

Global Hydrogen Fuel Proton Exchange Membrane Supply, Demand and Key Producers, 2023-2029

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Abstracts

The global Hydrogen Fuel Proton Exchange Membrane market size is expected to reach \$ million by 2029, rising at a market growth of % CAGR during the forecast period (2023-2029).

Hydrogen fuel Proton-exchange membrane is a key component used in Hydrogen fuel cells. It is a thin film, usually made of polymer materials, with special ion conductivity. In a Hydrogen fuel cell, hydrogen (H_2) reacts with the catalyst at the anode side to produce protons (H^+) and electrons (e^-). Protons are transferred to the cathode side through the Hydrogen fuel Proton-exchange membrane, while electrons are transferred through the external circuit to form current. On the cathode side, protons, electrons, and oxygen (O_2) react to produce water (H_2O) as a byproduct. Hydrogen fuel Proton-exchange membrane has the following important characteristics:

1. High ion conduction performance: Hydrogen fuel Proton-exchange membrane can conduct protons efficiently, thus realizing efficient separation and transmission of electrons and protons.
2. Low electron conduction performance: Hydrogen fuel Proton-exchange membrane has low electron conduction performance, which can prevent electrons from being directly transferred from the anode side to the cathode side through the membrane, thus avoiding current loss.
3. Good chemical stability: Hydrogen fuel Proton-exchange membrane needs to have good chemical stability to withstand the impact of hydrogen, oxygen and other possible chemicals.
4. Appropriate temperature range: Hydrogen fuel Proton-exchange membrane needs to work within the appropriate temperature range, usually between 80-120 °C, to ensure its efficient ion conduction performance.

Hydrogen fuel Proton-exchange membrane is one of the key components of Hydrogen fuel cell, which can realize the separation and conduction of hydrogen, thus converting Chemical energy into electrical energy. It has broad application prospects in fields such as automobiles, aerospace, and energy storage.

This report studies the global Hydrogen Fuel Proton Exchange Membrane production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Hydrogen Fuel Proton Exchange Membrane, and provides market size (US\$ million) and Year-over-Year (YoY) Growth, considering 2022 as the base year. This report explores demand trends and competition, as well as details the characteristics of Hydrogen Fuel Proton Exchange Membrane that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global Hydrogen Fuel Proton Exchange Membrane total production and demand, 2018-2029, (K Sqm)

Global Hydrogen Fuel Proton Exchange Membrane total production value, 2018-2029, (USD Million)

Global Hydrogen Fuel Proton Exchange Membrane production by region & country, production, value, CAGR, 2018-2029, (USD Million) & (K Sqm)

Global Hydrogen Fuel Proton Exchange Membrane consumption by region & country, CAGR, 2018-2029 & (K Sqm)

U.S. VS China: Hydrogen Fuel Proton Exchange Membrane domestic production, consumption, key domestic manufacturers and share

Global Hydrogen Fuel Proton Exchange Membrane production by manufacturer, production, price, value and market share 2018-2023, (USD Million) & (K Sqm)

Global Hydrogen Fuel Proton Exchange Membrane production by Type, production, value, CAGR, 2018-2029, (USD Million) & (K Sqm)

Global Hydrogen Fuel Proton Exchange Membrane production by Application production, value, CAGR, 2018-2029, (USD Million) & (K Sqm).

This reports profiles key players in the global Hydrogen Fuel Proton Exchange Membrane 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 3M Company, DuPont, Ballard Power Systems Inc., Gore, Nafion (a subsidiary of Chemours Company), SGL Carbon, Freudenberg Performance Materials, Toray Industries, Inc. and Teijin Limited, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals, COVID-19 and Russia-Ukraine War Influence.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Hydrogen Fuel Proton Exchange Membrane market.

Detailed Segmentation:

Each section contains quantitative market data including market by value (US\$ Millions), volume (production, consumption) & (K Sqm) and average price (US\$/Sqm) by manufacturer, by Type, and by Application. Data is given for the years 2018-2029 by year with 2022 as the base year, 2023 as the estimate year, and 2024-2029 as the forecast year.

Global Hydrogen Fuel Proton Exchange Membrane Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global Hydrogen Fuel Proton Exchange Membrane Market, Segmentation by Type

Fluorinated Polymer Proton Exchange Membrane

Sulfonic Acid Polymer Proton Exchange Membrane

Phosphate Polymer Proton Exchange Membrane

Global Hydrogen Fuel Proton Exchange Membrane Market, Segmentation by Application

Automobile Industry

Energy Industry

Aerospace Industry

Others

Companies Profiled:

3M Company

DuPont

Ballard Power Systems Inc.

Gore

Nafion (a subsidiary of Chemours Company)

SGL Carbon

Freudenberg Performance Materials

Toray Industries, Inc.

Teijin Limited

Mitsubishi Chemical Corporation

Sumitomo Chemical Co., Ltd.

AGC Inc.

FuelCell Energy, Inc.

Novomer, Inc.

Advent Technologies Inc.

Key Questions Answered

1. How big is the global Hydrogen Fuel Proton Exchange Membrane market?
2. What is the demand of the global Hydrogen Fuel Proton Exchange Membrane market?
3. What is the year over year growth of the global Hydrogen Fuel Proton Exchange Membrane market?
4. What is the production and production value of the global Hydrogen Fuel Proton Exchange Membrane market?
5. Who are the key producers in the global Hydrogen Fuel Proton Exchange Membrane market?
6. What are the growth factors driving the market demand?

Contents

1 SUPPLY SUMMARY

- 1.1 Hydrogen Fuel Proton Exchange Membrane Introduction
- 1.2 World Hydrogen Fuel Proton Exchange Membrane Supply & Forecast
 - 1.2.1 World Hydrogen Fuel Proton Exchange Membrane Production Value (2018 & 2022 & 2029)
 - 1.2.2 World Hydrogen Fuel Proton Exchange Membrane Production (2018-2029)
 - 1.2.3 World Hydrogen Fuel Proton Exchange Membrane Pricing Trends (2018-2029)
- 1.3 World Hydrogen Fuel Proton Exchange Membrane Production by Region (Based on Production Site)
 - 1.3.1 World Hydrogen Fuel Proton Exchange Membrane Production Value by Region (2018-2029)
 - 1.3.2 World Hydrogen Fuel Proton Exchange Membrane Production by Region (2018-2029)
 - 1.3.3 World Hydrogen Fuel Proton Exchange Membrane Average Price by Region (2018-2029)
 - 1.3.4 North America Hydrogen Fuel Proton Exchange Membrane Production (2018-2029)
 - 1.3.5 Europe Hydrogen Fuel Proton Exchange Membrane Production (2018-2029)
 - 1.3.6 China Hydrogen Fuel Proton Exchange Membrane Production (2018-2029)
 - 1.3.7 Japan Hydrogen Fuel Proton Exchange Membrane Production (2018-2029)
- 1.4 Market Drivers, Restraints and Trends
 - 1.4.1 Hydrogen Fuel Proton Exchange Membrane Market Drivers
 - 1.4.2 Factors Affecting Demand
 - 1.4.3 Hydrogen Fuel Proton Exchange Membrane Major Market Trends
- 1.5 Influence of COVID-19 and Russia-Ukraine War
 - 1.5.1 Influence of COVID-19
 - 1.5.2 Influence of Russia-Ukraine War

2 DEMAND SUMMARY

- 2.1 World Hydrogen Fuel Proton Exchange Membrane Demand (2018-2029)
- 2.2 World Hydrogen Fuel Proton Exchange Membrane Consumption by Region
 - 2.2.1 World Hydrogen Fuel Proton Exchange Membrane Consumption by Region (2018-2023)
 - 2.2.2 World Hydrogen Fuel Proton Exchange Membrane Consumption Forecast by Region (2024-2029)

- 2.3 United States Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029)
- 2.4 China Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029)
- 2.5 Europe Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029)
- 2.6 Japan Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029)
- 2.7 South Korea Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029)
- 2.8 ASEAN Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029)
- 2.9 India Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029)

3 WORLD HYDROGEN FUEL PROTON EXCHANGE MEMBRANE MANUFACTURERS COMPETITIVE ANALYSIS

- 3.1 World Hydrogen Fuel Proton Exchange Membrane Production Value by Manufacturer (2018-2023)
- 3.2 World Hydrogen Fuel Proton Exchange Membrane Production by Manufacturer (2018-2023)
- 3.3 World Hydrogen Fuel Proton Exchange Membrane Average Price by Manufacturer (2018-2023)
- 3.4 Hydrogen Fuel Proton Exchange Membrane Company Evaluation Quadrant
- 3.5 Industry Rank and Concentration Rate (CR)
 - 3.5.1 Global Hydrogen Fuel Proton Exchange Membrane Industry Rank of Major Manufacturers
 - 3.5.2 Global Concentration Ratios (CR4) for Hydrogen Fuel Proton Exchange Membrane in 2022
 - 3.5.3 Global Concentration Ratios (CR8) for Hydrogen Fuel Proton Exchange Membrane in 2022
- 3.6 Hydrogen Fuel Proton Exchange Membrane Market: Overall Company Footprint Analysis
 - 3.6.1 Hydrogen Fuel Proton Exchange Membrane Market: Region Footprint
 - 3.6.2 Hydrogen Fuel Proton Exchange Membrane Market: Company Product Type Footprint
 - 3.6.3 Hydrogen Fuel Proton Exchange Membrane Market: Company Product Application Footprint
- 3.7 Competitive Environment
 - 3.7.1 Historical Structure of the Industry
 - 3.7.2 Barriers of Market Entry
 - 3.7.3 Factors of Competition
- 3.8 New Entrant and Capacity Expansion Plans
- 3.9 Mergers, Acquisition, Agreements, and Collaborations

4 UNITED STATES VS CHINA VS REST OF THE WORLD

4.1 United States VS China: Hydrogen Fuel Proton Exchange Membrane Production Value Comparison

4.1.1 United States VS China: Hydrogen Fuel Proton Exchange Membrane Production Value Comparison (2018 & 2022 & 2029)

4.1.2 United States VS China: Hydrogen Fuel Proton Exchange Membrane Production Value Market Share Comparison (2018 & 2022 & 2029)

4.2 United States VS China: Hydrogen Fuel Proton Exchange Membrane Production Comparison

4.2.1 United States VS China: Hydrogen Fuel Proton Exchange Membrane Production Comparison (2018 & 2022 & 2029)

4.2.2 United States VS China: Hydrogen Fuel Proton Exchange Membrane Production Market Share Comparison (2018 & 2022 & 2029)

4.3 United States VS China: Hydrogen Fuel Proton Exchange Membrane Consumption Comparison

4.3.1 United States VS China: Hydrogen Fuel Proton Exchange Membrane Consumption Comparison (2018 & 2022 & 2029)

4.3.2 United States VS China: Hydrogen Fuel Proton Exchange Membrane Consumption Market Share Comparison (2018 & 2022 & 2029)

4.4 United States Based Hydrogen Fuel Proton Exchange Membrane Manufacturers and Market Share, 2018-2023

4.4.1 United States Based Hydrogen Fuel Proton Exchange Membrane Manufacturers, Headquarters and Production Site (States, Country)

4.4.2 United States Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Value (2018-2023)

4.4.3 United States Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production (2018-2023)

4.5 China Based Hydrogen Fuel Proton Exchange Membrane Manufacturers and Market Share

4.5.1 China Based Hydrogen Fuel Proton Exchange Membrane Manufacturers, Headquarters and Production Site (Province, Country)

4.5.2 China Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Value (2018-2023)

4.5.3 China Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production (2018-2023)

4.6 Rest of World Based Hydrogen Fuel Proton Exchange Membrane Manufacturers and Market Share, 2018-2023

4.6.1 Rest of World Based Hydrogen Fuel Proton Exchange Membrane
Manufacturers, Headquarters and Production Site (State, Country)

4.6.2 Rest of World Based Manufacturers Hydrogen Fuel Proton Exchange Membrane
Production Value (2018-2023)

4.6.3 Rest of World Based Manufacturers Hydrogen Fuel Proton Exchange Membrane
Production (2018-2023)

5 MARKET ANALYSIS BY TYPE

5.1 World Hydrogen Fuel Proton Exchange Membrane Market Size Overview by Type:
2018 VS 2022 VS 2029

5.2 Segment Introduction by Type

5.2.1 Fluorinated Polymer Proton Exchange Membrane

5.2.2 Sulfonic Acid Polymer Proton Exchange Membrane

5.2.3 Phosphate Polymer Proton Exchange Membrane

5.3 Market Segment by Type

5.3.1 World Hydrogen Fuel Proton Exchange Membrane Production by Type
(2018-2029)

5.3.2 World Hydrogen Fuel Proton Exchange Membrane Production Value by Type
(2018-2029)

5.3.3 World Hydrogen Fuel Proton Exchange Membrane Average Price by Type
(2018-2029)

6 MARKET ANALYSIS BY APPLICATION

6.1 World Hydrogen Fuel Proton Exchange Membrane Market Size Overview by
Application: 2018 VS 2022 VS 2029

6.2 Segment Introduction by Application

6.2.1 Automobile Industry

6.2.2 Energy Industry

6.2.3 Aerospace Industry

6.2.4 Others

6.3 Market Segment by Application

6.3.1 World Hydrogen Fuel Proton Exchange Membrane Production by Application
(2018-2029)

6.3.2 World Hydrogen Fuel Proton Exchange Membrane Production Value by
Application (2018-2029)

6.3.3 World Hydrogen Fuel Proton Exchange Membrane Average Price by Application
(2018-2029)

7 COMPANY PROFILES

7.1 3M Company

7.1.1 3M Company Details

7.1.2 3M Company Major Business

7.1.3 3M Company Hydrogen Fuel Proton Exchange Membrane Product and Services

7.1.4 3M Company Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)

7.1.5 3M Company Recent Developments/Updates

7.1.6 3M Company Competitive Strengths & Weaknesses

7.2 DuPont

7.2.1 DuPont Details

7.2.2 DuPont Major Business

7.2.3 DuPont Hydrogen Fuel Proton Exchange Membrane Product and Services

7.2.4 DuPont Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)

7.2.5 DuPont Recent Developments/Updates

7.2.6 DuPont Competitive Strengths & Weaknesses

7.3 Ballard Power Systems Inc.

7.3.1 Ballard Power Systems Inc. Details

7.3.2 Ballard Power Systems Inc. Major Business

7.3.3 Ballard Power Systems Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services

7.3.4 Ballard Power Systems Inc. Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)

7.3.5 Ballard Power Systems Inc. Recent Developments/Updates

7.3.6 Ballard Power Systems Inc. Competitive Strengths & Weaknesses

7.4 Gore

7.4.1 Gore Details

7.4.2 Gore Major Business

7.4.3 Gore Hydrogen Fuel Proton Exchange Membrane Product and Services

7.4.4 Gore Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)

7.4.5 Gore Recent Developments/Updates

7.4.6 Gore Competitive Strengths & Weaknesses

7.5 Nafion (a subsidiary of Chemours Company)

7.5.1 Nafion (a subsidiary of Chemours Company) Details

7.5.2 Nafion (a subsidiary of Chemours Company) Major Business

7.5.3 Nafion (a subsidiary of Chemours Company) Hydrogen Fuel Proton Exchange Membrane Product and Services

7.5.4 Nafion (a subsidiary of Chemours Company) Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)

7.5.5 Nafion (a subsidiary of Chemours Company) Recent Developments/Updates

7.5.6 Nafion (a subsidiary of Chemours Company) Competitive Strengths & Weaknesses

7.6 SGL Carbon

7.6.1 SGL Carbon Details

7.6.2 SGL Carbon Major Business

7.6.3 SGL Carbon Hydrogen Fuel Proton Exchange Membrane Product and Services

7.6.4 SGL Carbon Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)

7.6.5 SGL Carbon Recent Developments/Updates

7.6.6 SGL Carbon Competitive Strengths & Weaknesses

7.7 Freudenberg Performance Materials

7.7.1 Freudenberg Performance Materials Details

7.7.2 Freudenberg Performance Materials Major Business

7.7.3 Freudenberg Performance Materials Hydrogen Fuel Proton Exchange Membrane Product and Services

7.7.4 Freudenberg Performance Materials Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)

7.7.5 Freudenberg Performance Materials Recent Developments/Updates

7.7.6 Freudenberg Performance Materials Competitive Strengths & Weaknesses

7.8 Toray Industries, Inc.

7.8.1 Toray Industries, Inc. Details

7.8.2 Toray Industries, Inc. Major Business

7.8.3 Toray Industries, Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services

7.8.4 Toray Industries, Inc. Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)

7.8.5 Toray Industries, Inc. Recent Developments/Updates

7.8.6 Toray Industries, Inc. Competitive Strengths & Weaknesses

7.9 Teijin Limited

7.9.1 Teijin Limited Details

7.9.2 Teijin Limited Major Business

7.9.3 Teijin Limited Hydrogen Fuel Proton Exchange Membrane Product and Services

7.9.4 Teijin Limited Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)

- 7.9.5 Teijin Limited Recent Developments/Updates
- 7.9.6 Teijin Limited Competitive Strengths & Weaknesses
- 7.10 Mitsubishi Chemical Corporation
 - 7.10.1 Mitsubishi Chemical Corporation Details
 - 7.10.2 Mitsubishi Chemical Corporation Major Business
 - 7.10.3 Mitsubishi Chemical Corporation Hydrogen Fuel Proton Exchange Membrane Product and Services
 - 7.10.4 Mitsubishi Chemical Corporation Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)
 - 7.10.5 Mitsubishi Chemical Corporation Recent Developments/Updates
 - 7.10.6 Mitsubishi Chemical Corporation Competitive Strengths & Weaknesses
- 7.11 Sumitomo Chemical Co., Ltd.
 - 7.11.1 Sumitomo Chemical Co., Ltd. Details
 - 7.11.2 Sumitomo Chemical Co., Ltd. Major Business
 - 7.11.3 Sumitomo Chemical Co., Ltd. Hydrogen Fuel Proton Exchange Membrane Product and Services
 - 7.11.4 Sumitomo Chemical Co., Ltd. Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)
 - 7.11.5 Sumitomo Chemical Co., Ltd. Recent Developments/Updates
 - 7.11.6 Sumitomo Chemical Co., Ltd. Competitive Strengths & Weaknesses
- 7.12 AGC Inc.
 - 7.12.1 AGC Inc. Details
 - 7.12.2 AGC Inc. Major Business
 - 7.12.3 AGC Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services
 - 7.12.4 AGC Inc. Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)
 - 7.12.5 AGC Inc. Recent Developments/Updates
 - 7.12.6 AGC Inc. Competitive Strengths & Weaknesses
- 7.13 FuelCell Energy, Inc.
 - 7.13.1 FuelCell Energy, Inc. Details
 - 7.13.2 FuelCell Energy, Inc. Major Business
 - 7.13.3 FuelCell Energy, Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services
 - 7.13.4 FuelCell Energy, Inc. Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)
 - 7.13.5 FuelCell Energy, Inc. Recent Developments/Updates
 - 7.13.6 FuelCell Energy, Inc. Competitive Strengths & Weaknesses
- 7.14 Novomer, Inc.
 - 7.14.1 Novomer, Inc. Details

- 7.14.2 Novomer, Inc. Major Business
- 7.14.3 Novomer, Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services
- 7.14.4 Novomer, Inc. Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)
- 7.14.5 Novomer, Inc. Recent Developments/Updates
- 7.14.6 Novomer, Inc. Competitive Strengths & Weaknesses
- 7.15 Advent Technologies Inc.
 - 7.15.1 Advent Technologies Inc. Details
 - 7.15.2 Advent Technologies Inc. Major Business
 - 7.15.3 Advent Technologies Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services
 - 7.15.4 Advent Technologies Inc. Hydrogen Fuel Proton Exchange Membrane Production, Price, Value, Gross Margin and Market Share (2018-2023)
 - 7.15.5 Advent Technologies Inc. Recent Developments/Updates
 - 7.15.6 Advent Technologies Inc. Competitive Strengths & Weaknesses

8 INDUSTRY CHAIN ANALYSIS

- 8.1 Hydrogen Fuel Proton Exchange Membrane Industry Chain
- 8.2 Hydrogen Fuel Proton Exchange Membrane Upstream Analysis
 - 8.2.1 Hydrogen Fuel Proton Exchange Membrane Core Raw Materials
 - 8.2.2 Main Manufacturers of Hydrogen Fuel Proton Exchange Membrane Core Raw Materials
- 8.3 Midstream Analysis
- 8.4 Downstream Analysis
- 8.5 Hydrogen Fuel Proton Exchange Membrane Production Mode
- 8.6 Hydrogen Fuel Proton Exchange Membrane Procurement Model
- 8.7 Hydrogen Fuel Proton Exchange Membrane Industry Sales Model and Sales Channels
 - 8.7.1 Hydrogen Fuel Proton Exchange Membrane Sales Model
 - 8.7.2 Hydrogen Fuel Proton Exchange Membrane Typical Customers

9 RESEARCH FINDINGS AND CONCLUSION

10 APPENDIX

- 10.1 Methodology
- 10.2 Research Process and Data Source

10.3 Disclaimer

List Of Tables

LIST OF TABLES

- Table 1. World Hydrogen Fuel Proton Exchange Membrane Production Value by Region (2018, 2022 and 2029) & (USD Million)
- Table 2. World Hydrogen Fuel Proton Exchange Membrane Production Value by Region (2018-2023) & (USD Million)
- Table 3. World Hydrogen Fuel Proton Exchange Membrane Production Value by Region (2024-2029) & (USD Million)
- Table 4. World Hydrogen Fuel Proton Exchange Membrane Production Value Market Share by Region (2018-2023)
- Table 5. World Hydrogen Fuel Proton Exchange Membrane Production Value Market Share by Region (2024-2029)
- Table 6. World Hydrogen Fuel Proton Exchange Membrane Production by Region (2018-2023) & (K Sqm)
- Table 7. World Hydrogen Fuel Proton Exchange Membrane Production by Region (2024-2029) & (K Sqm)
- Table 8. World Hydrogen Fuel Proton Exchange Membrane Production Market Share by Region (2018-2023)
- Table 9. World Hydrogen Fuel Proton Exchange Membrane Production Market Share by Region (2024-2029)
- Table 10. World Hydrogen Fuel Proton Exchange Membrane Average Price by Region (2018-2023) & (US\$/Sqm)
- Table 11. World Hydrogen Fuel Proton Exchange Membrane Average Price by Region (2024-2029) & (US\$/Sqm)
- Table 12. Hydrogen Fuel Proton Exchange Membrane Major Market Trends
- Table 13. World Hydrogen Fuel Proton Exchange Membrane Consumption Growth Rate Forecast by Region (2018 & 2022 & 2029) & (K Sqm)
- Table 14. World Hydrogen Fuel Proton Exchange Membrane Consumption by Region (2018-2023) & (K Sqm)
- Table 15. World Hydrogen Fuel Proton Exchange Membrane Consumption Forecast by Region (2024-2029) & (K Sqm)
- Table 16. World Hydrogen Fuel Proton Exchange Membrane Production Value by Manufacturer (2018-2023) & (USD Million)
- Table 17. Production Value Market Share of Key Hydrogen Fuel Proton Exchange Membrane Producers in 2022
- Table 18. World Hydrogen Fuel Proton Exchange Membrane Production by Manufacturer (2018-2023) & (K Sqm)

Table 19. Production Market Share of Key Hydrogen Fuel Proton Exchange Membrane Producers in 2022

Table 20. World Hydrogen Fuel Proton Exchange Membrane Average Price by Manufacturer (2018-2023) & (US\$/Sqm)

Table 21. Global Hydrogen Fuel Proton Exchange Membrane Company Evaluation Quadrant

Table 22. World Hydrogen Fuel Proton Exchange Membrane Industry Rank of Major Manufacturers, Based on Production Value in 2022

Table 23. Head Office and Hydrogen Fuel Proton Exchange Membrane Production Site of Key Manufacturer

Table 24. Hydrogen Fuel Proton Exchange Membrane Market: Company Product Type Footprint

Table 25. Hydrogen Fuel Proton Exchange Membrane Market: Company Product Application Footprint

Table 26. Hydrogen Fuel Proton Exchange Membrane Competitive Factors

Table 27. Hydrogen Fuel Proton Exchange Membrane New Entrant and Capacity Expansion Plans

Table 28. Hydrogen Fuel Proton Exchange Membrane Mergers & Acquisitions Activity

Table 29. United States VS China Hydrogen Fuel Proton Exchange Membrane Production Value Comparison, (2018 & 2022 & 2029) & (USD Million)

Table 30. United States VS China Hydrogen Fuel Proton Exchange Membrane Production Comparison, (2018 & 2022 & 2029) & (K Sqm)

Table 31. United States VS China Hydrogen Fuel Proton Exchange Membrane Consumption Comparison, (2018 & 2022 & 2029) & (K Sqm)

Table 32. United States Based Hydrogen Fuel Proton Exchange Membrane Manufacturers, Headquarters and Production Site (States, Country)

Table 33. United States Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Value, (2018-2023) & (USD Million)

Table 34. United States Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Value Market Share (2018-2023)

Table 35. United States Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production (2018-2023) & (K Sqm)

Table 36. United States Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Market Share (2018-2023)

Table 37. China Based Hydrogen Fuel Proton Exchange Membrane Manufacturers, Headquarters and Production Site (Province, Country)

Table 38. China Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Value, (2018-2023) & (USD Million)

Table 39. China Based Manufacturers Hydrogen Fuel Proton Exchange Membrane

Production Value Market Share (2018-2023)

Table 40. China Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production (2018-2023) & (K Sqm)

Table 41. China Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Market Share (2018-2023)

Table 42. Rest of World Based Hydrogen Fuel Proton Exchange Membrane Manufacturers, Headquarters and Production Site (States, Country)

Table 43. Rest of World Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Value, (2018-2023) & (USD Million)

Table 44. Rest of World Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Value Market Share (2018-2023)

Table 45. Rest of World Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production (2018-2023) & (K Sqm)

Table 46. Rest of World Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Market Share (2018-2023)

Table 47. World Hydrogen Fuel Proton Exchange Membrane Production Value by Type, (USD Million), 2018 & 2022 & 2029

Table 48. World Hydrogen Fuel Proton Exchange Membrane Production by Type (2018-2023) & (K Sqm)

Table 49. World Hydrogen Fuel Proton Exchange Membrane Production by Type (2024-2029) & (K Sqm)

Table 50. World Hydrogen Fuel Proton Exchange Membrane Production Value by Type (2018-2023) & (USD Million)

Table 51. World Hydrogen Fuel Proton Exchange Membrane Production Value by Type (2024-2029) & (USD Million)

Table 52. World Hydrogen Fuel Proton Exchange Membrane Average Price by Type (2018-2023) & (US\$/Sqm)

Table 53. World Hydrogen Fuel Proton Exchange Membrane Average Price by Type (2024-2029) & (US\$/Sqm)

Table 54. World Hydrogen Fuel Proton Exchange Membrane Production Value by Application, (USD Million), 2018 & 2022 & 2029

Table 55. World Hydrogen Fuel Proton Exchange Membrane Production by Application (2018-2023) & (K Sqm)

Table 56. World Hydrogen Fuel Proton Exchange Membrane Production by Application (2024-2029) & (K Sqm)

Table 57. World Hydrogen Fuel Proton Exchange Membrane Production Value by Application (2018-2023) & (USD Million)

Table 58. World Hydrogen Fuel Proton Exchange Membrane Production Value by Application (2024-2029) & (USD Million)

Table 59. World Hydrogen Fuel Proton Exchange Membrane Average Price by Application (2018-2023) & (US\$/Sqm)

Table 60. World Hydrogen Fuel Proton Exchange Membrane Average Price by Application (2024-2029) & (US\$/Sqm)

Table 61. 3M Company Basic Information, Manufacturing Base and Competitors

Table 62. 3M Company Major Business

Table 63. 3M Company Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 64. 3M Company Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 65. 3M Company Recent Developments/Updates

Table 66. 3M Company Competitive Strengths & Weaknesses

Table 67. DuPont Basic Information, Manufacturing Base and Competitors

Table 68. DuPont Major Business

Table 69. DuPont Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 70. DuPont Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 71. DuPont Recent Developments/Updates

Table 72. DuPont Competitive Strengths & Weaknesses

Table 73. Ballard Power Systems Inc. Basic Information, Manufacturing Base and Competitors

Table 74. Ballard Power Systems Inc. Major Business

Table 75. Ballard Power Systems Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 76. Ballard Power Systems Inc. Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 77. Ballard Power Systems Inc. Recent Developments/Updates

Table 78. Ballard Power Systems Inc. Competitive Strengths & Weaknesses

Table 79. Gore Basic Information, Manufacturing Base and Competitors

Table 80. Gore Major Business

Table 81. Gore Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 82. Gore Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 83. Gore Recent Developments/Updates

Table 84. Gore Competitive Strengths & Weaknesses

Table 85. Nafion (a subsidiary of Chemours Company) Basic Information, Manufacturing Base and Competitors

Table 86. Nafion (a subsidiary of Chemours Company) Major Business

Table 87. Nafion (a subsidiary of Chemours Company) Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 88. Nafion (a subsidiary of Chemours Company) Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 89. Nafion (a subsidiary of Chemours Company) Recent Developments/Updates

Table 90. Nafion (a subsidiary of Chemours Company) Competitive Strengths & Weaknesses

Table 91. SGL Carbon Basic Information, Manufacturing Base and Competitors

Table 92. SGL Carbon Major Business

Table 93. SGL Carbon Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 94. SGL Carbon Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 95. SGL Carbon Recent Developments/Updates

Table 96. SGL Carbon Competitive Strengths & Weaknesses

Table 97. Freudenberg Performance Materials Basic Information, Manufacturing Base and Competitors

Table 98. Freudenberg Performance Materials Major Business

Table 99. Freudenberg Performance Materials Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 100. Freudenberg Performance Materials Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 101. Freudenberg Performance Materials Recent Developments/Updates

Table 102. Freudenberg Performance Materials Competitive Strengths & Weaknesses

Table 103. Toray Industries, Inc. Basic Information, Manufacturing Base and Competitors

Table 104. Toray Industries, Inc. Major Business

Table 105. Toray Industries, Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 106. Toray Industries, Inc. Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 107. Toray Industries, Inc. Recent Developments/Updates

Table 108. Toray Industries, Inc. Competitive Strengths & Weaknesses

Table 109. Teijin Limited Basic Information, Manufacturing Base and Competitors

Table 110. Teijin Limited Major Business

Table 111. Teijin Limited Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 112. Teijin Limited Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 113. Teijin Limited Recent Developments/Updates

Table 114. Teijin Limited Competitive Strengths & Weaknesses

Table 115. Mitsubishi Chemical Corporation Basic Information, Manufacturing Base and Competitors

Table 116. Mitsubishi Chemical Corporation Major Business

Table 117. Mitsubishi Chemical Corporation Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 118. Mitsubishi Chemical Corporation Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 119. Mitsubishi Chemical Corporation Recent Developments/Updates

Table 120. Mitsubishi Chemical Corporation Competitive Strengths & Weaknesses

Table 121. Sumitomo Chemical Co., Ltd. Basic Information, Manufacturing Base and Competitors

Table 122. Sumitomo Chemical Co., Ltd. Major Business

Table 123. Sumitomo Chemical Co., Ltd. Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 124. Sumitomo Chemical Co., Ltd. Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 125. Sumitomo Chemical Co., Ltd. Recent Developments/Updates

Table 126. Sumitomo Chemical Co., Ltd. Competitive Strengths & Weaknesses

Table 127. AGC Inc. Basic Information, Manufacturing Base and Competitors

Table 128. AGC Inc. Major Business

Table 129. AGC Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 130. AGC Inc. Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 131. AGC Inc. Recent Developments/Updates

Table 132. AGC Inc. Competitive Strengths & Weaknesses

Table 133. FuelCell Energy, Inc. Basic Information, Manufacturing Base and

Competitors

Table 134. FuelCell Energy, Inc. Major Business

Table 135. FuelCell Energy, Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 136. FuelCell Energy, Inc. Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 137. FuelCell Energy, Inc. Recent Developments/Updates

Table 138. FuelCell Energy, Inc. Competitive Strengths & Weaknesses

Table 139. Novomer, Inc. Basic Information, Manufacturing Base and Competitors

Table 140. Novomer, Inc. Major Business

Table 141. Novomer, Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 142. Novomer, Inc. Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 143. Novomer, Inc. Recent Developments/Updates

Table 144. Advent Technologies Inc. Basic Information, Manufacturing Base and Competitors

Table 145. Advent Technologies Inc. Major Business

Table 146. Advent Technologies Inc. Hydrogen Fuel Proton Exchange Membrane Product and Services

Table 147. Advent Technologies Inc. Hydrogen Fuel Proton Exchange Membrane Production (K Sqm), Price (US\$/Sqm), Production Value (USD Million), Gross Margin and Market Share (2018-2023)

Table 148. Global Key Players of Hydrogen Fuel Proton Exchange Membrane Upstream (Raw Materials)

Table 149. Hydrogen Fuel Proton Exchange Membrane Typical Customers

Table 150. Hydrogen Fuel Proton Exchange Membrane Typical Distributors

List Of Figures

LIST OF FIGURES

Figure 1. Hydrogen Fuel Proton Exchange Membrane Picture

Figure 2. World Hydrogen Fuel Proton Exchange Membrane Production Value: 2018 & 2022 & 2029, (USD Million)

Figure 3. World Hydrogen Fuel Proton Exchange Membrane Production Value and Forecast (2018-2029) & (USD Million)

Figure 4. World Hydrogen Fuel Proton Exchange Membrane Production (2018-2029) & (K Sqm)

Figure 5. World Hydrogen Fuel Proton Exchange Membrane Average Price (2018-2029) & (US\$/Sqm)

Figure 6. World Hydrogen Fuel Proton Exchange Membrane Production Value Market Share by Region (2018-2029)

Figure 7. World Hydrogen Fuel Proton Exchange Membrane Production Market Share by Region (2018-2029)

Figure 8. North America Hydrogen Fuel Proton Exchange Membrane Production (2018-2029) & (K Sqm)

Figure 9. Europe Hydrogen Fuel Proton Exchange Membrane Production (2018-2029) & (K Sqm)

Figure 10. China Hydrogen Fuel Proton Exchange Membrane Production (2018-2029) & (K Sqm)

Figure 11. Japan Hydrogen Fuel Proton Exchange Membrane Production (2018-2029) & (K Sqm)

Figure 12. Hydrogen Fuel Proton Exchange Membrane Market Drivers

Figure 13. Factors Affecting Demand

Figure 14. World Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029) & (K Sqm)

Figure 15. World Hydrogen Fuel Proton Exchange Membrane Consumption Market Share by Region (2018-2029)

Figure 16. United States Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029) & (K Sqm)

Figure 17. China Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029) & (K Sqm)

Figure 18. Europe Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029) & (K Sqm)

Figure 19. Japan Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029) & (K Sqm)

Figure 20. South Korea Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029) & (K Sqm)

Figure 21. ASEAN Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029) & (K Sqm)

Figure 22. India Hydrogen Fuel Proton Exchange Membrane Consumption (2018-2029) & (K Sqm)

Figure 23. Producer Shipments of Hydrogen Fuel Proton Exchange Membrane by Manufacturer Revenue (\$MM) and Market Share (%): 2022

Figure 24. Global Four-firm Concentration Ratios (CR4) for Hydrogen Fuel Proton Exchange Membrane Markets in 2022

Figure 25. Global Four-firm Concentration Ratios (CR8) for Hydrogen Fuel Proton Exchange Membrane Markets in 2022

Figure 26. United States VS China: Hydrogen Fuel Proton Exchange Membrane Production Value Market Share Comparison (2018 & 2022 & 2029)

Figure 27. United States VS China: Hydrogen Fuel Proton Exchange Membrane Production Market Share Comparison (2018 & 2022 & 2029)

Figure 28. United States VS China: Hydrogen Fuel Proton Exchange Membrane Consumption Market Share Comparison (2018 & 2022 & 2029)

Figure 29. United States Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Market Share 2022

Figure 30. China Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Market Share 2022

Figure 31. Rest of World Based Manufacturers Hydrogen Fuel Proton Exchange Membrane Production Market Share 2022

Figure 32. World Hydrogen Fuel Proton Exchange Membrane Production Value by Type, (USD Million), 2018 & 2022 & 2029

Figure 33. World Hydrogen Fuel Proton Exchange Membrane Production Value Market Share by Type in 2022

Figure 34. Fluorinated Polymer Proton Exchange Membrane

Figure 35. Sulfonic Acid Polymer Proton Exchange Membrane

Figure 36. Phosphate Polymer Proton Exchange Membrane

Figure 37. World Hydrogen Fuel Proton Exchange Membrane Production Market Share by Type (2018-2029)

Figure 38. World Hydrogen Fuel Proton Exchange Membrane Production Value Market Share by Type (2018-2029)

Figure 39. World Hydrogen Fuel Proton Exchange Membrane Average Price by Type (2018-2029) & (US\$/Sqm)

Figure 40. World Hydrogen Fuel Proton Exchange Membrane Production Value by Application, (USD Million), 2018 & 2022 & 2029

Figure 41. World Hydrogen Fuel Proton Exchange Membrane Production Value Market Share by Application in 2022

Figure 42. Automobile Industry

Figure 43. Energy Industry

Figure 44. Aerospace Industry

Figure 45. Others

Figure 46. World Hydrogen Fuel Proton Exchange Membrane Production Market Share by Application (2018-2029)

Figure 47. World Hydrogen Fuel Proton Exchange Membrane Production Value Market Share by Application (2018-2029)

Figure 48. World Hydrogen Fuel Proton Exchange Membrane Average Price by Application (2018-2029) & (US\$/Sqm)

Figure 49. Hydrogen Fuel Proton Exchange Membrane Industry Chain

Figure 50. Hydrogen Fuel Proton Exchange Membrane Procurement Model

Figure 51. Hydrogen Fuel Proton Exchange Membrane Sales Model

Figure 52. Hydrogen Fuel Proton Exchange Membrane Sales Channels, Direct Sales, and Distribution

Figure 53. Methodology

Figure 54. Research Process and Data Source

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