

Carbon Black Market Assessment, By Type [Furnace Black, Acetylene Black, Thermal Black, Channel Black, Others], By Application [Tire, Rubber Goods, Paints and Coatings, Plastics, Printing Inks and Toners, Battery electrodes, Others], By Grade [Standard, Speciality], By Region, Opportunities and Forecast, 2016-2030F

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# **Abstracts**

The Global Carbon Black Market size was valued at USD 22.72 billion in 2022 which is expected to reach USD 34.71 billion in 2030 with a CAGR of 5.44% for the forecast period between 2023 and 2030. Carbon black is a kind of carbon that results from the incomplete combustion of hydrocarbons and is made up of spherical carbon particles with a size range of 10-500 nm.

The carbon black market is driven by the rapidly growing automotive industry, growing trade of tires, the rising usage of carbon black as a pigment coupled with its electrical conductivity and cost efficiency. Nearly 8.1 million metric tons of carbon black is produced annually, worldwide with 90% of it being used in rubber applications and 9% being used as a pigment. In terms of its applications, other than the tires, increasing use of carbon black in automotive rubber components such as engine mounts, hoses, antivibration parts, and sealing systems drives up the Carbon Black market. The rising adoption of Carbon Black in industries like paints and coatings, construction, and Batteries as a way to achieve black pigment, blending with cement to achieve thermal resistivity and as an electrode coating in order to achieve better electric electrical networks respectively.

However, the manufacturing of Carbon Black releases hazardous gases like Sulphur



dioxide, nitrogen oxide, carbon dioxide, and carbon monoxide and several regulations in various countries against these gases might hamper the expansion of the Carbon Black Market.

Increasing Lithium-ion Batteries in E-mobility

Carbon Black has displayed great potential in energy storage applications. The development of supercapacitors and lithium-ion batteries to be use in Electric vehicles are increasingly becoming popular, the requirement of carbon Black is rising along with it.

Lithium-ion batteries (LIBs), a system consisting of two electrodes (anode and cathode) and a separator between them, are the primary energy storage device in electric vehicles (EVs). When compared to other energy storage devices, LIBs' high energy density and prolonged cycle life are their key benefits. Because it improves the electrical conductivity of the system, carbon black is a crucial component of the electrodes in a LIB, enabling higher battery performance. As the demand of LIB in e-mobility is anticipated to rise drastically, the requirement for carbon black is anticipated to be around 320% by 2030 in comparison to its demand in 2022.

#### Strong Automotive Growth

Carbon Black is used in the manufacturing of tires; it aids the rubber used in tires by providing additional strength and enhances the physical properties of the tires. Rising number of consumers switching towards electric vehicles is further driving up the carbon black market. Carbon Black absorbs UV radiation and transfers the heat evenly throughout the tires and reduces the electrostatic charging. These physical properties of Carbon Black improve the longevity of the tires and reduce thermal stress, leading to a wide usage of them in the automotive sector.

According to Plastic Today, a community for plastic professionals in the United States, the amount of carbon Black used in the automotive sector is about to reach 9,000 tons by 2023. The rise in Electric vehicle sales in the global economy (Globally, the percentage of EV sales increased from 9% in 2021 to 14% in 2022) further strengthens the demand of Carbon black. In United States alone, more than 3,20,000 EVs were sold Q1 of 2023.

Strict Regulations and Fluctuating Upstream Prices



Fluctuations in the price of raw materials and production-related harmful gas emissions may impede market expansion. Sulfur dioxide, nitrogen oxide, carbon dioxide, carbon monoxide, and other hazardous gases are released during the production of carbon black, which could hinder the market's growth.

Minor adjustments to the regulations established during 2002 on carbon black manufacturing are being finalized by the United States Environmental Protection Agency (EPA). These final amendments make it clear that the standards are applicable during startup, shutdown, and malfunctioning periods, except for those that are specifically mentioned in work practice standards for startup and shutdown. They also mandate electronic reporting of certain notifications, performance test results, and semiannual reports.

Higher Demand for Specialty Carbon Black

With a rising focus on sustainability across all industries, the environmental consciousness is leading to a higher demand for sustainable and eco-friendly ingredients for the manufacturing of various globally, including those where carbon black is a major ingredient. This has further raised the demand for specialty carbon black and manufacturers are now involved in R&D activities for the production of specialty carbon black to reduce the adverse impact on nature. Birla carbon, a global carbon black leader has aimed at a larger availability of its Sustainable Carbonaceous Material- Continua<sup>™</sup> (launched in 2021) with a target of making 73,000 tons of the product available annually for the use in multiple applications over the next three years.

Specialty carbon black is appropriate for a variety of applications, including polymers, coatings, and printing inks, owing to its improved qualities and performance characteristics. Because of its expanding use in sectors including electronics, automobiles, and packaging, the demand for specialty carbon black is anticipated to increase. The specialty carbon black market is projected to expand as a result of factors including technical development, product innovation, and customer need for customization.

#### Huge Construction Hikes

Jointing agents, decorative building bricks, blind track bricks, European strip bricks, European cable bricks, grass planting bricks, curbs, hollow bricks, tree ponds, hollow blocks, black cement, and other products all make extensive use of carbon black for construction materials. Little addition and a powerful covering ability are two of its traits.



Huge plans for non-residential infrastructure, such as highway lane extensions in Florida and energy storage capacities in the US, as well as increased spending plans for transportation infrastructure and increased rail capacity in Germany, are intended to increase the demand for Carbon Black internationally.

Increased construction investment is predicted to contribute to increases in demand for Carbon Black in nations including India (where the urban population has increased by over 2.15%), Korea, the United Arab Emirates, and Qatar.

#### Impact of Covid-19

The COVID-19 pandemic had a strong impact on the global market for carbon black. The difficulties faced by carbon black manufacturers during the epidemic were a result of disruptions in the global supply chain, decreased demand from important sectors like the construction and automotive industries. Fluctuating raw material prices, changes in consumer behaviour, and changes in demand patterns caused by the restriction to mitigate Covid 19, further weakened the global Carbon Black market. However, the carbon black market began to show signs of improvement as economies began to recover and industries like automotive and construction witnessed demand hikes after the pandemic.

#### Impact of Russia-Ukraine War

The impact of Russia-Ukraine on the carbon black market was significant, especially on the production side, as Russia was a significant supplier of upstream crude oil to European nations. Due to the sanctions several European countries imposed on the import of Russian crude, demand for crude oil supplies was at an all-time high. As a result, the production costs of Carbon Black increased in those countries, which decreased the buying sentiment.

As the ongoing conflict in the Eastern European region continues, the performance of the downstream industries like the automotive, and construction declines contributing to a weakening demand scenario for carbon black in that particular region.

Key Players Landscape and Outlook

The rising trend of strategic partnerships and collaborations between companies to produce carbon black products for specific Industrial uses has been observed between



carbon black manufacturers and its end-user market companies across the globe. By cooperating, manufacturers can pool their skills and knowledge to create carbon black products that are specifically suited for various industrial applications. Additionally, collaboration between companies would result in better production practices and higherquality products.

For instance, the first of Monolith's products to be used in a tire was announced. Monolith is a world leader in commercial-scale carbon black and hydrogen manufacturing utilizing the methane pyrolysis technique. The ultra-high performance, allseason ElectricDriveTM GT passenger tire in size 235/40R19, which is perfect for cars like the Tesla Model 3, will now feature Monolith's carbon black in a new tread formulation, according to The Goodyear Tire & Rubber Company (Goodyear), one of the biggest tire manufacturers in the world. The transition from traditional carbon black to carbon black with zero emissions in tire manufacture is being made by Monolith and Goodyear.

In July 2022, ATC Plastics and Origin Materials entered into a partnership where ATC plastics has agreed to purchase Origin's sustainable carbon black which is a 100% bio content filler and pigment which will be used in multiple applications including belts, hoses, tires, toners and others.

The outlook for the carbon black market is positive as the demand from the automotive sector is rising along with increasing use of carbon black in production of industrial rubber. Various applications of Carbon black in construction sector, since it is mixed with cement strengthen the demand situation for carbon black in the international market.



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- \*Companies mentioned above DO NOT hold any order as per market share and can be



changed as per information available during research work

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