

THE LEADING COMPANY IN POROUS MATERIAL

Porous Material for Water Electrolyzer

Catalyst support

Gas Filter

Gas Sparger

ENERICH

NETWORKS

Excellence in Porous Metal Technologies and Applications

Enerich Co., Ltd. is a technology-driven company specializing in the development and manufacturing of high-performance porous metal materials and their application products. With over a decade of expertise in powder metallurgy, catalytic surface treatment, electrochemical polishing, and sintering processes, Enerich has earned a strong reputation as a reliable innovator in the field of functional porous metals.

Leveraging its advanced design and manufacturing capabilities, Enerich precisely controls the pore size and structural characteristics of its materials to meet the demanding requirements of industries that prioritize durability and efficiency. Committed to sustainability and technological advancement, Enerich continues to lead innovation in clean energy and high-performance industrial applications.

2024

Company founded
Listed as a certified vendor of H Corp.

Selected for Startup Growth Fund programs by KOSME and KIBO

Awarded Deep Tech TIPS support from the Ministry of SMEs and Startups

2025

Certified as a Venture Company by the Ministry of SMEs and Startups(MSS)

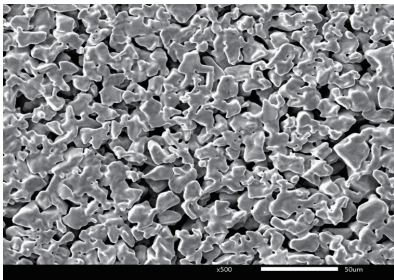
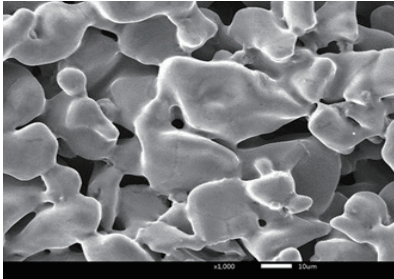
Set up a production plant in Suwon for full-scale manufacturing

Selected for the Gyeonggi-do ClimateTech Startup Support Program





Porous Metal



A high-performance engineered material with over 30% porosity, fabricated from metals such as titanium, nickel, and STS316L. It offers excellent surface roughness and a large specific surface area.

This material is applicable across a wide range of industries, including hydrogen production systems, fuel cell stacks, industrial filtration, semiconductor and display equipment (as gas diffusers or filters), sparger (bio reactor), and exhaust gas aftertreatment.

Porosity, pore size, and thickness can be precisely controlled through powder characteristics and sintering conditions, enabling customized solutions tailored to specific performance requirements.

Enerich's porous metals are manufactured using advanced powder metallurgy, vacuum debinding and sintering techniques, ensuring uniform structure and excellent corrosion resistance. These materials can be produced in various forms, such as sheets and discs, and can be supplied according to specific customer requirements.

Applications

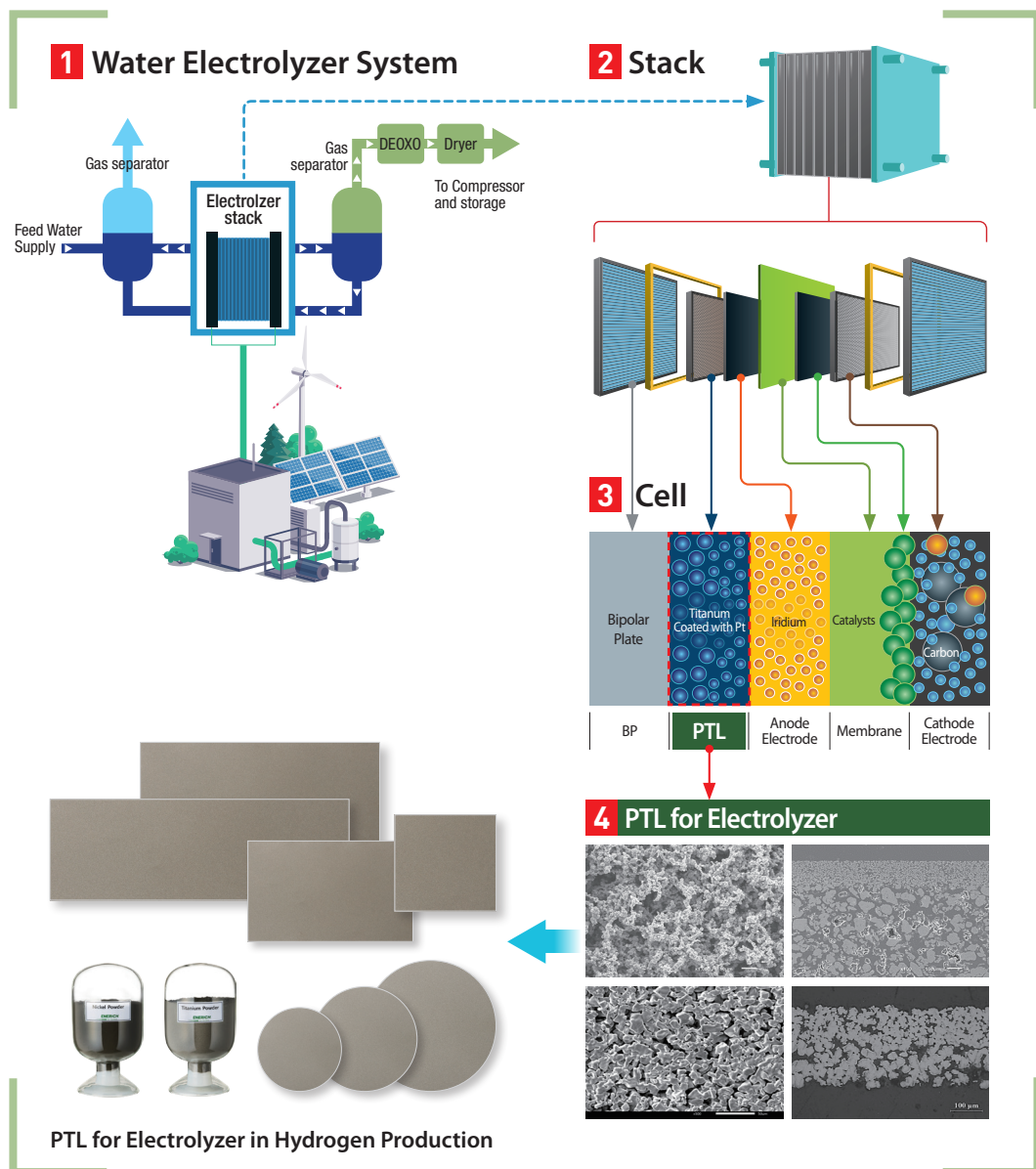


PTL for Electrolyzer

The Porous Transport Layer(PTL) is a key component of a water electrolyzer system used for hydrogen production. It is positioned between the bipolar plate and the anode electrode within the stack, where it plays a critical role in protecting the electrode from mechanical damage.

In addition to its structural function, the PTL enhances hydrogen generation efficiency by enabling effective water management, facilitating gas diffusion, and maximizing the contact area with the catalyst layer. These properties contribute to improved electrochemical performance and long-term durability of the electrolyzer.

Applications

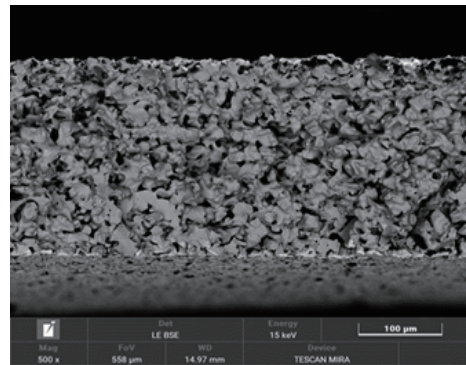
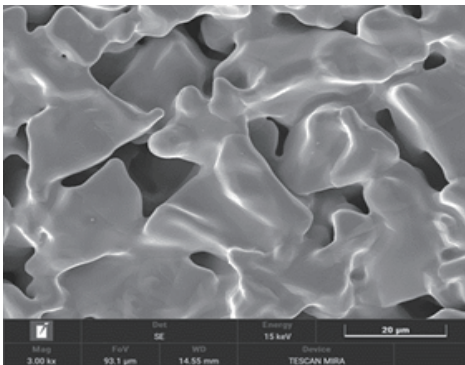




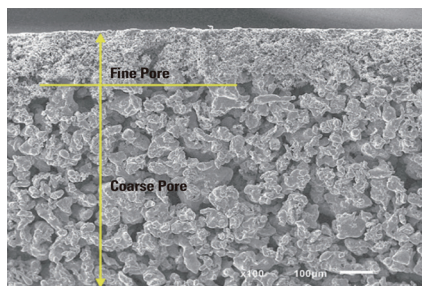
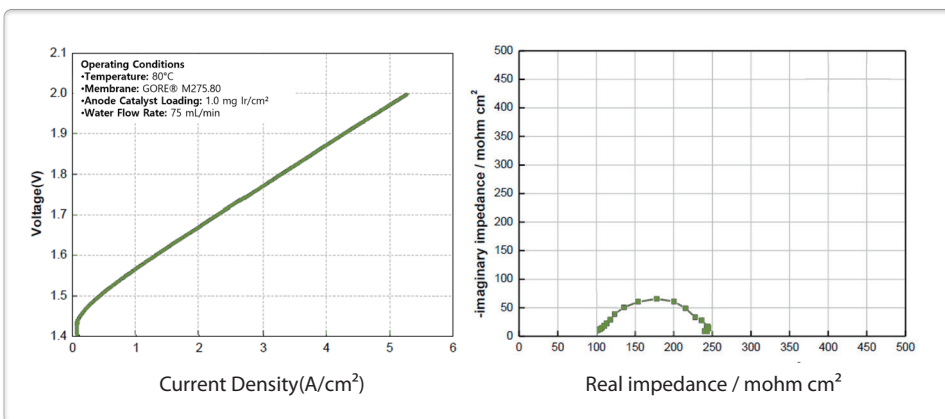
Ti PTL for PEMEC

Specification

Porosity	~ 50%
Thickness	0.1mm ~ 1mm
Surface roughness	~ 1 μ m
Length x Width	Max 500mm x 800mm
Pt coating	~ 0.05 μ m
Type	Powder sintered Ti-PTL



Surface & cross section morphology of Pt coated Ti-PTL



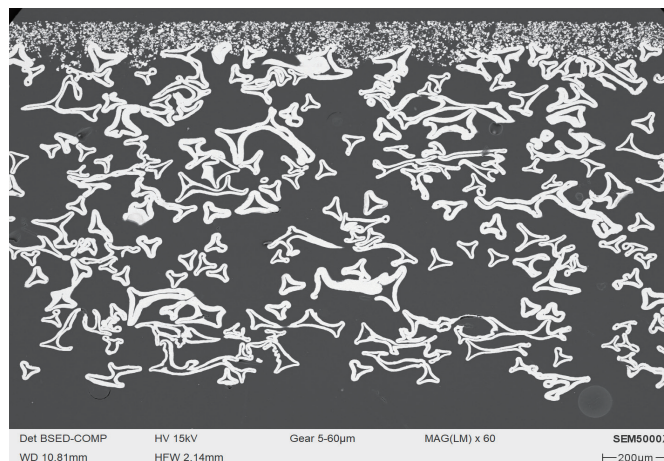
- Dual-layer structure with fine and coarse pores
- Surface roughness under 1 μ m for stable contact with MEA
- Capable of supplying products up to 800mm width
- With 3 registered patents ensuring proprietary technology

Ni PTL for AEMEC

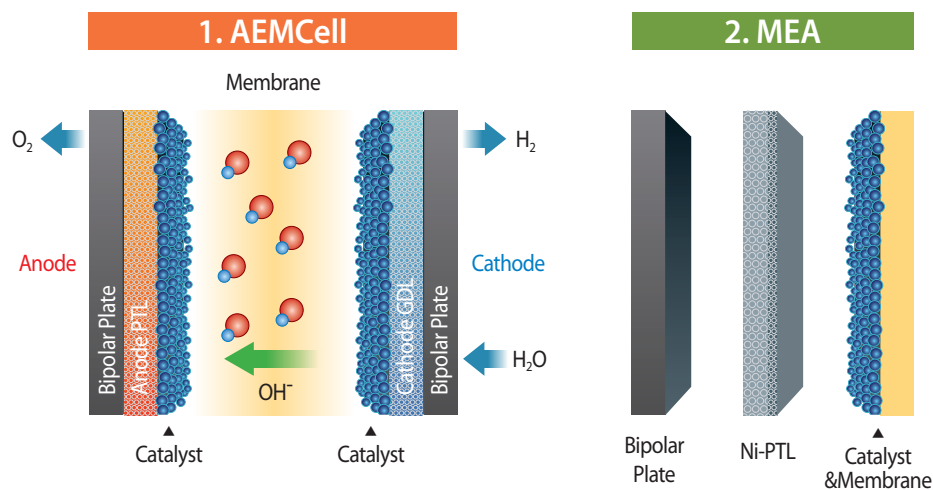
The Ni-PTL is a key component of AEM water electrolyzers, providing mechanical support, electrical conductivity, and long-term durability. Its excellent stability in alkaline environments supports the scalability and commercialization of AEM-based hydrogen production.

Specification

Porosity	~ 70%
Surface roughness	~ 1 μ m
Thickness	~ 1mm
Length x Width	Max 500mm x 800mm



AEMEC CELL

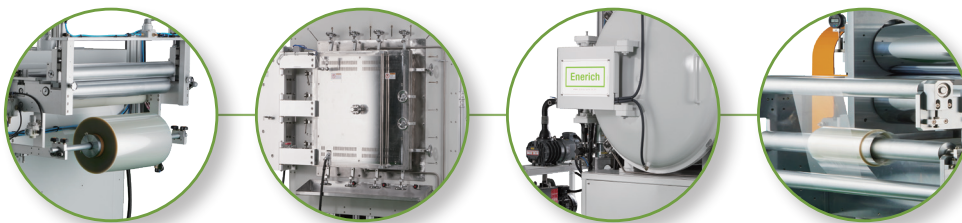


Equipment Status



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- Large-scale production line built for up to 500mm x 800mm
- Tape casting / debinding / sintering process
- Production and supply of powder-type products
- Annual production capacity equivalent to 200MW



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