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Global Flexible Composite Pipe for Hydrogen Transmission Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global Flexible Composite Pipe for Hydrogen Transmission market size is expected to reach $ 56.60 million by 2032, rising at a market growth of 35.5% CAGR during the forecast period (2026-2032).

Flexible composite pipe for hydrogen transportation refers to a spoolable composite pressure-pipe system consisting of a thermoplastic liner serving as the hydrogen sealing and barrier layer, a load-bearing reinforcement layer made of glass fiber, aramid fiber, carbon fiber, steel wire, steel strip or hybrid materials, an external polymeric protection layer, and dedicated end fittings, flanges and connectors. The pipe is designed for transporting pure hydrogen or hydrogen?natural gas blends. Certain products incorporate metallic foil, high-barrier polymers or multilayer co-extruded structures to reduce hydrogen permeation.

The market scope includes non-metallic reinforced thermoplastic pipe, fully bonded thermoplastic composite pipe, steel-reinforced spoolable composite pipe, flexible composite liners used for pipeline rehabilitation, and other flexible multilayer composite pipes qualified for hydrogen service. Applications include hydrogen-production-site export lines, industrial-park and hydrogen-hub distribution, port and refueling-station supply networks, offshore hydrogen gathering and export, and rehabilitation of existing pipelines. Unreinforced polyethylene gas pipe, rigid GRE/GRP pipe, metallic corrugated hose, vehicle refueling hose, conventional steel hydrogen line pipe and cryogenic liquid-hydrogen hose are excluded.

In 2025, the global shipment length of Flexible Composite Pipe for Hydrogen Transmission will be approximately 10 kilometers, with an average FOB price of

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approximately US$650 per meter and a manufacturing gross margin of approximately 25% to 38%.

Near-term opportunities for flexible composite hydrogen pipe are not concentrated in very large-diameter, cross-regional pure-hydrogen trunk pipelines. More realistic applications include short- and medium-distance export lines connecting hydrogen production sites with storage and distribution terminals, branch networks within industrial parks and hydrogen hubs, supply lines serving ports and refueling stations, difficult-terrain installations, and rehabilitation of existing pipelines. Long spool lengths, fewer field joints, reduced welding and inspection requirements, and resistance to electrochemical corrosion make flexible composite pipe particularly attractive for distributed green-hydrogen projects and early-stage infrastructure whose final capacity remains uncertain.

Non-metallic reinforced RTP is expected to commercialize first in onshore medium-pressure applications because of its established manufacturing base, long continuous lengths and relatively favorable installation economics. Fully bonded TCP offers higher specific strength, fatigue resistance and suitability for marine environments, making it more relevant to offshore wind-to-hydrogen gathering, subsea pipelines and higher-pressure systems. Steel-reinforced spoolable pipe provides high pressure capability and mechanical robustness, while flexible composite liners primarily address conversion and rehabilitation of existing natural-gas or industrial pipelines.

Major technical barriers include hydrogen permeation, liner swelling and rapid-gas-decompression damage, cyclic-pressure fatigue, liner?reinforcement interface failure, barrier-layer damage during bending, end-fitting leakage and insufficient long-term aging data. Short-duration burst testing or general natural-gas compatibility alone is not sufficient to demonstrate long-term hydrogen suitability. Commercial growth will depend on complete qualification programs and, more fundamentally, on the actual commissioning and utilization of low-emission hydrogen projects.

This report studies the global Flexible Composite Pipe for Hydrogen Transmission production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Flexible Composite Pipe for Hydrogen Transmission and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Flexible Composite Pipe for Hydrogen Transmission that contribute to its increasing demand

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across many markets.

Highlights and key features of the study
Global Flexible Composite Pipe for Hydrogen Transmission total production and demand, 2021-2032, (K Meter)
Global Flexible Composite Pipe for Hydrogen Transmission total production value, 2021-2032, (USD Million)
Global Flexible Composite Pipe for Hydrogen Transmission production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (K Meter), (based on production site)
Global Flexible Composite Pipe for Hydrogen Transmission consumption by region & country, CAGR, 2021-2032 & (K Meter)
U.S. VS China: Flexible Composite Pipe for Hydrogen Transmission domestic production, consumption, key domestic manufacturers and share
Global Flexible Composite Pipe for Hydrogen Transmission production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (K Meter)
Global Flexible Composite Pipe for Hydrogen Transmission production by Type, production, value, CAGR, 2021-2032, (USD Million) & (K Meter)
Global Flexible Composite Pipe for Hydrogen Transmission production by Application, production, value, CAGR, 2021-2032, (USD Million) & (K Meter)

This report profiles key players in the global Flexible Composite Pipe for Hydrogen Transmission market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include SoluForce B.V., Strohm B.V., Baker Hughes Company, NOV Inc., R?dlinger primus line GmbH, Shandong Donghong Pipe Industry Co., Ltd., Lesso, Baoji Tianlian Huitong Composite Materials Co., Ltd., Xinjiang PetroChina Tubular Engineering Co., Ltd., Gongqingcheng Ruitai Pipe Technology Co., Ltd., etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Flexible Composite Pipe for Hydrogen Transmission market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US$

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Millions), volume (production, consumption) & (K Meter) and average price (US$/Meter) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Flexible Composite Pipe for Hydrogen Transmission Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global Flexible Composite Pipe for Hydrogen Transmission Market, Segmentation by Type:

Reinforced Thermoplastic Pipe

Thermoplastic Composite Pipe

Others

Global Flexible Composite Pipe for Hydrogen Transmission Market, Segmentation by Rated Maximum Operating Pressure for Hydrogen Service:

?4.0 Mpa

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4.0 Mpa-6.3 MPa

6.3 Mpa-10.0 MPa

Others

Global Flexible Composite Pipe for Hydrogen Transmission Market, Segmentation by Nominal Outer Diameter:

?110 mm

110 mm-160 mm

160 mm-250 mm

?250 mm

Global Flexible Composite Pipe for Hydrogen Transmission Market, Segmentation by Application:

Hydrogen Production-Site Gathering and Export

Industrial Park and Hydrogen-Hub Distribution

Offshore Wind-To-Hydrogen Gathering and Export

Hydrogen Terminal and Refueling Station Supply

Others

Companies Profiled:

SoluForce B.V.

Strohm B.V.

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Baker Hughes Company

NOV Inc.

R?dlinger primus line GmbH

Shandong Donghong Pipe Industry Co., Ltd.

Lesso

Baoji Tianlian Huitong Composite Materials Co., Ltd.

Xinjiang PetroChina Tubular Engineering Co., Ltd.

Gongqingcheng Ruitai Pipe Technology Co., Ltd.

Jiangsu Zhengdao Marine Technology Co., Ltd.

Ningbo OPR Offshore Engineering Equipment Co., Ltd.

PipeChina

Hebei Yutong Special Rubber Hose Co., Ltd.

Shandong Beifang Oujin New Materials Technology Co., Ltd.

Goldstone Tubos

Key Questions Answered:
1. How big is the global Flexible Composite Pipe for Hydrogen Transmission market?
2. What is the demand of the global Flexible Composite Pipe for Hydrogen Transmission market?
3. What is the year over year growth of the global Flexible Composite Pipe for Hydrogen Transmission market?
4. What is the production and production value of the global Flexible Composite Pipe for Hydrogen Transmission market?
5. Who are the key producers in the global Flexible Composite Pipe for Hydrogen Transmission market?

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6. What are the growth factors driving the market demand?

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