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SYRAH BATTLES GRAPHITE PRICING

By Paul Harris



Pictured above are aspects of Syrah's Balama state-of-the-art graphite processing plant in Mozambique.

Australia's Syrah Resources is planning on a big 2025 as it expects to move towards a construction decision for its Vidalia graphite anode plant in Louisiana, USA, Viren Hira, GM business development & investor relations told SiC & More.

The company is ending 2024 on a high note, having recently received an initial disbursement under a US$150 million loan facility from the US International Development Finance Corporation (DFC) to support the expansion of its Balama graphite operation in Mozambique as part of a government initiative to secure critical minerals for clean energy and electric vehicle supply chains.

"This is one of the first transactions DFC has done in the mining space, as it is usually more oriented towards infrastructure," said Hira.

This is the second loan the company has secured from the US government and follows a $102.1 million loan from the US Department of Energy's (DOE) Loan Programs Office (LPO) for the expansion of Vidalia that produces graphite-based active anode material (AAM) for lithium-ion batteries for electric vehicles.

"This cements our relationship with the US government and its mission to develop an ex-China graphite supply chain. The dominance of China in graphite is very significant, which is exacerbated by some actions of the Chinese government regarding export license controls and restrictions on trade," said Hira.

As the world's largest producer of graphite and graphite processing, China has followed a similar playbook that has seen it dominate other mineral commodities. This has allowed the development of excess domestic production capacity, which decimates graphite pricing and forces out competitors.

"Market conditions have been terrible in recent times. It has been volatile. We saw some pricing strength in 2022, but from mid-2023, there has been a fairly significant decline in graphite prices. Most natural graphite is used in China, so pricing depends on China's FOB pricing. The inducement price for new projects outside China is way above the current FOB China price," said Hira.

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Pricing for fine graphite, which is used in lithium-ion batteries (-100 mesh), has been more impacted than that for coarse graphite, which is used in industrial products like refractories and lubricants. Coarse graphite enjoys better prices than fine graphite even though the fine is a higher-specification production.

"Fines pricing has declined significantly because it is anchored to China pricing. Its strategy of over-capacity development, mainly of synthetic graphite, a direct competitor to natural graphite, has resulted in cost base switching from natural to synthetic, reducing demand for graphite feedstock from suppliers such as ourselves. Fine pricing FOB China has fallen from $850/t to $400/t recently," said Hira.

Lower demand compounds the impact of lower pricing, forcing Syrah to operate Balamar in campaign mode, operating to fill inventory positions and then stopping mining and plant operations until inventory is depleted through sales. "We are not suspended or mothballed as we continue in a state of production readiness. We are focused on maintaining rapid preparedness to restart as demand emerges," said Hira.

Hira said that the election of Donald Trump as the 47th president of the USA could see some relief if he comes through on campaign promises to slap tariffs on Chinese imports. "Talking about potential tariffs will help normalize the US-landed Chinese price of equivalent products, although this is inflationary," he said.

Being vertically integrated with the Vidalia graphite anode plant provides Syrah with some shield from the full impact of China pricing, but even so, it is difficult to escape its orbit.

"Anode material is different as we have a US position. We have a contract with Tesla that has fixed pricing that is not anchored to a price report from China. The issue in graphite is that price reporting is likely predicated on a Chinese product, as there is not quality reporting on US or European pricing. The pricing is often the landed pricing of Chinese products exported to those places. Price reporting must develop for better ex-China price reporting," said Hira.

Vidalia

Syrah's Vidalia facility is a test plant with commercial-scale equipment that began operation in February 2024 to produce up to 11,000tpy of anode material for product qualification and testwork. The company expects to obtain its first sales in 2025. "We are still going through qualification with Tesla, a foundational off-taker who can take 8,000tpy. We are awaiting sales before we ramp up operations, and we anticipate sales in 2025," said Hira.

The company completed a feasibility study for a $550-600 million expansion to quadruple capacity to 45,000tpy in April 2023, with a final investment decision pending securing customer and funding commitments and how the pricing dynamic unfolds.

"We need other binding offtakes to have a sufficient demand to derisk sales from the expanded facility. We have applied to DOE for another loan from a similar advanced technology vehicle manufacturing program of up to $350 million. We have been invited to undertake due diligence for that loan," said Hira

Sublime Technologies Sold

On October 24, 2024, Mantengu Mining became proprietary of Sublime Technologies, Pty. Until the completion of some suspensive conditions that will take place along November, the company will still be run by the Curimbaba Group. The selling of the company is related to the strategy of the Curimbaba Group to focus its core business based on their mines located in Brazil. Sublime has a great synergy with the strategy of Mantengu Mining that is committed to:

Continuity of Service: Mantengu Mining will continue to provide uninterrupted service and support, ensuring a seamless transition.

Enhanced Capabilities: By combining Mantengu Mining strengths, Sublime will be able to offer an even wider its range of innovative products and services, tailored to meet specific customers´ needs.

Quality Assurance: Sublime dedication to maintain and enhance quality standards remains unwavering. As an ISO 9001 certified company, Sublime is committed to deliver products and services of the highest quality.

Strengthened Commitment to Quality: Sublime dedication to deliver the highest quality solutions remains unwavering. With Mantengu's support, Sublime will further elevate its standards and exceed customers´ expectations.

Maintain employment: in a region affected by a high unemployment rate, there will be no loss of employment during this transfer of ownership.

Future Outlook: Mantengu Mining is optimistic about the future and believe that this acquisition will strengthen its position. Mantengu Mining plans to increase production capacity and expand our market reach, both domestically and internationally.

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ZAK EXPANDING PRODUCTION CAPABILITIES



Pictured above is a ZAK - Ukraine Brown Fused Aluminum Oxide Ingot.

Despite worsening conditions in eastern and southeastern Ukraine, including the arrival of North Korean troops, Zaporizhabrasive (ZAK) continues to make the best of a horrifying and depressing situation by continuing to operate their manufacturing facility.

SiC & More continues to keep the lines of communication open with the management team at Zaporizhabrasive (ZAK) and keep readers updated on not only the trials and tribulations facing the company but also their resilience in continuing to improve working conditions for their employees and efficiencies in both their SiC and Al2O3 facilities. In issue #103, SiC & More reported that ZAK had dedicated significant capital to overhauling the No. 1 furnace dedicated to smelting aluminum oxide. In August 2024, the project was about 80% complete. In addition, during later summer, ZAK also implemented several new technical solutions that are increasing production efficiency.

During a conversation two weeks ago, ZAK management told ***SiC & More*** that the company continues implementing comprehensive measures to expand the company's production capabilities, increase production volumes, and achieve consistently high product quality.

During 2025, the company plans to implement a set of measures related to the design and installation of two new lines for dry grinding of normal electrocorundum. Such a project is large-scale but will be implemented at the expense of their resources. The project will combine 85 years of production experience in Zaporizhabrasive and modern technical and technological developments.

The scheme includes two parallel lines, each processing 3,000 tons of fraction 0-20 mm BFAO per month. Implementing this project will significantly increase ZAK's productive capacity.

New technological solutions will ensure the flexibility and stability of production, enabling Zaporizhabrasive to meet its customer's vast and growing needs and guarantee compliance with product shipment schedules. Equipping production with modern equipment, automation, and controls will ensure consistently high product quality, providing competitive advantages for their partners and a quality product for end-users.

In the coming weeks and months, as Ukraine continues to struggle to hold back the Russian advance, watch for another ZAK update in January 2025 of ***SiC & More***.

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BOOTS ON THE GROUND IN BRAZIL: ENERGY COST CONCERNS

Franciso Batista



a) Energy: The rainy season is officially here, however the consequences of the worst drought ever in the country are still in place. Hydro reservoirs have dropped to very concerning level and prices skyrocketed on spot market during the last two months (September and October). It is obviously too soon to forecast where the reservoirs will be by the end of the rainy season (Apr/25) but future prices (2025+) are not showing any sign of stress being leveled off around R$ 145/MWh (US$ 25/MWh). Peak demand on the other hand has become a factor in the system mostly because latest generation expansion was through solar and wind assets which contribute very little between 5pm and 9pm when consumption picks up. Hourly prices during this period have been up to 15-fold off-peak's rates. This is an example of hourly prices on Nov. 12th, 2024: lowest value is R$ 61,07/MWh at 11pm while peak price reached R$ 965.37/MWh at 7pm. Certainly the most volatile commodity in the world.

b) Macroeconomics: The federal fiscal deficit has worsened exponentially in the last two quarters creating a perfect storm for Brazilian economy. After a very long wait, the federal administration finally presented a plan, on November 27th, to address the federal fiscal deficit for the biannual period of 2025 - 2026. This "too little, too late" plan comes several months after red flags had been raised and indicates almost no cuts in federal expenses with an increase in wealth taxes. The plan is a far cry from expectations and has thrown gasoline on the fire, increasing even more the capital flight out of Brazil which in turn devaluated local currency to R$ 6.10 per US dollar. The Central Bank increased interest rates on two occasions in September and November by 75 bps (from 10.5% in September/24 to 11.25% today) but will certainly need to do another hike of at least 100bps in December/24 to help contain inflation and the outflow of capital. The year-over-year exchange rate variation is immense: from R$ 4.89 (November/23) to R$ 6.10 (November/24) and is a direct reflection of the incompetence of this struggling administration that lacks courage and political capital to implement the necessary reforms in order to balance the federal budget.

FOCUS projections are now:
Interest Rates: Dec/25: 12.25%; Dec/26: 10.0%
FX Rate: Dec/25: R$ 5.55; Dec/26: R$ 5.50
As previously mentioned, the mandate of the current Chairman of the Central Bank will be over next month. The fact that the new appointed chairman has a dovish approach to inflation makes the current economic scenario even more challenging.

c) Commodities: The higher FX rate is still sustaining the economics of most exporters in Brazil even in this commodity downward prices scenario. We are beginning to see some key players willing to reduce their outputs for 2025 due to the weak Chinese economy and the risks of an increase in US importing tax that are likely to be imposed by the new Trump administration. The anti-dumping initiatives in Brazil against Chinese products are gaining traction, however, it is hard to predict if this administration will push it forward considering the risks of having China retaliating by overtaxing commodity imports from Brazil.

d) Politics: Brazil held municipal elections earlier this month (it is not synchronized with major elections). The results show a pattern very aligned with the US election results. It looks like voters have lost their patience with leftists overspending their tax money with matters that do not improve their quality of life and with high inflation which is a major dissatisfaction factor in Brazil. The Right and Center-Right will run many of the cities and city councils from Jan/25 on, providing a leverage for next major elections in 2026. On top of that, the first two years of the next Trump administration will certainly play a role in 2026 reducing the likelihood of Lula getting re-elected for a second term, especially considering the underperformance of every aspect of his administration and the fiscal challenges ahead.

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Al2O3 & DENGFENG WUDO ABRASIVE, CO. LTD



Pictured above is a state-of-the-art aluminum oxide packaging center at Denfeng Wudo Abrasive, Co. Ltd in Dengfeng City, Henan province.

To get a read on the Chinese aluminum oxide (Al2O3) landscape, ***SiC & More*** reached out to Dengfeng Abrasive with the intent of comparing circumstances in October/November 2023 to the same time in 2024.

SiC & More has interviewed the Dengfeng management team on several previous occasions and has found that monitoring a large aluminum oxide producer's activities and costs can often provide valuable trend data to ***SiC & More's*** readership. In short, if one is producing refractory or abrasive products, keeping current with a world-class producer of brown (BFA) and white (WFA) fused aluminum oxide is essential.

Dengfeng is located in Dengfeng City, Henan province. The company is privately owned and has an annual furnace capacity of 90,000 metric tons.

The primary cost inputs for producing BFA are bauxite, Fe chips, electrodes, coke, and kWh. As with most countries and industries, the Al2O3 sector has also experienced a measure of inflation. For example, the cost of bauxite has increase about 7% in 2024 compared to 2023. The most recent cost of bauxite at Dengfeng is about U.S $310 metric ton. The cost of kWh has increased to US $.08 while electrodes (U.S. $2,300) and coke (U.S. $213 m/t) remain flat.

Denfeng continues to comply with China's ever-stricter environmental protection regulations. For example, the furnace plant, which is considered state-of-the-art, has operated at 60-70% capacity utilization to satisfy government restrictions. Included in their production mix is 20,000 m/t per year of WFA that is dedicated to refractory whereas BFA goes to both the abrasive and refractory markets.

During 2023, a new processing line for all sizes of BFA and WFA was installed. According to management, "The new facility is running well." The production process is seamless as automation takes furnaced BFA and WFA to a jaw crusher, roller crusher, magnetics removal, screening/sieving, then to packaging. With the new state-of-the-art processing lines working efficiently, ownership is now determined to lower the costs associated with fusing BFA and processing both BFA and WFA while improving environmental controls. In addition, during 2024, a new "XRF machine was purchased and installed in order to improve the testing speed." (X-Ray Fluorescence analysis)

Dengfeng exports more than 70% of their production and the key markets continue to be Japan, Korea, EU, and U.S.

Over the last two decades, many smaller furnace plants have closed in China due to lack of economies of scale and environmental compliance. Denfeng, however, has managed to stay ahead of the technology curve with new processing lines and a commitment to continuously upgrade environmental protection equipment thus carving a path to the future.

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SiC Still in a Holding Pattern

In the most recent issue of ***SiC & More***, the opening paragraphs described the situation on SiC pricing to that of being on an airplane and being placed in a holding pattern for landing: *Temporarily unable to act because you are waiting for something to happen or to be decided.*

As ***SiC & More*** takes issue #104 to press, the situation remains about the same. Pricing on most SiC products have been flat for the entire calendar year, which seems to synchronize with market conditions. Flat as the Maldives or Tuvalu.

Besides a small bump in Chinese pricing during mid-July, SiC has been in the doldrums. The current situation elicited this remark from a processor, "It's been rather comforting to go through a year of pricing stagnation although we would embrace an uptick in silicon carbide demand. Practically all our end users of an assortment of SiC products have been slower than last year."

One trader believes that the reasoning behind the pricing stability and low demand for SiC can be traced back to a slower than expected ferrous metals business in China, which affects most of the tonnage, i.e., abrasive, refractory and metallurgy. This condition echoes the sentiments of a processor in issue #103, "Demand for refractory and abrasive SiC grades is soft and I don't expect a turnaround before year-end unless China's central government plunges some big money and interesting incentives into their economy."

The situation for the balance of 2024 is reflective of this ***SiC & More*** position in issue #102: *It's difficult to predict where prices will go during Q4 2024, but suffice it to say, there is currently more than enough supply of all grades of SiC and that's with furnace plants in EU, China, Vietnam, Romania, and Brazil operating at less than full capacity.*

At the same time, the most asked question in the global SiC industry since the U.S. Presidential election and Trump victory is, "Will the Trump administration add SiC from China to the list of critical materials to be subjected to tariffs?" According to the U.S. Department of Energy and the Interior, silicon carbide is considered a critical material for energy. Although most producers, traders, processors, and end-users will not agree with that classification, the federal government doesn't necessarily solicit the aforesaid market segments for their opinions before levying tariffs.

With the U.S. market's apparent consumption averaging about 170,000 tons per year, even with a COVID year included in the average, a large tariff on Chinese SiC imports could send aftershocks through the global industry. Considering the EU's consumption of SiC is similar to the U.S., supply displacement could become commonplace.

In short, SiC remains in a holding pattern with most SiC enthusiasts standing on the sideline waiting to see what happens during January 2025.

BFA, MgO & MORE

Since issue #103 of ***SiC & More*** was published, prices on Al2O3 and MgO have been moving upwards. In issue #103, a trader told ***SiC & More***, "I don't expect to see many changes during 2024. Aluminum oxide pricing will be stable with possibly some small upticks or downdrafts."

That forecast has, for the most part, been right on the money. BFA has increased, which is generally a reflection of the price of bauxite, which has increased by about $30 ton over the past few months. BFA pricing was bound to follow suit since bauxite is the key raw material input for producing BFA and ongoing issues with raw ore mining have continued to prop up pricing. However, there are other potential reasons for the increase in BFA pricing.

A processor of BFA recently asked, "With the global metals business a bit soft, why am I seeing my price on brown fused feedstock absorb a price hike?" That's an excellent question and, as usual, it points to China. The metals business in China is a tad depressed so demand for refractory products, in particular, is soft. As a result, a certain amount of supply manipulation takes place to keep prices either stable or on the upswing. Since China has arguably enough furnace capacity to supply the world's demand for BFA, controlling smelters capacity utilization becomes an important tool for the government. Does rare earth mineral come to mind?

Besides the cost of raw materials to produce a ton of BFA, container rates from China have increased, which usually means bulk rates will follow, which will exacerbate the inflationary trend.

When it comes to white fused aluminum oxide (WFA) and tabular alumina, however, the situation is pointedly different than BFA. To be more specific, prices on WFA and tabular have increased significantly since July 2024. This is due to the price of alumina, which is the primary raw material input for both products. According to one trader, "Pricing on WFA has taken a sizeable jump in recent months. In some cases, depending on the quantity and timing, the increase has been over $300 metric ton."

Regarding MgO, as reported in issue #103, both dead burned and fused had been slowly increasing in price since early summer 2024. That trend has accelerated a bit as DBM has increased 5-10% since issue #103 and fused is up nearly 15%.

In issue #102, a processor had this outlook on the pricing, "Let's avoid the rocket ship to the moon like in 2022 and then the subsequent freefall in pricing." From the WFA or tabular alumina consumers point of view, this pricing prayer might have already sailed.

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GRAFITREZZI



To say it's interesting to learn more about a longtime loyal subscriber to ***SiC & More*** would be a remarkable understatement. Subscribers come from different rungs on the supply chain ladder and from diverse markets. In issue #104***, SiC & More*** had the pleasure of learning more about GRAFITREZZI, an Italian company that specializes in the sale of carbon products and metallurgical SiC.

Bruno E Mario Trezzi SRL was founded in 1961 just outside of Milan. At that time, the primary commercial activity of the company was the recovery, processing, and resale of refractory materials. While working with refractory materials in the ferrous and non-ferrous metals industries, a potential new market for the company was observed; the sales and marketing of high quality carbon products. As a result, in the 1970's, the owners made a strategic decision and decided to specialize in the processing and distribution of refuels with a high carbon content complimented with a line of ferroalloys and graphite electrodes. In fact, graphite and its derivatives became the core business of the company.

The company currently operates in a modern facility located in Cassina de Pecchi, which is in the southeast region of Milan. The facility includes large covered storage for raw materials, state-of-the-art crushing, screening, and packaging, and large storage and staging warehouses for finished products.

Thanks to the innovative and modern crushing and screening systems and the latest generation of automated bagging and palletizing, the company can offer products with an assortment of grain sizes and with many options for packaging in order to meet customer needs.

With graphite representing the core business for the company, in October 2022, the name was changed to GRAFITREZZI SRL.

Although graphite remains the foundation of the company, to be a full-service supplier to the ferrous metals melting industry, metallurgical SiC was added as a key product line. GRAFITREZZI offers SiC grain with a range of 88-96% SiC with primarily two sizing options for the foundry and steel industries. In addition to supplying electric furnaces, GRAFITREZZI supplies coarser SiC products for cupola furnaces.

GRAFITREZZI has a worldwide SiC sourcing network and is considered the largest supplier of SiC and graphite to the Italian market but is also a major player across the EU. GRAFITREZZI has based their business model on being an innovative full service supplier of high quality products that quickly responds to customer needs.

Learn more about GRAFITREZZI and it activities by going to www.grafitrezzi.com or reach out to +39 02 95-138-150.

GRAFITREZZI

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METALS INDUSTRY UPDATE

IRON ORE

Iron ore prices are settling in the $100 - $103 m/t range. The short-term demand for iron ore has improved due to China's stimulus actions.

NORTHVOLT

The Swedish battery startup filed for bankruptcy protection in the U.S. This move will free up $145 million being held as cash collateral. Swedish truck producer Scania is contributing $100 million and will take over part of the battery operation. Northvolt Germany and Northvolt North America are subsidiaries of Northvolt AB and are financed separately. They will operate as usual outside of the Chapter 11.

U.S. RAW STEEL PRODUCTION

U.S. steel mills have been operating in the 73-75% capacity utilization range of late. The annualized pace of about 85 million net tons falls a bit short of what many suppliers believe is a pace that reflects healthy business.



Raw Steel– Stock Photo

WORLD RAW STEEL PRODUCTION

According to *worldsteel*, October's production of 152.1 million tonnes in October 2024 represented a 1% increase over October 2023. The top 10 leading steel-producing countries are China, India, Japan, U.S., Russia, South Korea, Germany, Turkey, Brazil, and Iran.

ELECTRIC VEHICLES

According to *American Recycler*, 8 out of 10 new cars sold in 2050 will be electric vehicles. IHS Market's Daniel Yergin said, "Oil is no longer the unchallenged king in automotive transportation."' Gasoline powered vehicles will still represent about two thirds of the 1.9 billion cars on the road in 2050 owing to the time it takes for the fleet to turn over. Yergin also said, "At least for now, the demand for electric vehicles is largely coming not from consumers, but from governments whose evolving policies are shaped by climate concerns as well as by urban pollution and congestion."

DEERE & CO

Deere & Co. recently reported fiscal sales of $51.7 billion, down 16% from the $61.3 billion in 2023. Net income of $7.1 billion represented a 30% drop from the $10.2 billion recorded in 2023. Fourth-quarter sales dropped 28% for Deere with construction down 29%. Looking forward to fiscal 2025, Deere expects equipment sales in the U.S. and Canada to be down about 10%.

LITHIUM

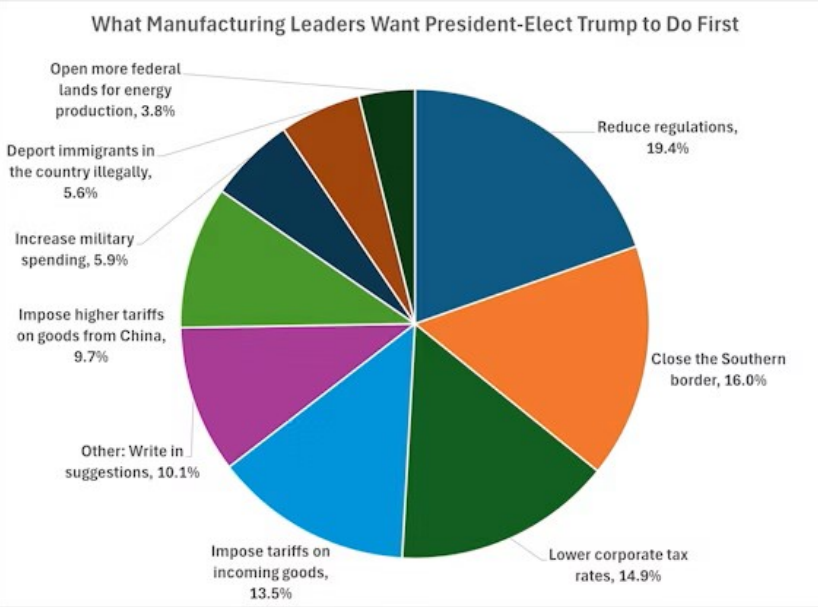
A large lithium mine in the Nevada desert was granted final government approval in late October 2024 that could quadruple U.S. production of a mineral critical to the renewable energy revolution. Australian operator Ioneer said that operations at Rhyolite Ridge will produce enough lithium to supply batteries for more than 370,000 electric vehicles every year. To date, lithium batteries is a sector that has been dominated by China.

TRACTOR & COMBINE SHIPMENTS

On a year-over-year basis, October 2024 represented the 17th consecutive month in which shipments declined. Year-to-date shipments are down 14.3% compared to the same timeframe in 2023.

WOLFSPEED

Wolfspeed has ousted its CEO of the past seven years. Gregg Lowe converted the company from an LED lighting company to one solely focused on silicon carbide chips. SiC chips are a popular component in electric vehicles. Over the past few years, Wolfspeed's stock has fallen from a high of $140 per share to about $7 a share.



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DIGGING THROUGH THE ARCHIVES



SiC– stock photo

This is the fifth and final segment regarding the production of SiC taken from the dark and dusty but irreplaceable archives of ***SiC & More***. This series has been dedicated to providing details about the prepping, cooking, cooling, cracking, and now processing of SiC from a large U-shaped furnace.

PROCESSING SiC: The furnacing operation produces principally two difference grades or qualities of SiC. These two qualities are crystalline and metallurgical, although a host of by-products can also be harvested from the process. The initial step in processing is to separate the two grades of SiC. The softer metallurgical grade is stripped from the harder crystalline material by using a backhoe equipped with what is commonly known as a grapple attachment. For decades, the traditional method of separating the two grades included the use of jackhammer operated by labourers. This rather archaic from of separation is still used at many furnace plants in China. As a rule of thumb, one backhoe operator can separate (clean) an entire furnace of 350 tons in one or two days.

The two grades of SiC are stockpiled in separate holding bins. Due to the hardness of the crystalline material, many pieces are still too large to be fed into the jaw crusher and must be reduced in size. This process is accomplished by using a hydraulic hammer mounted on a backhoe. The metallurgical material can be directly fed into the primary jaw crusher from the holding bin.

An endloader, in turn, feeds the two materials into a vibrating grizzly feeder, which feeds a primary jaw crusher which is commonly calibrated at 4 inches. The crusher discharges into a holding hopper. A feeder on this hopper dispenses material onto a flighted vertical conveyor, which discharges into a 14' feeder serving the secondary jaw crusher. The discharge from this crusher is conveyed by belt and bucket elevator to the screening station.

The sizing screen has two decks. The oversize material is sent to a 36" roller cone crusher and is re-screened. The crushed material at this point passes a ½" screen. It is then stored in a large bin for drying in a natural gas fired rotary kiln. A series of conveyors and bucket elevators transport the dried material to one of three storage bins. Two of the bins contain metallurgical material and the third holds crystalline. The bins are all equipped with load cells, which enable processing personnel to determine the approximate weight of the material being loaded by gravity into trucks or railcars.

If the preference is for packaged material, the SiC is conveyed to a separate building where the product is prepared for shipping.

This closes our series on processing SiC. In issue #105, we will delve deep into the ***SiC & More*** archives and locate some other piece of obscure nformation in order to begin another series that might prove interesting to our readers.

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CARBORUNDUM UNIVERSAL ACQUIRES 100% IN US-BASED SILICON CARBIDE PRODUCTS

The Hindu Business Line: Updated - September 16, 2024 Chennai

CUMI plans to establish a wholly-owned subsidiary in the U.S., which will serve as the Special Purpose Vehicle for this acquisition.

Murugappa Group company Carborundum Universal (CUMI) has signed a binding Share Purchase Agreement to acquire a 100 per cent stake in Silicon Carbide Products, Inc USA (SCP) from its current equity shareholders. The deal values SCP at an enterprise value of $6.66 million (about ₹56 crore).

CUMI plans to establish a wholly-owned subsidiary in the US, which will serve as the Special Purpose Vehicle (SPV) for this acquisition. The transaction is anticipated to be finalised by the end of October 2024, according to a statement.

"SCP ended 2023 with sales of $4.2 million and a strong profit and return profile. CUMI plans to utilise SCP's advanced nitriding furnace design and tooling capabilities to address critical thermal applications in the Indian market, particularly in the power, steel and mining sectors," said Sridharan Rangarajan, Managing Director of CUMI.

Customer network

Also, CUMI will leverage SCP's extensive customer network in the Americas to promote its products in industries such as glass, super alloys, petrochemicals, non-ferrous metals, and heat treatment. "We also see potential for synergies through the supply of CUMI's raw materials to SCP and collaborative development of new products and technologies. We believe this acquisition will significantly enhance CUMI's global market presence," he added.

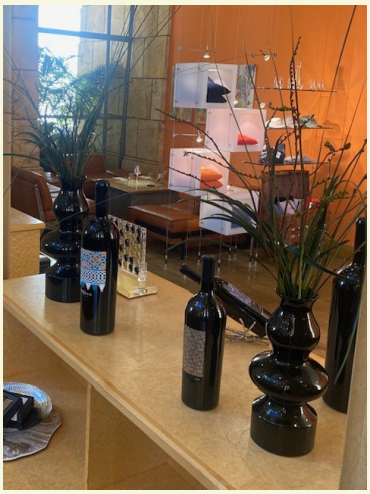
Located in Horseheads, NY, SCP specialises in the production of high-quality Nitride Bonded Silicon Carbide (NBSiC) products, which cater to various industries including power generation, mining, material handling/ processing, non-ferrous molten metal transfer, and petrochemical refineries.

"Joining forces with CUMI will enable SCP to expand its business through a broader product portfolio and increased market access. The combination of CUMI's and SCP's strengths will foster the development of new products and enhance market reach," said Joshua Dahlman, President of SCP, and Rick Cleveland, Vice-President of SCP.

NAPA VALLEY

On occasion, a reader surprises Paul, Marissa, Francisco, Daniel or me with a special request to print something as obscure as a baking recipe or a photo of colleagues attending a golf event. Over the last 20-plus years we have determined that such reporting didn't fit the ***SiC & More*** mission. This most recent request was to print an article about a trip to Napa Valley by a subscriber. Although we decided not to publish the article and photos of the gents, we did decide to publish two of the rather nondescript photos to see if there was either any negative or positive feedback from readers. Here we go: two photos from a subscriber that recently visited Napa Valley and participated in a host of taste testings.





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Silicon Carbide MOSFETs Market Set for Explosive Growth, projected to Reach $13.5 Billion by 2031 (Press release 11/22/24)

The global Silicon Carbide (SiC) Metal-Oxide-Semiconductor Field-Effect Transistors (MOSFETs) market is witnessing significant growth driven by the increasing demand for high-performance power devices across various industries. According to a new report, the Silicon Carbide MOSFETs market was valued at approximately USD 1.4 billion in 2022 and is expected to advance at a robust Compound Annual Growth Rate (CAGR) of 29.8% from 2023 to 2031, reaching an estimated market size of USD 13.5 billion by the end of the forecast period.

Discover essential conclusions and data from our Report in this sample - https://www.transparencymarketresearch.com/sample/sample.php?flag=S&rep_id=818

Market Growth Drivers & Trends: The growing adoption of Silicon Carbide MOSFETs is largely attributed to their superior efficiency, high-temperature tolerance, a performance in high-power applications. These advantages make SiC MOSFETs essential for industries such as automotive (particularly electric vehicles), renewable energy, telecommunications, and industrial automation. As these industries scale and require more efficient power management, the demand for Silicon Carbide MOSFETs continues to surge Key trends including the rising shift towards electric vehicles (EVs), which use SiC MOSFETs for power conversion systems, and increased reliance on renewable energy systems such as solar inverters and wind turbine generators. Furthermore, SiC MOSFETs are seeing increased adoption in power supplies, industrial motor drives, and data centers, as their high efficiency and compact desi offer notable improvements over traditional silicon-based devices.

Market Opportunities: With the semiconductor industry witnessing rapid technological advancements, opportunities abound in regions like North America, Europe, and Asia-Pacific, where adoption rates of electric vehicles and renewable energy projects are accelerating. The global foc on reducing carbon footprints and transitioning to more sustainable energy sources presents lucrative growth avenues for SiC MOSFETs. As governments and enterprises ramp up investments in green technology, the demand for efficient, durable, and highpower devices is expected to surge, providing additional momentum for market growth.

Market Challenges: While the market outlook is positive, challenges such as the high cost of manufacturing Silicon Carbide MOSFETs and the complexity of integrating them into existing power systems remain. The manufacturing process for SiC devices requires significant capit investment and advanced technology, which can limit accessibility for smaller market players. Additionally, a slow rate of adoption in certain regions and industries could temporarily impede the widespread use of SiC MOSFETs. Overcoming these barriers will be critical for sustaining the market's growth trajectory.

Access detailed insights by visiting our full report - https://www.transparencymarketresearch.com/silicon-carbide-mosfetsmarket.html Market Demand: The demand for Silicon Carbide MOSFETs is expected to remain strong due to the proliferation of power-hungry applications in the automotive and industrial sectors. Notable demand drivers include: • Electric Vehicles (EVs): SiC MOSFETs are increasingly used in power inverters and charging systems for EVs, where they offer improved energy efficiency and faster charging times compared to traditional silicon-based device • Renewable Energy Systems: The global push for renewable energy, including solar and wind, is increasing the need for SiC MOSFETs to optimize energy conversion systems. • Industrial Power Applications: SiC MOSFETs are increasingly deployed in industrial power equipment such as motor drives, uninterruptible power supplies (UPS), and high-efficiency power converter.

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Regional Analysis

- North America: The North American market is poised to lead the global Silicon Carbide MOSFETs market due to the rapid growth of electric vehicle adoption, energy-efficient infrastructure, and the presence of key market player.

- Europe: Europe is also witnessing robust growth driven by the demand for sustainable energy solutions, coupled with a strong automotive sector focused on electrification.

*Asia-Pacific: The Asia-Pacific region, particularly China, Japan, and South Korea, is anticipated to see significant market growth supported by expanding manufacturing hubs and government initiatives to promote green technologies.

Companies Profiled: The following companies are leading players in the global Silicon Carbide MOSFETs market: • Diodes Incorporated • GeneSiC Semiconductor Inc. • Infineon Technologies • Littelfuse, Inc. • Microchip Technology Inc. • ROHM CO., LTD. • Sansha Electric Manufacturing Co., Ltd. • Semiconductor Components Industries, LLC • SemiQ, Inc. • STMicroelectronics N.V. • Toshiba Electronic Devices & Storage Corporation • WOLFSPEED, INC.

These companies are advancing innovation through research and development initiatives to enhance the efficiency, reliability, a cost-effectiveness of their SiC MOSFET products. Their strategic partnerships and investments in SiC technology are expected to drive continued market expansion.

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