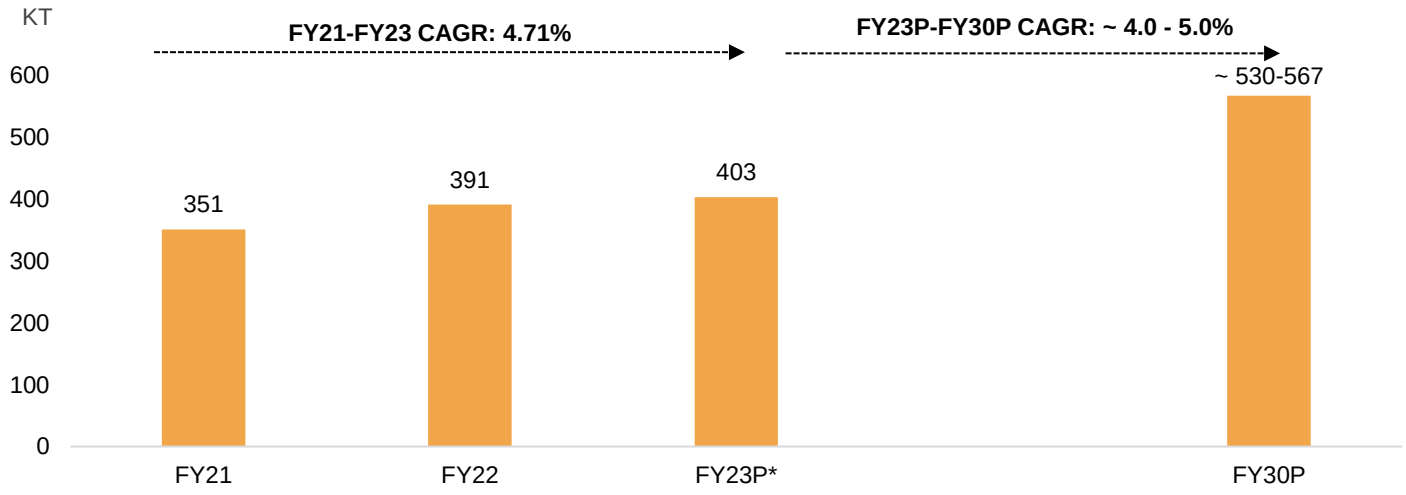
- Titanium dioxide production: The primary use of rutile is as a source of titanium dioxide. Titanium dioxide produced from rutile is suitable for application in high-performance segments such as the automotive and aerospace industry while also being suitable for use in pigments, plastics and welding rods as a coating material
- Metallurgy: Titanium metal is derived from rutile, used in aerospace, military and medical applications due to its strength and corrosion resistance
- Welding rods: Rutile is used in the coating of welding rods to stabilise the arc and improve the quality of the weld
- Gemstones: Due to its high refractive index, rutile is occasionally used as a gemstone or in the production of synthetic star sapphires and rubies

Furthermore, synthetic rutile is used as a flux component in the production of welding electrodes and also to manufacture titanium tetrachloride, which is then used to make titanium sponge. This mineral is also an ingredient in special abrasives.

Ilmenite

Ilmenite is a titanium-iron oxide mineral. It is an important source of titanium and is typically found in igneous and metamorphic rocks as well as in placer deposits. It is a dark brown to black mineral with a metallic to submetallic luster, characterized by a smooth, glassy appearance with a slight iridescence.

Domestic production review-Ilmenite



P: provisional*
P: projected

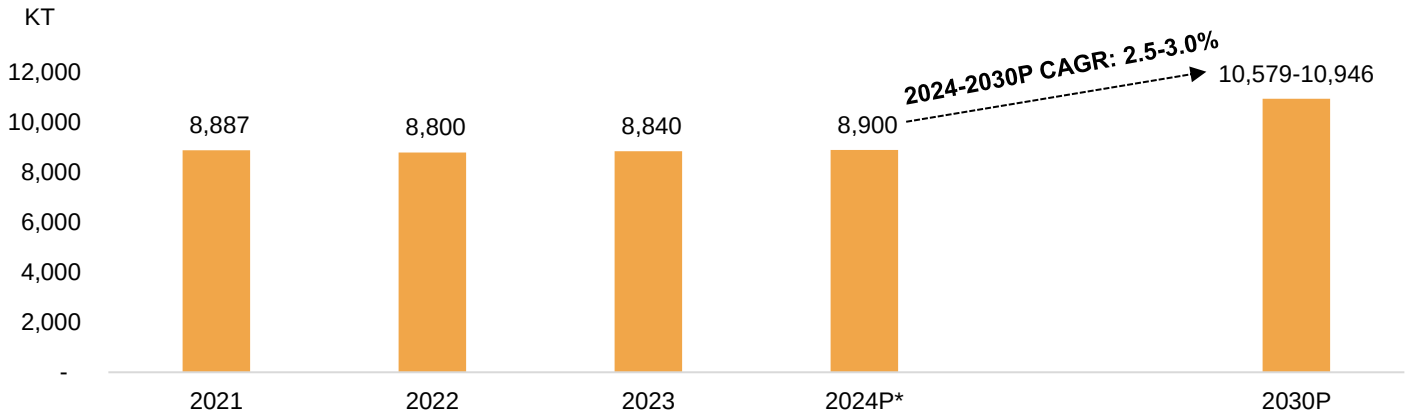
Sources: IBM, Crisil Intelligence

The domestic production of ilmenite increased from 351 KT in fiscal 2021 to 403 KT in fiscal 2023, clogging a CAGR of 4.71%. In India, the production of Ilmenite is done by only 2 players- Indian Rare Earths Limited (IREL) and Kerala Minerals and Metals Ltd (KMML), accounting for ~90% and 10%, respectively, in overall domestic production for Ilmenite.

During fiscals 2023-2030, the domestic production of Ilmenite is expected to increase at a CAGR of 4.0%5.0% to reach ~530- 567 KT, driven by the domestic demand for titanium minerals.

The prices of Ilmenite were in the range of Rs 13,167- 14,618 per tonne during fiscal 2020, as reported by IBM.

Global production review-Ilmenite



P: provisional*
P: projected

Sources: USGS, Crisil Intelligence

Global production of ilmenite stood at 8,900 MT in 2024. Major ilmenite-producing countries include China, Mozambique, South Africa and Australia.

During 2023-2030, the global production of Ilmenite is expected to increase at a CAGR of 2.5-3.0% to reach ~10,579-10,946 MT, driven by global demand for titanium minerals.

Its applications are as follows:

- Titanium dioxide production: The primary use of ilmenite is to produce titanium dioxide (TiO_2), which is used as a white pigment in paints, plastics, paper and food colouring.
- Titanium metal production: Ilmenite is also a key raw material for producing titanium metal, used in aerospace, medical, and other high-performance applications, due to its strength, light weight, and resistance to corrosion.
- Welding rod coating: It is used in the manufacture of fluxes for welding rods.

4.2 Assessment of titanium mineral market

Among heavy minerals, ilmenite and rutile are the two primary sources of titanium.

Picture	Brief description
	Titanium dioxide exists in various forms, including rutile, anatase (octahedrite), and brookite, although brookite is not found in large quantities in nature. Leucoxene is an alteration product of ilmenite and is often found associated with ilmenite.

Source: Industry, Crisil Intelligence

The different grades of titanium minerals obtained from the mining of heavy minerals are provided in the table below.

Titanium minerals	TiO2 Content (%)	Availability
Rutile	>93%	Restricted occurrence
Leucoxene	up to 90%	Restricted occurrence
Ilmenite	44-70%	Most abundant product

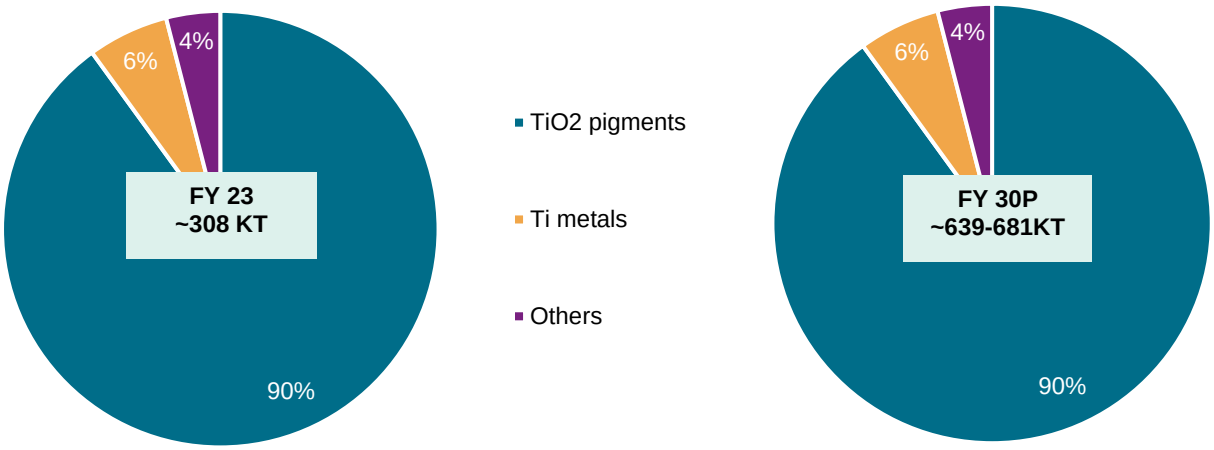
Source: Industry, Crisil Intelligence

The domestic production of titanium minerals is estimated to be ~290-300 KT in fiscal 2023.

These minerals (rutile, leucoxene and ilmenite) along with their value-added products like synthetic rutile and TiO2 slag constitute “Titanium Feedstock” for the following major industries:

1. TiO2 Pigments
2. Titanium Metal
3. Welding electrodes and titanium chemicals industry

Domestic market of Titanium minerals by end use segments for fiscal 2023 and fiscal 2030P



P: Projected

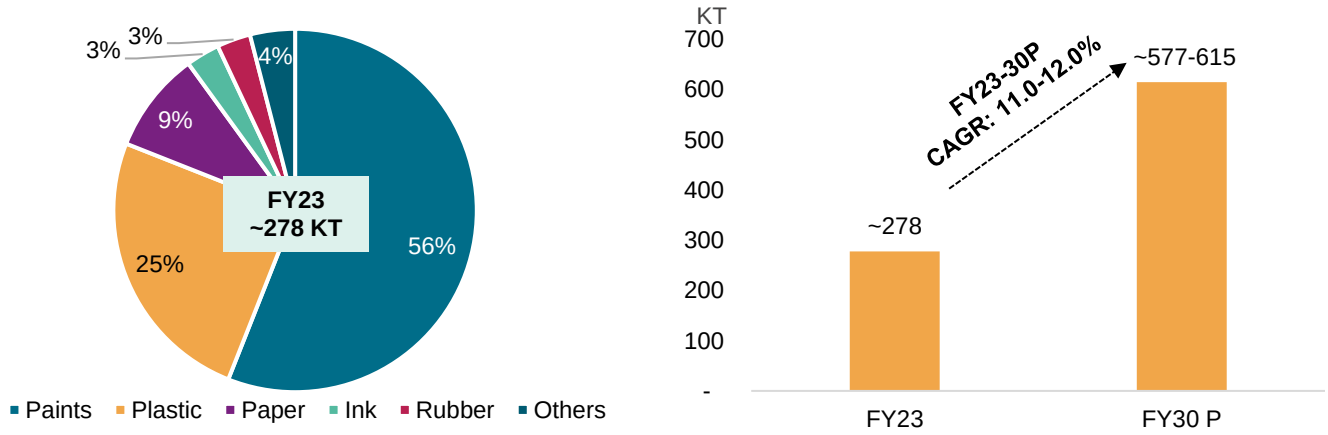
Source: Crisil Intelligence

The domestic consumption for titanium minerals is estimated to be ~308 KT. About 90% (~278 KT) titanium minerals is used in the manufacturing of white titanium dioxide pigment, followed by titanium metals (6%; 19 KT) and others (4%; ~12KT) during fiscal 2023.

During fiscal 2023-2030, the domestic market of titanium minerals/feedstock is expected to increase at a CAGR of 11.0-12.0% to reach ~639-681 KT.

This unique mineral offers a combination of exceptional properties, including high refractive index, low specific gravity, high hiding power, and opacity, as well as non-toxicity. These qualities make titanium dioxide a versatile material with numerous applications across various industries.

Domestic market of Titanium dioxide (TiO2) pigments for fiscal 2023



P: Projected

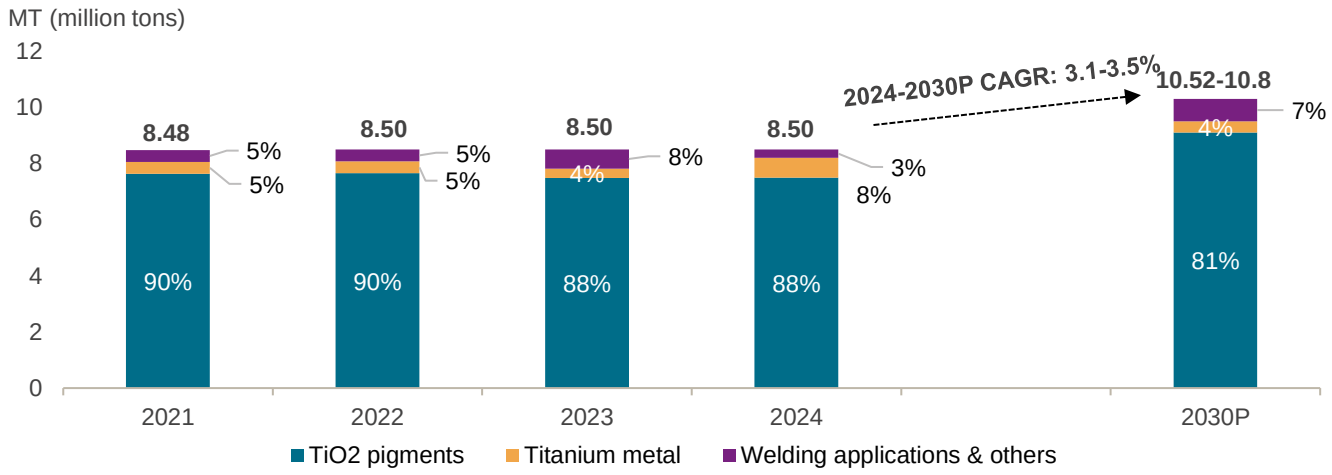
Source: Crisil Intelligence

- Paints accounted for 56% (~155 KT) of the market for TiO2 pigments.
- Rest 44% (122 KT) is used in the production of white-walled tires, glazed papers, plastics, and printed fabrics. Additionally, its non-toxic nature makes it suitable for use in pharmaceuticals, and even in foodstuff as well as in toothpaste.

Titanium metal (6%; ~19KT, of domestic market of titanium minerals), on the other hand, is a versatile material with exceptional characteristics. Its lightness, strength, and durability make it an essential metal for the aerospace Industry. It is also used in desalination and power-generation plants, as well as in corrosive chemicals industries, due to its inertness and resistance to corrosion. Its non-reactive property makes titanium metal one of the few materials that can be used in the human body for orthopaedic use and in pacemakers.

During fiscal 2023-2030, the domestic market of Titanium dioxide pigments is expected to increase at a CAGR of 11.0-12.0% to reach ~577-615 KT.

Global market of Titanium minerals by end use segments



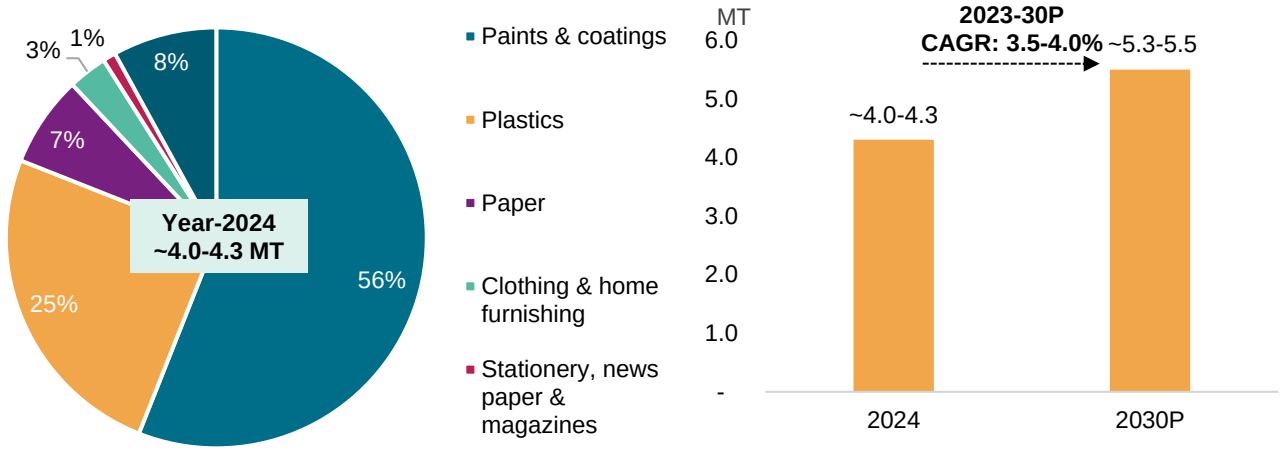
P: Projected

Source: Crisil Intelligence

The global consumption for titanium minerals (feedstock) increased from 8.48 MT (million tons) in 2021 to 8.50 MT in 2024. About 88% (~7.5 MT) of titanium feedstock is used in the manufacturing of white titanium dioxide pigment, followed by titanium metals (8%; ~0.7 MT) during 2023 and welding applications and others (4%; 0.3 MT).

During 2023-2029, the global market of Titanium feedstock is expected to increase at a CAGR of 3.1-3.5% to reach ~10.52-10.8 MT.

Global market of Titanium dioxide (TiO2) pigments for 2024 and 2030P



P: Projected

Source: Crisil Intelligence

- Paints & coatings accounted for 56% (~2.24 MT) of the market for TiO2 pigments. In the manufacturing of paints, titanium dioxide is used to create a wide range of white and pastel shades.
- Plastics accounted for 25% (~1.00 MT) of the market.
- Rest 19% (~0.76 MT) is used in production of ink and stationary materials like glazed papers, clothing and home furnishing- printed fabrics. Additionally, its non-toxic nature makes it suitable for use in pharmaceuticals, and even in foodstuff as well as in toothpaste.

Titanium dioxide is also used in cosmetics industry in manufacturing of sunscreen lotions and creams due to its non-toxicity and ultraviolet absorption properties.

As mentioned in the previous section, about 90% of the titanium dioxide pigment is predominantly used in the paint, plastic, and paper industry. Therefore, the demand for TiO2 is a function of economic activity. TiO2 is considered to be a quality-of-life product as its demand is driven by rising economies and standards of living. The correlation between TiO2 demand and world gross domestic product (GDP) has been noted by many TiO2 companies. This correlation holds because TiO2 is fundamental to many basic building blocks of economies including housing materials, automobiles, industrial equipment, consumer packaging, and construction materials. These segments do well when countries' economies (GDP) are doing well, which drives TiO2 demand growth.

During 2024-2030, the global market of Titanium dioxide (TiO2) pigments is expected to increase at a CAGR of 3.5-4.0% to reach 5.3-5.5 MT in 2030.

Monazite

Monazite is a rare mineral that belongs to the phosphate mineral group. It is composed of phosphate minerals, specifically monazite-Ca and monazite-La. Monazite is found in rare earth element (REE) deposits and is a significant source of cerium, lanthanum, and neodymium.

Its applications are as follows:

- REE production: Monazite is a significant source of cerium, lanthanum, and neodymium, which are essential for a wide range of applications, including renewable energy technologies, catalysts, and advanced ceramics.

- Phosphor production: Monazite can be used as a phosphor in the production of lighting products, such as LEDs and fluorescent lights.
- Catalysts: Monazite has been shown to exhibit catalytic properties in certain chemical reactions, making it a potential component in catalysts for the production of chemicals and fuels.
- Advanced ceramics: Monazite can be used in the production of advanced ceramics, such as those used in aerospace and defence applications.
- Nuclear applications: Monazite has been explored as a potential component in nuclear applications, such as nuclear reactors and fuel cycles.

Monazite contains viable quantities of rare earth elements which are critical to produce high-quality strong magnets, which are found in various electronics, wind turbines and electric vehicles. These elements are also used in petroleum refining, automobiles and electronic screen displays.

In India, Monazite is produced by IREL and KMML. As per IBM, the production of monazite stood at 69.75KT in fiscal 2020.

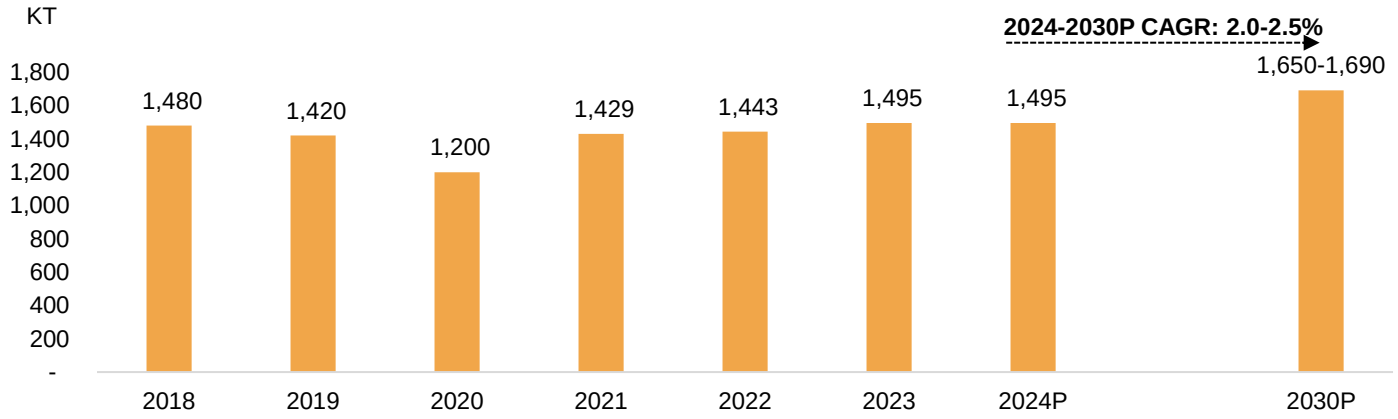
Overall, the heavy mineral sand industry plays a critical role in supplying key materials for various high-demand sectors, ensuring its continued importance in the global market.

4.3 Assessment of zircon mineral market

Zircon is a mineral that belongs to the group of silicates and is characterized by its high density, hardness, and resistance to corrosion and heat. The heat-resistant properties also make it suitable for use in refractories in foundries and other high-temperature industrial applications.

It is a common mineral found in igneous, metamorphic, and sedimentary rocks, and is used in a variety of industrial and commercial applications. It is highly resistant to corrosion, even in the presence of acidic or alkaline substances.

Global production review- zircon



P: provisional

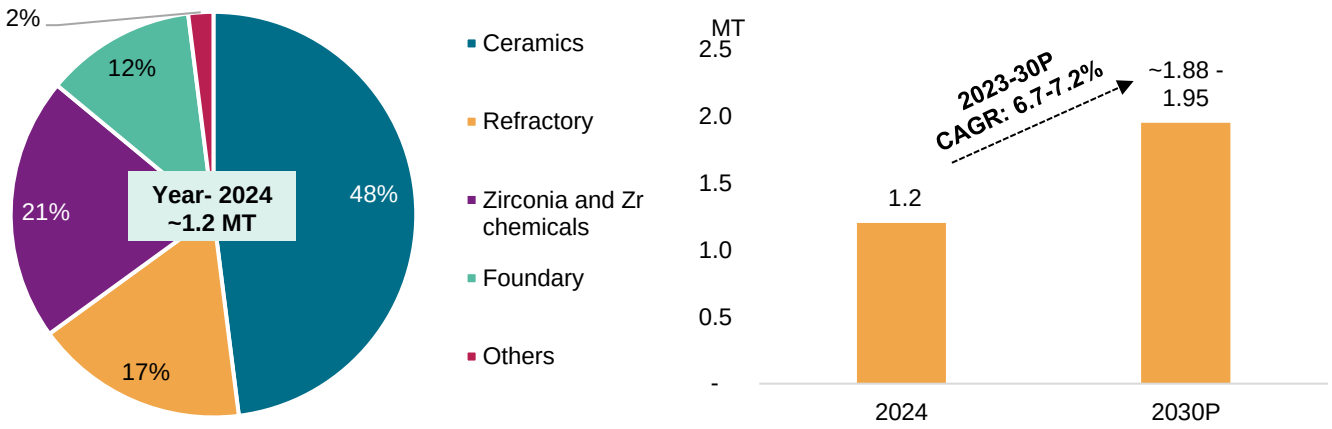
Sources: USGS, Crisil Intelligence

As per U.S. Geological Survey (USGS), Global production of zircon stood at 1,495 in 2024.

As per IBM, the production for zircon stood ~ 9.1 KT in fiscal 2018, ~11.9 KT in fiscal 2019 and ~15.6 KT in fiscal 2020. While the global production decreased over fiscals 2018-2020, India's production increased at a CAGR of ~31%.

The global production of zircon is expected to increase at a CAGR of 2.0-2.5%% over 2024-2030, to reach ~1,650-1,690 KT by 2030.

Global consumption review/ market or zircon for year 2024 and 2030P



P: Projected

Source: Crisil Intelligence

Zircon is used in a variety of industrial and commercial applications, including:

- Ceramics accounts for ~49% (~0.58 MT) of the market of zircon, used in the production of ceramic products, such as tiles, bricks, and pottery.
- Zirconia and Zr chemicals accounts for 21% (~0.25%) used for abrasives, lamp filaments, jet engines and space shuttle parts etc.
- Refractory accounts for 17% (~0.20 MT) of the market Optical lenses: High refractive index and high dispersion make zircon useful for optical applications, such as gemstones and optical lenses, including those used in eyeglasses and telescopes.

Other applications includes;

- Jewellery: Zircon is used as a gemstone in the production of jewellery, particularly in rings, earrings, and other decorative items.
- Electronics: Zircon is used in the production of electronic components, such as capacitors and resistors.

The global consumption of zircon is expected to increase at a CAGR of 6.7-7.2%% over 2024-2030, to reach ~1.95 MT by 2030.

Its high density, hardness, and resistance to corrosion make it a valuable material in a variety of industries, from abrasives to jewellery to electronics. Its optical properties also make it a popular choice for gemstones and other decorative items.

Garnet

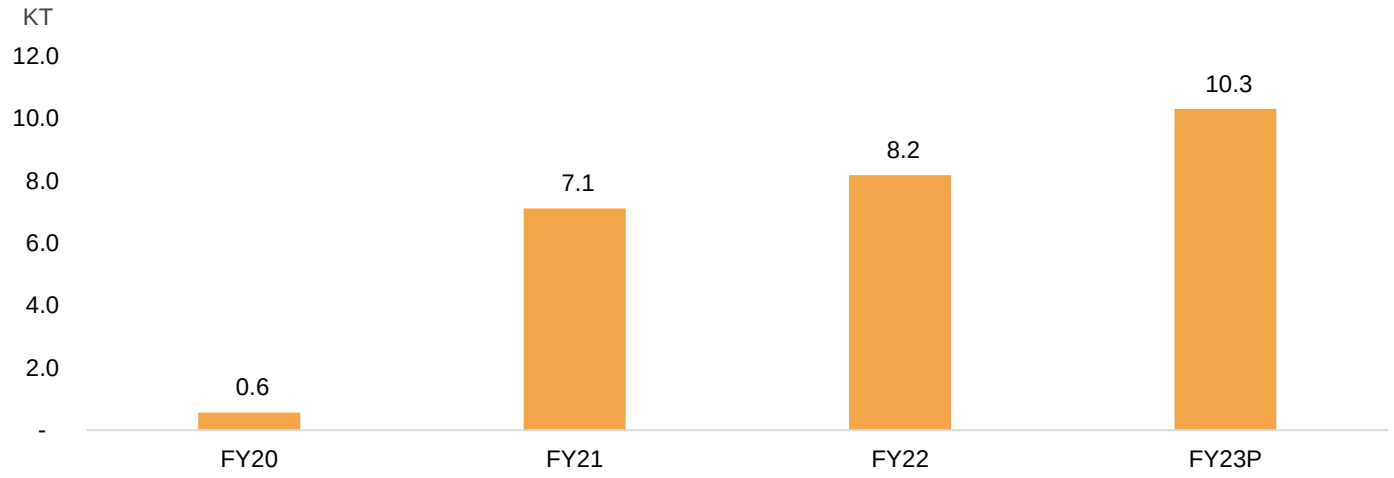
Garnet is a group of silicate minerals and are widely distributed in the Earth's crust, found in a variety of geological settings, including metamorphic rocks, igneous rocks, and sedimentary rocks, making up about 4% of the Earth's crust by volume.

It is a hard, dense mineral, having a vitreous lustre, which means it has a glass-like appearance when polished. It is a brittle mineral, which means it can break easily along cleavage planes. It is found in a wide range of colours, including red, orange, yellow, green and purple.

Uses of Garnet:

- Gemstone: Garnet is used as a gemstone and is prized for its deep red colour.
- Abrasives: It is used in abrasives, such as sandpaper and grinding wheels, due to its hardness and durability, and is also used in the manufacture of abrasive blasting media and in the production of refractory materials.
- Ceramics: Garnet is used in high-temperature applications, such as in the production of glass and ceramics.

Domestic production of Garnet (abrasive)

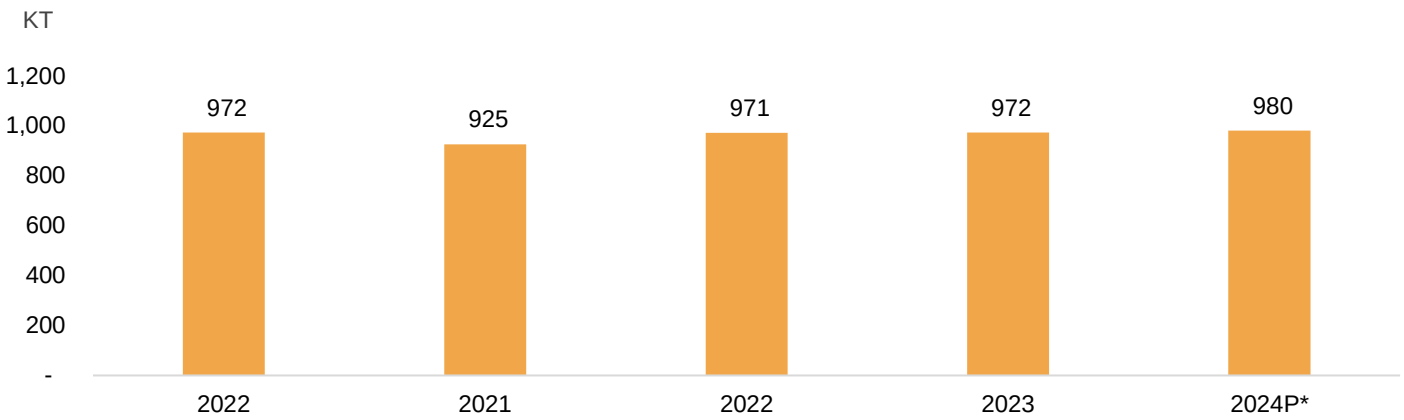


P: provisional*

Sources: IBM

The domestic production of garnet (abrasive) increased from 0.6 KT in fiscal 2020 to 10.3 KT in fiscal 2023. In fiscal 2023, like fiscal 2021 & 2022, Rajasthan was the sole contributor to production, with three major producers from the state accounting for approximately 96% of the total output.

Global production of garnet (industrial)



P: provisional*

Sources: USGS

Global production of garnet (industrials) stood at 972 KT in 2023. In 2024, the production of garnet (industrial) is projected to be at 980 KT. As per USGS, the US natural gas and petroleum industry is one of the key end use industries which uses garnet for cleaning the drilling pipes and well casings.

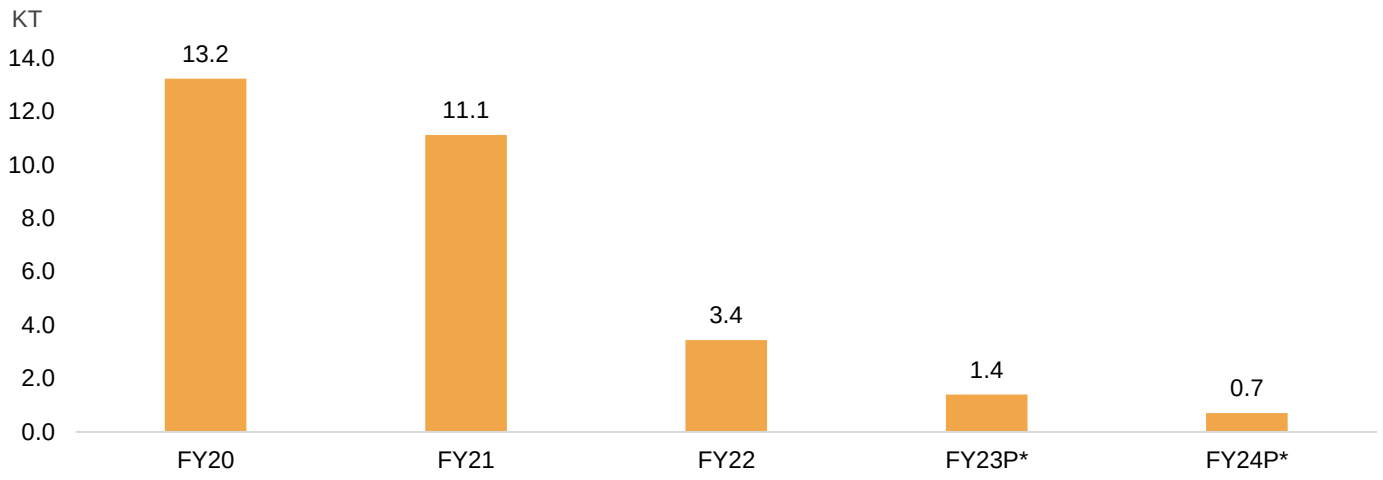
As per IBM, India's production of garnet industrial stood at 12 KT in 2021 and 15 KT in 2022.

Sillimanite

Sillimanite is an aluminosilicate mineral, and it is commonly found in metamorphic rocks such as schists and gneisses. Sillimanite typically forms under high-temperature and high-pressure conditions during the metamorphism of aluminium-rich sediments.

- Refractories: Sillimanite is primarily used in the production of refractory materials. Its high melting point and resistance to thermal shock make it ideal for lining furnaces, kilns, and other high-temperature equipment. Refractories made from sillimanite are used in industries such as steelmaking, glass manufacturing, and ceramics.
- Ceramics: Used to manufacture high-quality porcelain and stoneware. Its properties help enhance the durability and strength of ceramic products.
- Abrasion-resistant Materials: Sillimanite's hardness makes it suitable for use in abrasives. It can be incorporated into materials that need to withstand wear and tear, such as sandblasting media and grinding wheels.
- Geological Studies: In geology, sillimanite serves as an index mineral for determining the metamorphic grade of rocks. Its presence can help geologists understand the temperature and pressure conditions under which the host rock formed.
- Engineering Applications: It is used in various engineering applications where high-temperature stability and resistance to thermal shock are required.

Domestic production of Sillimanite



P: provisional*

Sources: IBM

The domestic production of sillimanite stood at 3.4 KT in fiscal 2022. In fiscal 2023 and 2024, the production for sillimanite is estimated to be at 1.4 KT and 0.7 KT, respectively.

As per IBM, the main reason for decrease in number of mines is classification of some sillimanite producing mines, as BSM mines in Andhra Pradesh, Kerala and Tamil Nadu. Earlier, these mines were considered under sillimanite mineral as a part of MCDR mineral as there was no separate classification of Beach Sand Minerals (BSM) and Non-Beach Sand Minerals (non-BSM).

Maharashtra is the only State which contributed 100% of the total production of sillimanite during fiscal 2022.

5 Company profile: Midwest Ltd

5.1 Business profile

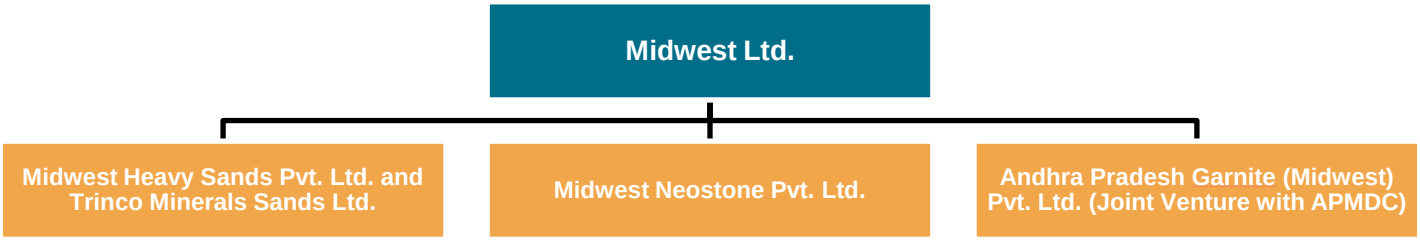
Midwest Ltd., a Midwest group company, was incorporated in 1981 with the main objective of developing knowledge and expertise in the field of natural stones, namely granite, marble, quartzite, quartz and heavy mineral sand. Midwest mines over 1.38 million cubic meters (CBM) of granite per annum (average of fiscals 2023, 2024 and 2025), including saleable product and waste granite.

Midwest has built a strong presence over the past four decades in the business of mining and processing granite and further diversified into quartz mining and processing; heavy mineral sand extraction and processing of rare earth elements, including titanium; manufacturing of engineering diamond tools using eco-friendly techniques.

Quartzite and Laza Grey Marble, both recent additions to the company's portfolio, are being developed using a B2B2C strategy. The company is developing certain varieties of Laza Grey Marble and Celestia Quartzite, which could supplement the Indian market for imported Marble and Quartzite, as they possess similar aesthetic and functional attributes. This is expected to enhance revenue starting next year. These two products are recent additions to our portfolio, reflecting our commitment to offering cost-effective and high-quality materials.

The company aims to cater to the growing domestic market, which can complement demand patterns in international markets. For instance, while Black Galaxy Granite is sold at a premium in the overseas markets compared with the Indian market, Absolute Black Granite can serve as a lower-cost alternative to Black Galaxy Granite, which can be sold at competitive prices in the domestic market.

Major subsidiary companies



Source: Midwest Ltd.

1. Midwest Ltd

Midwest Ltd, a distinguished entity with four decades of legacy, is based in Hyderabad, Telangana. Incorporated on December 11, 1981, the company specialises in mineral exploration, mining, processing and global distribution of natural-stone products. Midwest Ltd's diverse portfolio includes the exploration and extraction of Black Galaxy Granite, Absolute Black Granite, quartz, quartzite, and heavy mineral sand across various locations in India and Sri Lanka.

2. Andhra Pradesh Granite (Midwest) Private Ltd

Andhra Pradesh Granite (Midwest) Private Ltd is a joint venture between Midwest Ltd and Andhra Pradesh Mineral Development Corporation Ltd, a state government enterprise. Incorporated on June 11, 2007, the company focuses on the mining and sales of Black Galaxy Granite, serving both global distributors and the domestic market.

3. Midwest Neo Stone Private Ltd

Midwest Neo Stone Private Ltd, incorporated on January 17, 2017, is a quartz crushing and processing unit located in the SEZ in Ongole district, Andhra Pradesh. As Midwest Ltd already excels in mining, this venture represents the next stage of vertical integration with processing plants. By setting up this processing facility, the company has successfully extended its business operations, completing the industrial chain from mining to market to meet the demand for engineered stone, glass, solar, and semiconductor industries —a significant value addition for its growth.

4. Midwest Heavy Sands Private Ltd and Trinco Mineral Sands Ltd

Midwest Heavy Sands Private Ltd and Trinco Mineral Sands Ltd mark Midwest Ltd's strategic expansion into the heavy mineral sand sector. Midwest Heavy Sands Private Ltd (MHPL) was incorporated on November 9, 2022, and Trinco Mineral Sands Ltd (TMSL) on June 30, 2023, both in Sri Lanka. These companies are subsidiaries of Midwest Ltd.

The above companies have already obtained mineral exploration licences for Heavy minerals sand from the government of Sri Lanka and completed exploration activities. The company is in the process of obtaining mining licenses and various operational permits to start the mining activities and establish the processing plant.

Management profile

1. K Raghava Reddy, Founder and President

Midwest group is founded by K Raghava Reddy, who has more than 50 years of experience and expertise in the natural-stone industry. Reddy is a visionary entrepreneur and expert in clean-energy technologies with a track record of building diversified, sustainable, socially responsible enterprises. A natural-stone specialist in mineral prospecting, mining and project management, he is actively involved in many global research projects in the areas of natural stone, clean energy, including solar, wind, coal to liquids, carbon sequestration, oil sands/shale, and is a pioneer in mineral exploration and development in various countries, such as India, China, the US, Mozambique, Zimbabwe, Indonesia and Vietnam.

2. Rana Som, Chairman and Independent Director

Rana Som holds a bachelor’s degree in arts (economics) from the University of Calcutta and has passed the examination for a master’s degree in arts (economics) from the University of Calcutta. He also holds a post-graduate diploma in personnel management from the National Institute of Personnel Management. Prior to joining our Company, Mr. Rana Som was associated with Hindustan Copper Limited, NMDC Limited (as its chairman-cum-managing director), ArcelorMittal Nippon Steel India and Essar Steel Minnesota LLC.

3. K Ramachandra, CEO and Director

With more than 15 years of experience in the mining and mineral processing segments, Ramachandra is currently heading the group's mining operations. He specialises in mining, processing technologies and information systems. He has been associated with the company as a lead member from last 15 years. He has in-depth knowledge about management and operations of the quartz manufacturing unit. He is also associated with plant and machinery suppliers globally.

4. K Soumya, Director

A graduate in commerce and computer science, Soumya’s expertise is in R&D, production and quality control systems. A specialist in powder metallurgy, she is involved in the design, development and production of eco-friendly diamond tools for the mining, mineral processing and construction sectors. A skilled team builder and passionate leader, Soumya leads a young and dynamic team of experts providing clean energy solutions in the area of e-mobility.

5. K Uma Priyadarshini, Director

Priyadarshini is a post-graduate from Columbia University in financial engineering. She has been handling the group's investments, commercial transactions, liaison with government authorities and financial institutions, particularly in Africa. She has worked as an investment banker on the Wall Street. She also holds an MBA from Colombia University and brings a wealth of knowledge and market contacts to the team.

6. Duvva Pavan Kumar, Independent Director

Duvva Pavan Kumar holds a bachelor's degree in law from NALSAR University of Law, Hyderabad. He has over 20 years of experience in the legal industry. He has been a practising advocate for 21 years and has been associated with Amarchand, Mangaldas & Suresh A Shroff & Co., Mumbai and Trilegal after which he founded The Law Chambers in 2017.

7. Smita Amol Lahoti, Independent Director

Smita Amol Lahoti holds a bachelor's degree in commerce from University of Pune and a master's degree in commerce from University of Pune. She is a fellow of the Institute of Chartered Accountants of India and has been a practising chartered accountant since 2004. She has been associated as a partner at M/s. Muttha & Lahoti, Chartered Accountants since 2005, and has an experience of over 25 years in accounting.

8. Dilip Kumar Chalasani, Chief Financial Officer

Dilip Kumar Chalasani is a qualified Chartered Accountant and was granted certificate on 'International Financial Reporting Standards' by Institute of Chartered Accountants of India. He is having experience of 20 plus years on the commercial, finance and accounting aspects of business enterprise. He has associated with various businesses viz. telecom, transmission & distribution, stock broking, textiles, prefab, Railways, Electronic OEMs, Seeds, Renewable Power, transport, infrastructure, highly engineered composite services etc. He has expert knowledge in taxation matters of both direct and indirect taxes in India and various other countries and have experience in fund raising including in foreign countries with finest commercial terms that a business aspires.

9. Mallikarjuna Rao Kommana, Chief Operating Officer

Mallikarjuna Rao Kommana has been associated with our Company since 2018. In his current role, he heads all mining operations carried out in dimension stone granite, quartzite, grey marble and quartz mines of the Company in India, and our international activities. He has been awarded the diploma of licentiate in mining engineering from the State Board of Technical Education and Training, Government of Andhra Pradesh. He has also been awarded First Class Mine Manager's Certificate of Competency to manage a Coal Mine under the Mines Act, 1952. Prior to Joining our company, he worked with Dangote Industries (Africa), Monnet Ispat and Energy Limited, Lanco Infratech Ltd, Singareni Colleries Company Ltd.

10. Peddibhotia Venkata Shiva Prasad, Chief General Manager (Mechanical Maintenance)

Peddibhotia Venkata Shiva Prasad, who has been associated with our Company since 2018, has completed a diploma course in engineering in Automobile Engineering from Andhra Polytechnic, Kakinada. In his current role, he is responsible for heading the mechanical department and support production of various dimension stone granite, quartzite, grey marble and quartz mines of the Company in India. He is also responsible for overseeing the business development in the diamond tools division of the Company.

11. Rohit Tibrewal, Company Secretary

Rohit Tibrewal is an associate member of the Institute of Company Secretaries of India. He holds a bachelor's degree in commerce from the Government City College, Hyderabad, Osmania University. He has been with our Company since January 2024 and has over 12 years of experience in the Legal, Secretarial and Compliance. Prior to joining our Company, he worked with Karvy Insurance Repository Private Limited, Power Mech Projects Limited, Tanla Platforms Limited.

12. K. Damodar Reddy, Chief General Manager (Mines)

K. Damodar Reddy has been associated with our Company since 2006. In his current role, he is unit head statutory agent and mine manager for safety and productivity of Black galaxy granite at Andhra Pradesh Granite (Midwest) Pvt Ltd-Chimakurthy. He is also responsible for mine planning, monitoring heavy earth moving machinery operations, drilling and blasting, quality control. He has completed a diploma course in mining engineering from Government Polytechnic Narsipatnam. He was granted 'First Class Manager's Certificate of Competency' to manage metalliferous mines having opencast workings only under the Mines Act, 1952.

Infrastructure details

The company's infrastructure details are as follows:

Addresses	Area (sq ft)	Details (leased/ owned/ rented/ licensed)
Midwest Ltd 8-2-684/3/25&26, Road No.12, Banjara Hills, Hyderabad - 500 034 (T.S) INDIA	11,500	Leased (office building)
Midwest Ltd Plot No 29, Building Product SEZ at Growth Center, Gundlapally, Ongole, Prakasam District, Andhra Pradesh – reg	72,000	Leased (land leased for 33 years from the Andhra Pradesh Industrial Infrastructure Corporation Ltd [APIIC]. The company constructed the processing plant)
Midwest Neostone Pvt Ltd Plot No 30A, Building Product SEZ at Growth Center, Gundlapally, Ongole, Prakasam District, Andhra Pradesh – reg	1,25,280	Leased (land leased for 33 years from the APIIC. The company has constructed the processing plant)
Midwest Neostone Pvt Ltd Plot No 30B & 31, Building Product SEZ at Growth Center, Gundlapally, Ongole, Prakasam District, Andhra Pradesh – reg		
Midwest Ltd Plot No. 44/C, IDA, Patancheru Medak TG 502319	34,130	Own (built the diamond tools manufacturing plant)
Andhra Pradesh Granite (Midwest) Pvt. Ltd Sy No 55/5, RL Puram Village, Chimakurthy Rd, Chimakurthy Mandal, Prakasam, Andhra Pradesh, 523226	20,400	Leased land (the company built the granite processing plant)
Midwest Ltd La Creative Heights, Flat No 2 & 3, Road No. 12, Banjara Hills, Hyderabad, Telangana	4,500	Guest house
Midwest Ltd Padmaja Courts – I, Flat No 401, Sri Nagar colony, Hyderabad, Telangana	2,000	Guest house

Source: Midwest Ltd.

The company's reserves details as on 01-07-2025 are as follows:

MIDWEST GRANITE RESERVES								
DECORATIVE STONES (GRANITE)								
S.No.	Rock Type	Mine Location	Proved Reserves (CBM)	Blockable Reserve (CBM)	Recovery (%)	Avg. production per month in CBM	Life of the mine (In months)	Life of the mine (In Yrs)

1	Galaxy granite (Black)	Chimakurthy	Main Pit	96,86,777	22,75,933	23	5,000	453	38
			APJV	27,962,621	6,191,965	22	6,000	1031	86
			Block-4	11,810,753	1,771,613	15	5,000	339	28
2	Black granite	Arpanapalli &Teegalaveni		7,173,660	1,382,571	19	4,000	339	28
		Yerraballigudem		1,275,592	234,203	18	500	453	38
		Gurthur		1,425,686	260,008	18	800	310	26
		Makkapeta		1,773,845	319,292	18	400	783	65
		Ramakuppam		946,412	198,747	21	700	269	22
		Kukatlapalle		3,888,094	816,500	21	2,500	312	26
		Kodad		5,410,083	1,249,543	22	4,000	305	25
3	Colour granite	Vilasagar		14,889,153	3,871,180	26	5,000	759	63
		Ilkal		1,773,845	461,200	26	5,000	77	6
4	Marble	Kadapa		3,985,046	1,036,298	26	5,000	192	16
5	Quartzite	Hanumanthunipadu		4,239,147	1,294,865	30	5,000	244	20
Total				**96,240,714**	**21,363,918**				

Source: Midwest Ltd.

Existing footprints in the granite market

- **Core operations in India**

Midwest at present holds 20 mining lease licenses, five leases for which mining approvals are in the process, two granite processing units, one quartz crushing and processing unit and one diamond tool manufacturing plant.

The details of the leases as of September 15, 2025, are listed below:

Name of mine/ processing unit/ plant	Location	Number of mine leases/ processing plants	Leases available: obtaining mining approvals
Mines			
Black galaxy granite mine	Ongole, Andhra Pradesh	3	
Absolute black granite mine	Warangal, Telangana	7	2
Absolute black granite mine	Kodad, Telangana	2	
Absolute black granite mine	Errabelligudem, Telangana	2	
Grey marble mine	Kadapa, Andhra Pradesh	1	
Tan-brown granite mine	Karminagar, Telangana	2	
Quartzite	Hanumanthunipadu, Andhra Pradesh		1
Quartz mines	Kadapa, Andhra Pradesh	3	

Name of mine/ processing unit/ plant	Location	Number of mine leases/ processing plants	Leases available: obtaining mining approvals
Quartz mine	Chejerla, Andhra Pradesh		1
Quartz mine	Hathibelgal, Andhra Pradesh		1
Granite processing units			
Chimakurthy	Andhra Pradesh	1	
Ongole SEZ	Andhra Pradesh	1	
Diamond tool plant in Hyderabad			
Diamond Rope	Hyderabad	1	
Quartz crushing and processing plant in Andhra Pradesh			
Ongole SEZ	Andhra Pradesh	1	

Source: Midwest Ltd.

- **Midwest's global distribution network**

Midwest supplies its natural stone products across the world through its global distributor network. Despite significant waiting time and higher prices, the company has established a loyal and committed base of customers owing to the trust it has built over the years.

The distribution network across continents is as follows:

Major regions/ continents	Countries where Midwest has an established distribution network
North America	The US, Canada, Mexico, Guatemala
South America	Chile, Argentina, Brazil
Europe	Spain, Italy, Romania
Africa	East Africa, Mozambique, Zimbabwe
Asia	India, Sri Lanka, China, Taiwan, Hong Kong, Thailand, Singapore, Maldives, Indonesia

Source: Midwest Ltd.

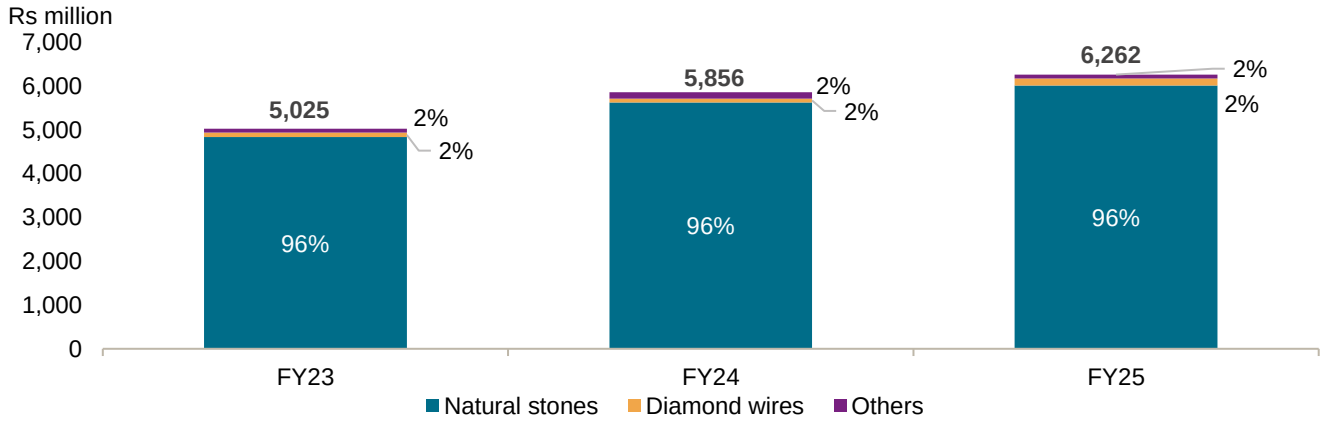
Apart from the regions listed above, the company is also present in Australia and a few countries in the Middle East.

5.2 Past performance review

Midwest's primary business segment is natural stones. It also earns revenue from secondary business segments such as diamond wires and other processed stones (such as polished slabs).

Over fiscals 2023-2025, 96% of its revenue came from the primary business of selling granite blocks, particularly absolute black and black galaxy granite. The secondary segments contributed 2% each.

Segment-wise revenue



Source: Midwest Ltd., Crisil Intelligence

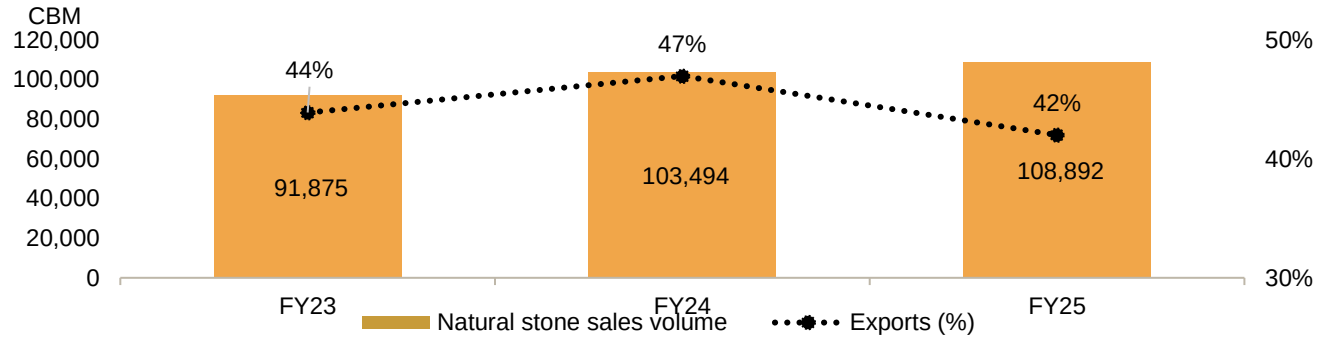
Midwest's revenue increased from Rs 5,025 million in fiscal 2022 to Rs 6,262 million in fiscal 2025, clocking a CAGR of 12%.

The overall revenue trend is positive, demonstrating resilience and a steady growth trajectory. Despite a minor setback in fiscal 2023, the company demonstrated its ability to recover and continue growing, driven predominantly by its core strength in the granite blocks market. The steady contributions from the secondary segments also highlight the company's diversified revenue streams, which complement its primary operations.

Segment 1: Natural stones

Operations under this segment involve extraction, processing and sale of natural stone products, including granite, marble and other types of natural stones used in construction, decoration and various industrial applications.

Natural stone sales in volume terms

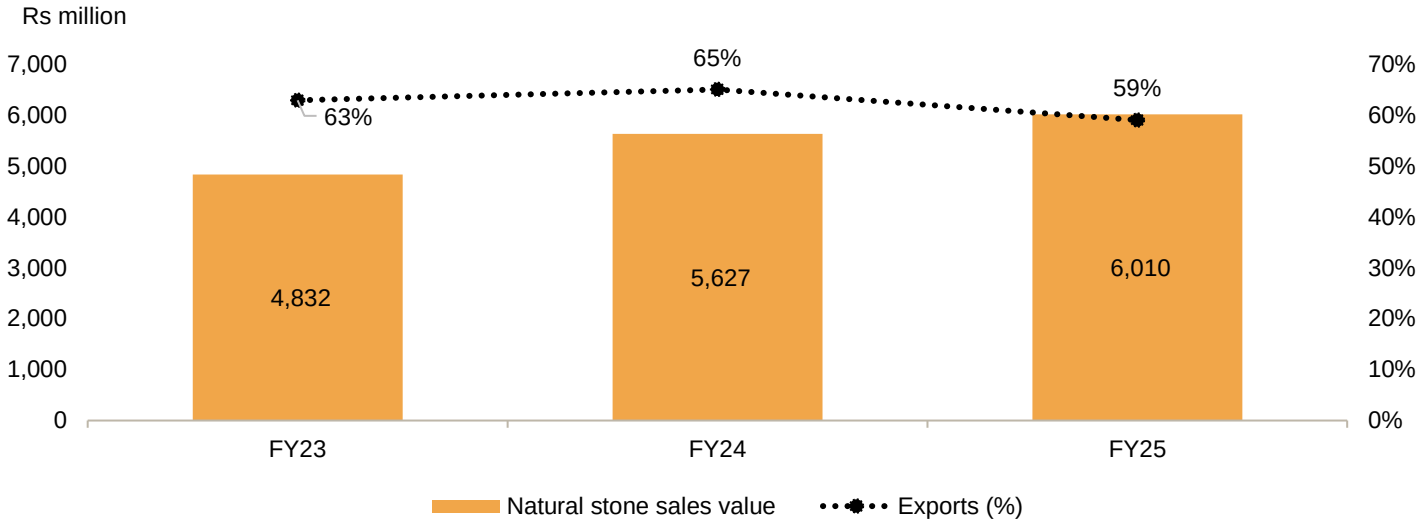


Sources: Midwest Ltd., Crisil Intelligence

The sales volume of granite increased to 108,892 cubic metre (cu m) in fiscal 2025 from 91,875 cu m in fiscal 2023. These products are sold both domestically and internationally. Exports constitute a significant portion of the company's overall granite sales volume. Share of exports in total sales has remained in a range of 42-47% over fiscals 2023-2025. The share of exports steadily increased from 44% in fiscal 2023 to 47% in fiscal 2024, when it sold 48,602 cu m. The share of exports was 42% (46,132 cu m) during fiscal 2025.

The growth in volumes is a reflection of Midwest's expanding global footprint and the increasing demand for its granite products in both the domestic as well as the international markets.

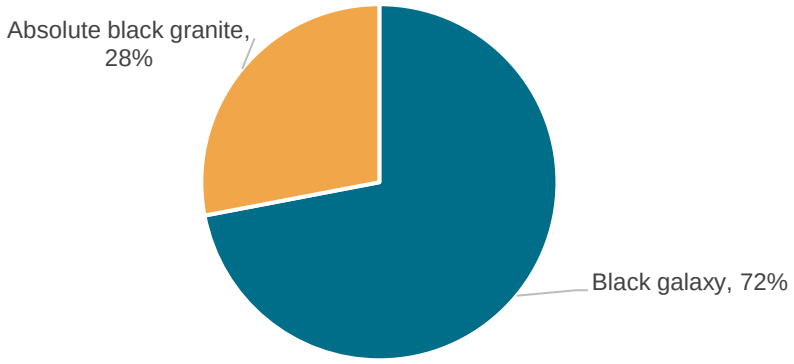
Natural stone sales in value terms



Source: Midwest Ltd., Crisil Intelligence

Revenue from granite sales logged a CAGR of 12% between fiscals 2023 and 2025, increasing from Rs 4,832 million to Rs 6,010 million. Exports constitute more than half of the company's total revenue. The exports accounted for 59% of the revenues from this segment in fiscal 2025. Comparatively, average realisation from exports is higher when assessing revenue generated as a percentage of the volume exported. This underscores the advantageous financial impact of Midwest's exports strategy on its overall revenue growth during the period.

Share of black galaxy and absolute-black granites in natural stones sales (by value, fiscal 2025)



Source: Midwest Ltd., Crisil Intelligence

In fiscal 2025, black galaxy granite accounted for 72% (Rs 4,355 million) of the total granite sales revenue. The product had dominated sales value and volume in fiscal 2023 and 2024, too.

Black granite stands out as a premium product in overseas markets, commanding higher average realisations than in Indian markets. The realisation is higher than that of coloured or other forms of granite, too. The premium positioning makes black granite a preferred option for luxury projects where quality and aesthetics are paramount considerations.

Whether used in modern architectural designs or traditional settings, black granite adds a timeless elegance and enhances the overall value of the spaces it adorns. As such, its demand remains strong in global markets, reinforcing its status as a premium choice among granite varieties.

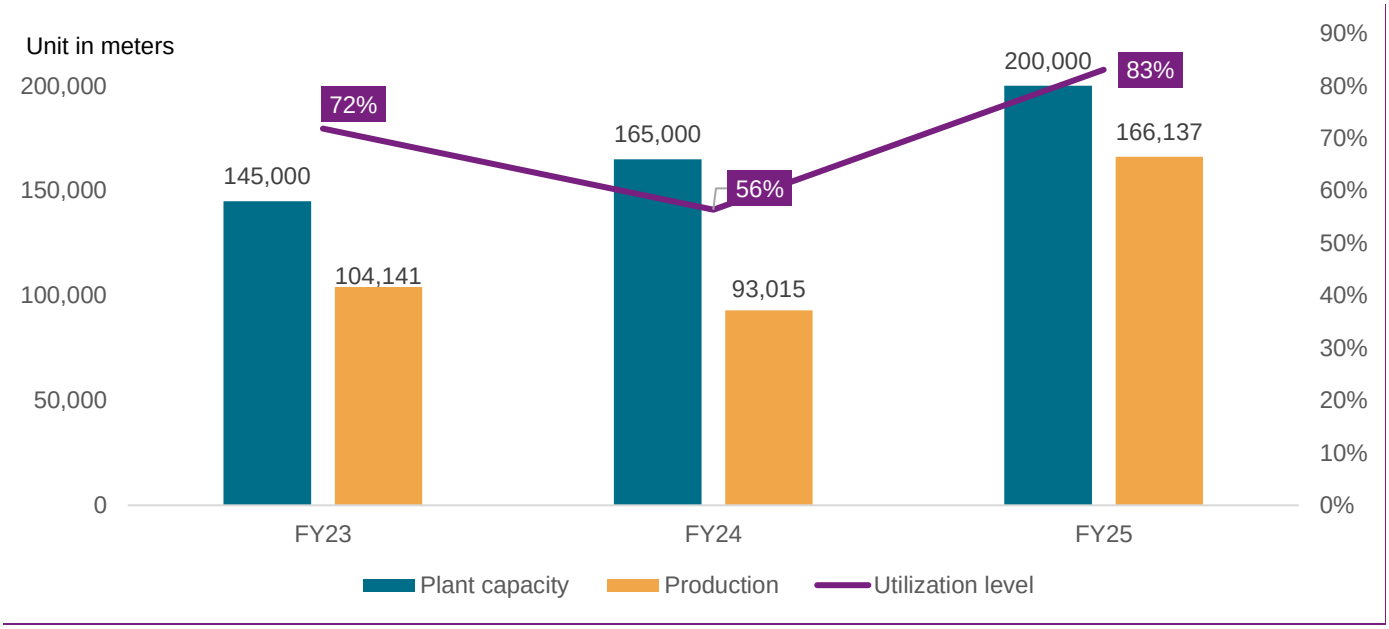
Segment 2: Diamond wires

Midwest produces diamond wires that are used in the cutting and processing of hard materials, including natural stones, semiconductors and solar panels. The most common end-use industries where they find application are as follows:

- Stone cutting and quarrying: Diamond wires are an essential tool in the granite and natural stone industry for precise and efficient cutting of blocks, slabs and dimensional stone products. They are used for wire sawing in mining and quarrying for extracting minerals and rocks.
- Construction and infrastructure: They are used in civil engineering projects for cutting and shaping hard materials such as reinforced concrete and steel, enhancing efficiency and precision in construction processes.
- Slicing wafers and substrates in semiconductor manufacturing.

Revenue is derived by selling diamond wires to other businesses involved in the cutting and shaping of hard materials.

Capacity and production of diamond wires



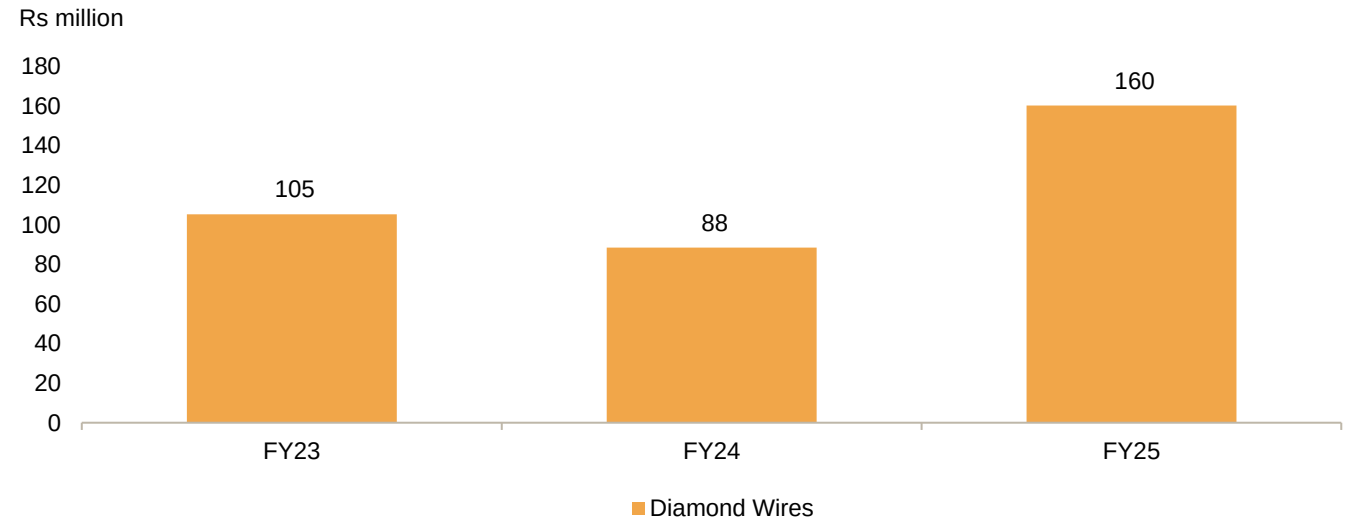
Source: Midwest Ltd., Crisil Intelligence

Midwest's initial plant capacity was steadily increased through annual addition of 35,000 m during fiscal 2024, reaching 200,000 m by fiscal 2025.

Production volume rose from 104,141 m in fiscal 2023 to 166,137 m in fiscal 2025, marking a substantial CAGR of 26%.

Capacity utilisation also increased from 72% in fiscal 2023 to 83% in fiscal 2025. The expansion strategy reflects Midwest's proactive approach to scaling up operations to meet growing demand while maintaining efficient utilisation of its manufacturing capabilities.

Revenue from diamond wires



Sources: Midwest Ltd., Crisil Intelligence

Revenue from diamond wires was on a positive trajectory over fiscals 2023-2025. From Rs 105 million in fiscal 2023, it increased to Rs 160 million in 2025, indicating growth in demand and sales. Although there was a decrease to Rs 88 million in fiscal 2024, the overall trend demonstrates resilience and stability in the segment. The consistency in performance underscores Midwest's ability to capture and maintain a significant market share in the diamond wires sector, despite fluctuations, indicating the company is well placed to tap into future growth opportunities in this specialised market.

Segment 3: Other processed stones

Midwest has effectively leveraged its operations by finding revenue streams from granite stones that do not meet international standards. These stones, which would otherwise be considered waste, are now processed (cut and polished) and sold in the market. This initiative not only helps utilise the by-products efficiently but also generates additional revenue for the company.

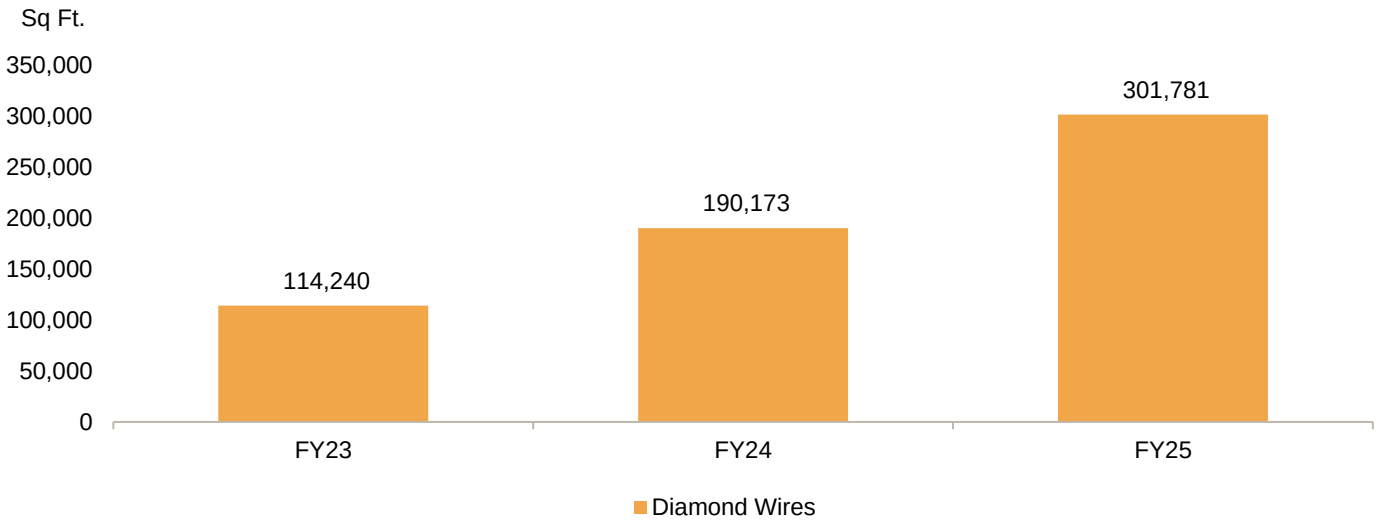
Under this segment, the company sells a variety of other processed stone products such as:

- Processed polished slabs: Finished stone slabs that are cut, polished and ready for installation in various applications such as flooring, countertops and wall cladding.

Though, this adds less than 2% of the revenue, value addition is created from this approach.

The processing of such products is done in Midwest’s granite processing plants at Chimakurthy and SEZ-Ongole, Andhra Pradesh, which together have a capacity to produce 2,330,382 sq ft of stone slabs per annum. This segment involves further refinement and customisation of raw stone materials into finished products that meet specific market demands. These finished and value-added stone products are sold to construction companies, retailers and end consumers.

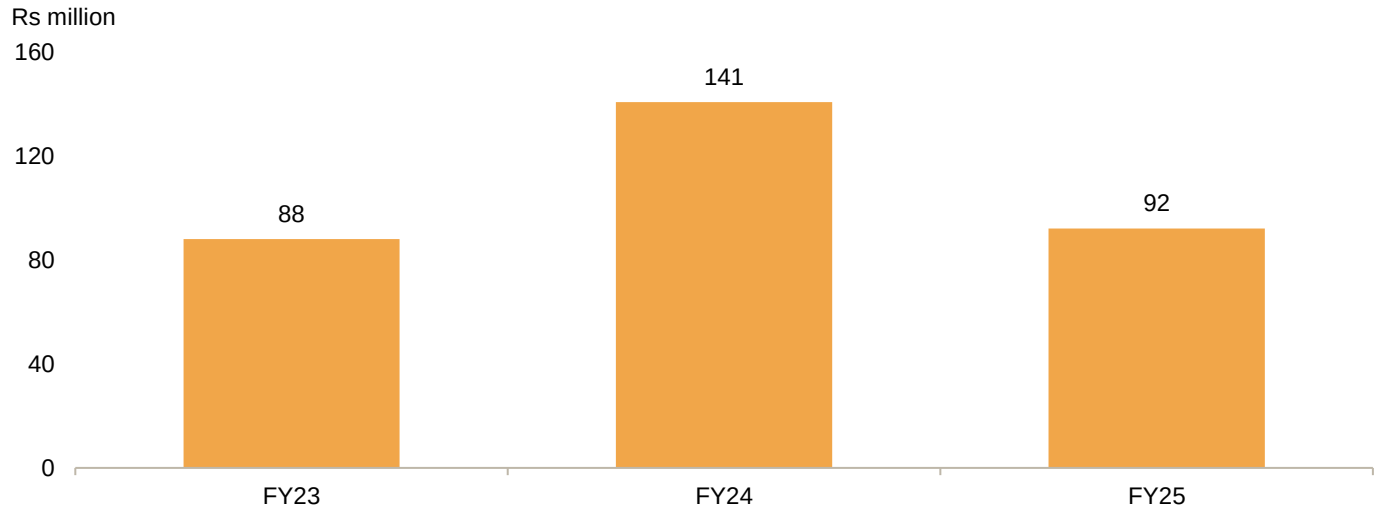
Production of other products



Sources: Midwest Ltd., Crisil Intelligence

The total production at Midwest's two granite processing plants grew significantly to 301,781 sq ft in fiscal 2025 from 114,240 sq ft in fiscal 2023. The impressive growth represents a multiple fold increase each year, 180% in fiscal 2024 and 59% in fiscal 2025. The substantial expansion in production capacity reflects Midwest's effective operational scaling to meet rising demand for its processed granite products. The growth not only enhances the company's output capabilities but also positions it as a strong player in the market.

Revenue from other products sales



Sources: Midwest Ltd., Crisil Intelligence

Revenue from sales of other processed products showed a declining trend over the fiscals 2023-2025. In fiscal 2023, the revenue stood at Rs 88 million, however in fiscal 2025 the revenue stood at Rs 92 million.

5.3 Expansion plans and tie-ups to boost sales

1. Quartz mining licences

The company will add processing operations to its existing strength in mining in the quartz segment to diversify its revenue stream. It has already secured mining licences and is also in the process of acquiring new leases to boost its business prospects.

2. Quartz processing plants

Midwest has identified quartz as a potential sector given its experience in mining and mineral processing apart from the ability to be the organised player in an unorganised market and as part of its strategic objective. The company wants to set up quartz processing plants to initiate the next stage of integration to ensure effective utilisation of mines, increased revenue and employment generation.

The phase 1 of the project will produce 243,000 MT of quartz grit and powder per annum. The products are primarily used in engineered slabs and the glass industry.

The phase 2 will add 243,000 MTPA of quartz grit and powder. Midwest owns mines having proven high purity quartz (HPQ) resources. HPQ grit produced in the phase 2 will be used in solar and semiconductor industries.

With the operationalisation of the phase 1, the company will become one of the few players in the world that incorporate a mine-to-market integrated business model for production of quartz, i.e., offering capabilities across mining, processing, branding, bagging and distribution of quartz.

3. Heavy mineral mining licences in Sri Lanka

The company has obtained mineral concessions in Sri Lanka for the mining of heavy mineral sand ores to extract and produce 37,000 metric tonne per annum of minerals such as rutile, Ilmenite, zircon, garnet, sillimanite and monazite, each yielding different quantities of titanium and small quantities of rare earth elements.

In this regard, the company has incorporated two wholly owned subsidiaries in Sri Lanka — Midwest Heavy Sands (Pvt) Ltd and Trinco Mineral Sands Ltd. It has obtained four mineral concessions (exploration licences) with a potential to explore, develop and exploit the minerals mentioned above.

Ilmenite and rutile, which constitute the bulk of the ore, are used as feedstocks in the production of titanium oxide and titanium sponge and the company intends to produce intermediate products, titanium slag and titanium di-oxide pigment. Titanium di oxide pigment is used in pigments and paints and titanium sponge in the making metal and alloys. Rare earth elements are key ingredients for the manufacture of high-strength magnets and semi-conductors critical for the manufacture of electronics and medical equipment.

Monazite is a feedstock for rare earth elements that are critical for the manufacture of high-strength magnets.

Further, the company has aggressive plans to acquire more mines and leases for consolidating its granite, quartz and heavy minerals business.

5.4 Competition benchmarking

Operational benchmarking

While the Indian granite and quartz industries comprises several small and medium enterprises, it is the organised players that have an edge, as they employ mechanised mining methods and automation, and have scale of operations, which lowers their cost of production. Further, mining rights covering specific areas are typically granted on an exclusive basis for a fixed period of time ranging between 1 and 30 years and establishing and operating a mine requires significant capital investment with long gestation periods to transition from the exploration stage to the production stage. Hence, those with large and established resources have a competitive advantage.

Prominent players in the granite as well as quartz industries

Company name		Midwest Ltd	Pokarna Ltd
Size/capacity of the plant	Number of mines and quarries	20 operating mines in Andhra Pradesh and Telangana (16 granite mines, 1 marble mine, 3 quartz mines)	Captive quarries located in Andhra Pradesh, Telangana and Tamil Nadu
	Processing plants/manufacturing units for core products	2 granite processing units in Andhra Pradesh and Telangana	2 granite manufacturing units in Telangana, and 1 quartz manufacturing unit each in Telangana and Andhra Pradesh
	Other plants/manufacturing units	1 diamond tool manufacturing plant in Hyderabad	1 apparel manufacturing unit in Telangana
Product offering		Building products: Granite and quartz	Building products: Granite, quartz (undertaken through subsidiary, Pokarna Engineered Stone Limited (PESL); apparel business: Distribution and retailing of men's shirts and trousers
Presence		Global: 30+ countries	Global: 20+ countries

Note: Pokarna Ltd. is not into Diamond wire business and the production details are not available

Source: Company websites, Crisil Intelligence

Financial benchmarking

The profitability, liquidity and leverage parameters of Midwest have been benchmarked with Pokarna, which has comparable range of operational capabilities and similar product offerings.

Profitability parameters

Particulars	*Units*	FY23	FY24	FY25	FY26 (till June'25)
Total revenue					
Midwest	*(Rs million)*	5,025.17	5,856.24	6,261.82	1,422.65
Pokarna	*(Rs million)*	7,253.23	6,876.14	9,301.28	1,709.62
Revenue growth					
Midwest	*(%)*	-4.33	16.54	6.93	NA
Pokarna	*(%)*	11.56	-5.20	35.27	NA
Ebitda					
Midwest	*(Rs million)*	895.87	1,514.43	1,717.80	389.70
Pokarna	*(Rs million)*	1,700.74	2,096.67	3,258.36	549.27
Ebitda margin					
Midwest	*(%)*	17.83	25.86	27.43	27.39
Pokarna	*(%)*	23.45	30.49	35.03	32.13
PAT					
Midwest	*(Rs million)*	544.36	1,003.24	1,075.11*	243.80
Pokarna	*(Rs million)*	658.11	873.63	1,875.49	282.94
PAT margin					
Midwest	*(%)*	10.83	17.13	17.17	17.14
Pokarna	*(%)*	9.07	12.71	20.16	16.55

**PAT after excluding exceptional item of Rs. 257.88 million*

Source: Company financials, Crisil Intelligence

- **Operating profit margin comparison**

Operating profit margins of both the players improved over fiscals 2023 to fiscal 2025, showcasing enhanced efficiency and cost management within the organization. Midwest's EBITDA margin was 27.43 during fiscal 2025.

- **Net profit margin comparison**

Midwest has also shown strong resilience in maintaining its net profit margin (NPM) vis-à-vis peers. The company outperformed Pokarna between fiscals 2023 and 2024. The underscores Midwest's superior financial management and resilience in a challenging market environment. In fiscal 2025, its NPM stood at 17.17%.

Financial indicators

Particulars	Units	FY23	FY24	FY25	FY26 (till June'25)
RoCE					
Midwest	%	14.39	25.00	18.84	3.91*
Pokarna	%	13.77	18.31	27.41	NA
Debt-to-Equity					
Midwest	times	0.45	0.29	0.43	0.47
Pokarna	times	0.89	0.66	0.42	NA
Working capital days					
Midwest	No. of days	106	89	120	142*
Pokarna	No. of days	165	157	121	NA
Interest coverage					
Midwest	Times	7.51	14.11	13.37	8.74
Pokarna	Times	2.72	4.29	7.59	5.57
Current ratio					
Midwest	Times	1.31	1.68	1.60	1.54
Pokarna	Times	1.64	1.96	1.93	NA
RoE					
Midwest	%	16.25	23.78	19.42	4.23*
Pokarna	%	12.98	14.75	24.11	NA

**Not annualized*

Source: Company reports, Crisil Intelligence

- **Return on capital employed comparison**

Midwest has consistently generated higher return on capital employed (RoCE) compared with its peer over fiscals 2023-2024. In fiscal 2023, the company's RoCE of 14.39% was higher than Pokarna (13.77%). Midwest maintained its lead up to fiscal 2024, with RoCE of 25.00%. During fiscal 2025, Midwest posted RoCE of 18.84%. Midwest's robust RoCE highlights its capital efficiency and superior financial management.

- **Net working capital days comparison**

In fiscal 2023, net working capital days of Midwest was 106 which got increased to 120 in fiscal 2025. However, the company's competitor, Pokarna lagged on this metric whose net working capital days stood at 165 in fiscal 2023 and reduced to 121 days in fiscal 2025. Net working capital days was constantly lower for Midwest when compared with its competitors, indicating, efficiency in managing its receivables and inventory, allowing quicker conversion of assets into cash.

- **Return on equity comparison**

Midwest generated a healthy return on equity (RoE) over fiscals 2023-2025. In fiscal 2024, while Midwest's RoE stood at 23.78%, Pokarna lagged behind by ~9% points. Midwest’s RoE stood at 19.42% during fiscal 2025. Midwest's RoE highlights its strong financial management and ability to generate returns for shareholders more effectively than its peers.

Leverage parameters

- **Debt-to-equity comparison (times)**

The debt-to-equity ratio for Midwest remained lower than its competitor over fiscals 2023-2024 and at par during fiscal 2025. The debt-to-equity ratio of Midwest was 0.43 in fiscal 2025, indicating lower leverage. The ratio of its competitor, Pokarna, improved to 0.42 in fiscal 2025 from 0.89 in fiscal 2023.

- **Interest coverage ratio comparison (times)**

Midwest’s interest coverage ratio has been consistently above its peer over the years. ICR stayed strong at 13.37 in fiscal 2025, indicating Midwest's ability to comfortably cover interest expenses. During the year, Pokarna’s interest coverage ratio was just 7.59. Midwest's high interest coverage highlights its ability to manage debt effectively vs industry peers.

5.5 SWOT analysis

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- Largest producer and exporter of black galaxy granite in India (refer to granite industry overview)
- Largest producers of absolute black granite in India (refer to granite industry overview)
- Largest reserves of black galaxy granite
- At the forefront of deploying latest technology for mining operations, including implementing electrification
- R&D facilities for exploring, testing and processing
- Experienced geologists and mining engineers focusing on specialised minerals such as quartz and HMS, apart from natural stone
- Large reserve base of 23.3 million tonne of quartz (details in annexure)
- Modern quartz processing plant to cater to engineered stone, glass and solar industries

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- Mining operations significantly impact the environment, including habitat destruction, soil erosion and water pollution
- Use of heavy machinery and explosives contribute to noise and air pollution
- Mining operations require substantial initial investment in equipment, machinery and infrastructure
- Despite technological advancements, mining requires significant labour input, especially where manual extraction methods are used

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- Significant growth in global construction industry, particularly in emerging economies
- Black galaxy is a premium product
- Black galaxy is available in only one village in Andhra Pradesh in the entire world
- Large global export potential of black granite owing to strong demand for high-quality stone
- Robust growth in domestic solar and semiconductor industries driving demand for quality quartz
- High demand for Heavy mineral sand in global market

T

- Engineered slabs and tiles primary substitutes to natural stone
- Stringent environmental regulations and permissions pose challenges to mining operations
- Global economic fluctuation can impact construction activity, thereby affecting market trajectory
- Slow adoption of pro-industry minor mineral policy by state governments

Source: Midwest Ltd., Industry, Crisil Intelligence

Key strengths

Considerable global presence

Midwest, which has been into exploration, mining, processing, distribution, logistics, etc of granite and quartz for the past 42 years, is the largest producer and exporter of black galaxy granite and one of the largest producers in absolute black granite, which have high demand. The company also has reserves of coloured granite (tan brown), laza grey marble and celestia quartzite. (refer to Infrastructure details of company profile)

Its business is characterised by a strong track record of sustained growth and profitability where receivables are backed by the advances and the letter of credits and have strong sales visibility, backed by customer advances. Its operations span the entire wholesale stone granite value chain.

The company's workforce stood at 1,326 as of June'2025, spread across locations in Asia, Africa, Europe and the Americas, with qualified and experienced professionals, with appropriate functional responsibilities. The employee base comprises a core team of geologists, geophysicists, and mining and process engineers, and a support team of experts in logistics management, marketing, sales, supply chain, finance and other functions.

The company's key strengths are:

- **Lower manufacturing cost due to operational efficiencies**

The company's operational efficiencies have improved through the reduction in consumption of diesel and spare parts, and sourcing of captive solar power to operate machinery. The Company has successfully completed a pilot study on the use of electric dump trucks in its mining operations to reduce logistics costs and to improve efficiencies. Based on the positive results, nine electric dump trucks have been deployed, aiming to further improve operational efficiency and optimize costs. The Company plans to progressively convert its entire truck fleet to electric as existing diesel trucks reach the end of their operational life.

- **Strong distribution network**

Midwest has a strong distribution network, supported by long-term contracts and interest-free advances secured against raw material supply. The sale of materials in different territories is through distributors.

- **Captive quarries of premium black galaxy**

The company has captive black galaxy quarries, located in Chimakurthy. Black galaxy granite is a premium stone used in premium real estate projects, monuments, mausoleums, places of worship and luxury products.

- **First to implement strong ERP system in industry**

Midwest was the first company in the industry to implement an enterprise resource planning system, SAP, integrated with sensors on machinery data in real time, thereby eliminating the need for manual intervention. The company also employs computerised diesel dispensing and monitoring methods.

- **Strong R&D, manufacturing technology and backward integration**

Strong R&D, manufacturing technology and backward integration support the development of environmentally friendly diamond tools for captive as well as industry consumption. The technology is co-developed in partnership with machinery manufacturers.

- **Major expansion in black galaxy granite**

Midwest is set for majorly expanding its black galaxy granite production via the acquisition of considerable deposits. It has created a new domestic market for black galaxy granite which do not meet export material standard, increasing the bottom line with no additional expenditure. In fiscal 2025, Midwest Ltd. held over 64% of the India's export of black galaxy

block granite, in an otherwise unorganised and fragmented market. Also, the ESG regulatory environment is conducive to natural stone.

- **High barriers to entry for new players**

Entry barriers are high, with the company having old mining rights and entrenched operations.

- **Superior pricing positioning**

Midwest has the ability to fetch better market pricing through its substantial market share. Historically, demand has far surpassed supply.

- **100% renewal of mining leases**

Adherence to statutory compliances has enabled Midwest to ensure 100% renewal of mining leases in the past 3 years and garner good will for securing new leases bolstering growth potential.

Key weaknesses

- **Heavy dependence on key customers**

Midwest depends on certain key customers for a significant portion of revenue from operations, with top 10 customers contributing 51.21%, 48.37% and 51.19% of total revenue from operations in Fiscals 2025, 2024 and 2023, respectively. Any decrease in the revenue earned from such customers could adversely affect the company's business, results of operations, cash flow and financial condition.

- **Dependence on international markets and China**

The company's revenue is substantially dependent on international operations, with a significant proportion of its revenue generated from customers based in China, a key global distribution hub for the granite industry. As a result, any unfavourable market developments or disruptions to China's ability to serve as a global hub could have a negative impact on the company's business and financial performance.

Key opportunities

- **Growing construction industry**

The booming construction industry, particularly in emerging economies, presents significant opportunities for the granite and marble mining industry.

- **Export market expansion**

The company can explore and expand market reach by exporting granite and marble to regions with high demand and limited local supply.

- **Innovation and differentiation**

The company can offer unique products, such as specialty finishes and designs, to cater to specific market segments.

Key threats

- **Competition from alternatives**

Granite and marble face competition from alternative materials, such as engineered stone, ceramic tiles and synthetic substitutes, which may offer similar aesthetics and durability at a lower cost.

- **Regulatory challenges**

Stringent environmental regulations and permitting processes can pose challenges to mining operations, increasing compliance costs and delaying project timelines.

- **Economic volatility**

Fluctuation in the global economy can impact construction activity and consumer spending, affecting demand for granite and marble products.

Annexure

Midwest has won several prestigious awards and recognitions in various categories.

Key awards given by

Award/recognition	Awarded by	Year
Model Granite Quarry Award	Federation of Indian Mineral Industries (FIMI) in association with All India Granites and Stone Association (AIGSA)	2003 2008-2009
Export Promotion Award	Development Commissioner, Visakhapatnam Special Economic Zone	2008-2009 2010-2011 2011-2012 2012-2013
Model Granite Quarry Award	FIMI in association with AIGSA	2008-2009
Export Excellence Award	Development Commissioner, Visakhapatnam Special Economic Zone	2009-2010
Export Performance Award	Export Awards for EOUs, Andhra Pradesh, Chhattisgarh, Yanam	2010-2011 2011-2012 2012-2013
Longstanding Customer	Export Credit Guarantee Corporation of India	2012
1st prize for Maintenance of Quarry Roads & Foot Paths	Safety Committee Appointed by Director of Mines Safety / Director of Mines Safety	2014
1st prize for Mine Workings & Operation & Maintenance of Machinery **2nd prize for Registers & Records Maintenance** **3rd prize for Appointment of Qualified Personnel** **Overall 1st prize among all mines in the sector**	Ministry of Labor and Employment through Directorate General of Mines Safety	2014 2017
One Star Export House	Ministry of Commerce and Industry (DGFT)	2015-2020
Star Export House	Ministry of Commerce and Industry (DGFT)	2013-2018
1st prize in Registers & Records Maintenance	Ministry of Labor and Employment through Directorate General of Mines Safety	2018
1st prize in Operation and Maintenance of Machinery **1st prize in Publicity and Propaganda of Safety Measures** **2nd prize in Appointment of Qualified Persons**	Ministry of Labor and Employment through Directorate General of Mines Safety	2019
1st prize in Appointment of Qualified Persons **2nd prize in Mine Workings** **Overall 2nd prize in total mines**	Ministry of Labor and Employment through Directorate General of Mines Safety	2022
1st prize in 21st Mines Safety week celebrations- AP Midwest Granite mine	Ministry of Labor and Employment through Directorate General of Mines Safety	2023
Three Star Export House	Ministry of Commerce and Industry (DGFT)	2024

Source: Midwest Ltd.

Key quartz resources owned by Midwest

Location	Zone	Spread area (hectare)	Available resource ss (Mn MT)	Mining licences obtained (mn MT)	Securing mining licences (mn MT)
Chejerla	CH 1	61.9	1.4	1.4	
	CH 2	30	4.7		4.7
Gudur	NDR	5.6	0.2	0.2	
	TBD – N	14	0.8		0.8
	TBD – S	10	1.9		1.9
Badvel	MN – S	4.6	1.1	1.1	
	MN – N	1.9	0.5	0.5	
	KVD	4.7	0.5	0.5	
Kadiri	KK	24	3.5		3.5
	ORV	14	2.1		2.1
Aluru	ALU	23	6.6		6.6
Total		**198.6**	**23.3**	**3.7**	**19.6**

Source: Midwest Ltd.

About Crisil Intelligence (formerly Market Intelligence & Analytics)

Crisil Intelligence is a leading provider of research, consulting, risk solutions and advanced data analytics, serving clients across government, private and public enterprises. We leverage our expertise in data-driven insights and strong benchmarking capabilities to help clients navigate complex external ecosystems, identify opportunities and mitigate risks. By combining cutting-edge analytics, machine learning and AI capabilities with deep industry knowledge, we empower our clients to make informed decisions, drive business growth and build resilient capacities.

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