

PRELIMINARY PRODUCT INFORMATION: GORE PEM FOR WATER ELECTROLYSIS

The global clean energy transition hinges on scaling up of water electrolysis to meet commercial demand. However, electrolysis requires a lot of energy to run, which can make it expensive. Therefore, one of the main challenges in achieving a lower Levelized Cost of Hydrogen (LCOH) is to design reliable and scalable electrolyzers while reducing hydrogen production costs.

Proton Exchange Membrane (PEM) electrolysis cells can help to reduce the energy requirements of electrolysis because of their ability to operate effectively at high current densities and variable power levels within seconds. Other characteristics include low gas permeability, high energy efficiency, and a fast rate of

hydrogen production, which means that they produce more hydrogen gas per unit of energy input. PEM electrolysis cells also have the advantage of being more compact, which enables higher overall system design flexibility.

Gore has led the global PEM market for over 25 years. Our unique technologies have produced millions of square meters of ePTFE-reinforced PEM powering a wide variety of applications. Our process consistency greatly reduces the risk of random failure, low process yields, and quality defects. Our global network assures supply security, process stability and quality consistency – on a massive scale.

Product data

GORE PEM for Water Electrolysis	Unit	Target
Physical Property		
Thickness ¹	µm	80
Tensile strength (MPa) ¹ in Machine Direction (MD)	MPa	55
Tensile strength (MPa) ¹ in Transverse Direction (TD)	MPa	55
Proton resistance ²	mOhcm ²	57
H2 permeance ³	mA/cm ² /MPa	7
Product visual inspection for defects	100% automated	

For additional information, including product handling guidelines and safety data, please contact your local Gore representative.

1. Measurements taken with membrane conditioned to 23°C, 50% relative humidity (RH).

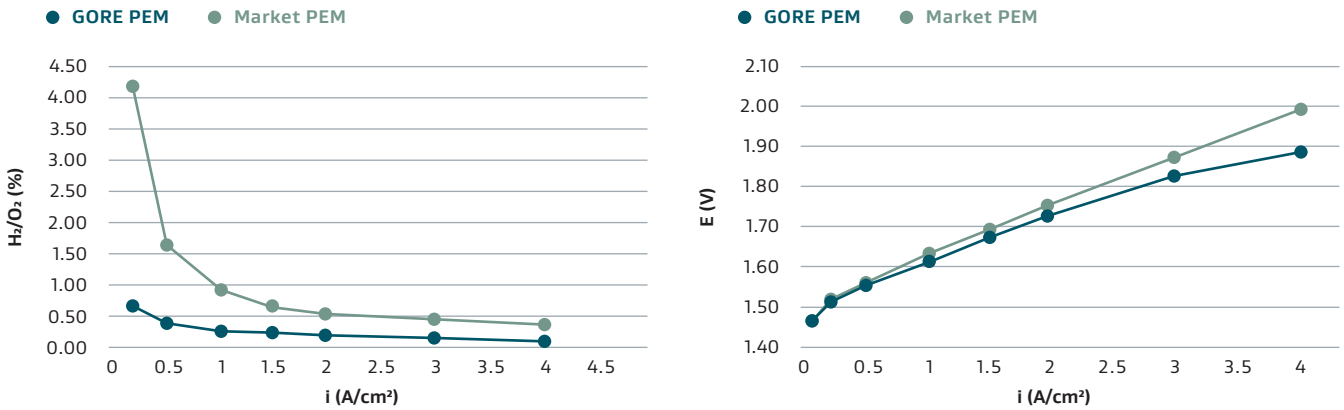
2. Proton resistance measurements taken by high frequency resistance method. Membrane impedance taken at zero imaginary impedance.

3. Hydrogen permeance measurements taken by cyclic voltammetry (CV).

Standard samples

Type	Part Number	Dimension	Quantity
Standard sheet sample	GFCA0113	450mm x 280mm	5 sheets per box
Standard roll sample	GFCB0374	580mm width	10 - 45m length

Expected cell performance data at 80°C, 50% rH and ambient pressure



Preliminary Product Information, subject to change. This is a non-binding, preliminary product information and does not represent an agreed-on specification. In case of questions, please get in contact with your respective W. L. Gore & Associates (Gore), Clean Energy, Alternative Energy and Storage, Gore representative.

Gore’s Sustainability Commitment

Gore emphasizes eco-friendly and safe manufacturing processes, guided by ISO 14001, avoiding PFOS/PFOA, and incorporating waste management practices like precious-metal recovery, ePTFE recycling, and multiple waste-reduction streams. Our products comply with REACH and RoHS standards, and do not emit PFOS/PFOA during use.

For more information: gore.com/about/the-gore-story/responsibility-environmental

W. L. Gore & Associates

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