

Hydrogen Tank Material Market by Material Type (Metal, Carbon Fiber, Glass Fiber), Tank Type (Tank 1, Tank 2, Tank 3, Tank 4), End-use Industry (Automotive & Transportation, Industrial, Chemicals, Medical & Pharmaceuticals), Region – Global Forecast to 2030

<https://marketpublishers.com/r/H1813BD5F882EN.html>

Date: May 2023

Pages: 213

Price: US\$ 4,950.00 (Single User License)

ID: H1813BD5F882EN

Abstracts

The global hydrogen tank material market is projected to grow from USD 953 million in 2022 to USD 3,988 million by 2030, at a CAGR of 22.7% during the forecast period. The hydrogen tank material market is mainly driven by increasing demand for clean energy, various government initiatives, and rising environmental awareness globally.

“Metal segment accounted for the largest share, in terms of value & volume, of the overall hydrogen tank material market.”

Various metals (steel, aluminum, and metal alloys) are used in the manufacturing of hydrogen tanks. Steel is used in Type 1, Type 2, and Type 3 cylinders. The metal used in hydrogen tanks increases the weight of the hydrogen cylinders, but at the same time it provides adequate protection to the cylinders. For metal and metal-lined cylinders, the life cycle of these depends on the rate of fatigue crack growth. The steel used in hydrogen tanks should have properties that meet the requirements of the finished product.

“Type 3 tank type to grow with second-highest CAGR in hydrogen tank material market in terms of value during forecasted period.”

Composite materials are used to make Type 3 hydrogen tanks. Materials, such as woven carbon fiber or woven glass fiber are wrapped fully around the metal liners. These seamless metal liners provide about 75% to 90% of the strength to the vessel

and act as an inflexible casing to hold the gas, thereby providing extra impact resistance to the product. Type 3 hydrogen tanks are lighter as compared to Type 1 and Type 2 hydrogen tanks, which help in reducing the weight of the fuel system and vehicles, thereby increasing the load-carrying capacity of the vehicles. However, Type 3 hydrogen tanks are more expensive compared to Type 2 and Type 1 hydrogen tanks.

“Automotive & transportation industry is expected to grow at a highest CAGR, in terms of both value and volume.”

Hydrogen tanks have gained wide acceptance in the automotive & transportation industry, because of their high performance and number of performance and advantageous properties, such as low maintenance cost, increase in fuel efficiency, and environmental-friendliness. By 2030, automotive & transportation is expected to be the largest end-use industry of hydrogen tank material market across the world.

“Europe is the second-leading hydrogen tank material market in terms of both value and volume.”

The EU Hydrogen Strategy defines a three-phase approach to developing renewable hydrogen, which can help to decarbonize several sectors across Europe within an integrated energy system. It intends to have 747 hydrogen refueling stations in Europe by 2025. Furthermore, according to the Hydrogen Roadmap Europe prepared for the Fuel Cells and Hydrogen Joint Undertaking, by 2030, FCEVs could account for 1 in 22 passenger vehicles (3.7 million total fleet); 1 in 12 light commercial vehicles (500,000 total fleet); 45,000 trucks and buses, 570 trains, and 3,700 hydrogen fuelling stations in Europe. This is expected to fuel the growth of hydrogen tank material in the region.

Breakdown of Profiles of Primary Interviews:

By Company Type- Tier 1- 60%, Tier 2- 20%, and Tier 3- 20%

By Designation- C Level- 33%, Director Level- 33%, and Managers- 34%

By Region- North America- 20%, Europe- 25%, Asia Pacific (APAC) - 25%, Latin America-10%, Middle East & Africa (MEA)-20%,

The report provides a comprehensive analysis of company profiles listed below:

Worthington Industries, Inc. (US)

Chongqing Polycomp International Corporation (CPIC), (China),

Luxfer Group (England)

Hexagon Composites ASA (Norway)

Quantum Fuel Systems LLC (US)

Faber Industrie SPA (Italy)

Everest Kanto Cylinders Ltd. (India)

Avanco Group (Germany)

Praxair Technologies, Inc. (US)

Research Coverage

This report covers the global hydrogen tank material market and forecasts the market size until 2030. It includes the following market segmentation – Material type (Metal, Glass Fiber, Carbon Fiber), Tank type (Type 1, Type 2, Type 3, Type 4), End-use Industry (Automotive & Transportation, Industrial, Chemicals, Medical & Pharmaceuticals, and others), and Region (Europe, North America, Asia Pacific, Latin America and Middle East & Africa). Porter's Five Forces Analysis, along with the drivers, restraints, opportunities, and challenges, have been discussed in the report. It also provides company profiles and competitive strategies adopted by the major players in the global hydrogen tank material market.

Reasons to buy this report:

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall hydrogen tank material market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and to plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers,

restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (Increased use of hydrogen tank material in automotive & transportation industry), restraints (High cost of composite material-based tanks and regulatory approvals), opportunities (Emergence of lightweight composite material-based hydrogen tanks), and challenges (Impact of fluctuating oil prices) influencing the growth of the hydrogen tank material market

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the hydrogen tank material market

Market Development: Comprehensive information about lucrative markets – the report analyses the hydrogen tank material market across varied regions

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the hydrogen tank material market

Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players like include Worthington Industries, Inc. (US), Luxfer Group (England), Hexagon Composites ASA (Norway), Quantum Fuel Systems LLC (US), Faber Industrie SPA (Italy), Everest Kanto Cylinders Ltd. (India), Avanco Group (Germany), Praxair Technologies, Inc. (US), among others in the hydrogen tank material market.

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