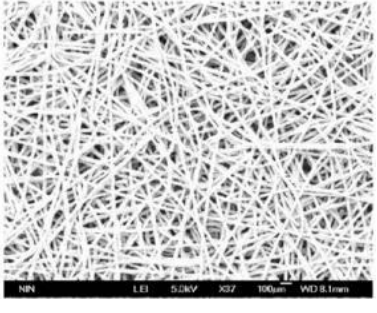
Basic Performance Parameter Table for Our Titanium Diffusion Layer Products

Performance parameters of diffusion layer products - determined overnight						
Porosity	55% to 60%			70% to 75%		
Thickness (mm)	0.25	0.4	0.6	0.25	0.4	0.6
Uniformity of thickness (mm)	± 0.02					
Gravitational weight (g/m²)	450 - 500	700~800	1000 - 1200	280 to 340	400 - 550	700 - 800
Average pore diameter (μm)	20 - 24			38 - 45		
Surface roughness (μm)	10 - 12			16 - 20		
Contact resistance (electroless coating) mΩ • cm² at 3 MPa	3 to 5			8 to 10		
Contact resistance (0.5μm Pt electroplating) mΩ • cm² at 3 MPa	0.8 - 1 mQ			1 - 2		
Ventilation L/min • dm²@200 Pa	300 - 450			700 - 1000		

Structural advantages

√ Uniform fiber diameter
√ Uniform distribution of pore sizes

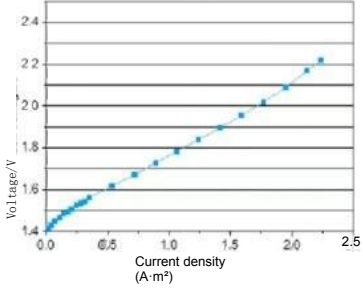
√ A beautiful, smooth surface



Advantages of material transportation performance:

√ The electrolysis voltage is low at high current densities.

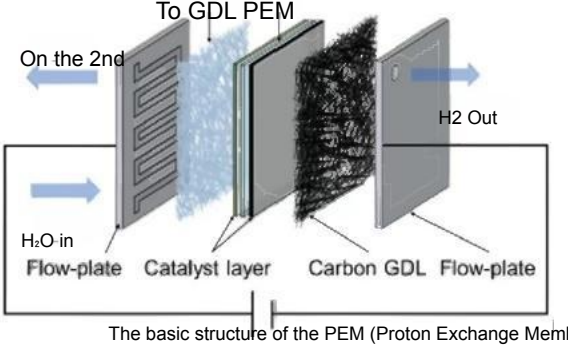
√ Excellent breathability and permeability; strong ability to allow water vapor to pass through.



Cell

In the electrolysis of water using a PEM (Proton Exchange Membrane) to produce hydrogen, the central component is the electrolysis device. A PEM electrolytic cell primarily consists of a bipolar membrane. The system comprises a support layer, diffusion layer, proton exchange membrane, and electrode catalysts for both cathode and anode. The diffusion layer is a porous medium positioned between the contact layers on both sides of the membrane electrode and the valve support layer; it not only supports the catalytic coated electrodes but also ensures uniform dispersion of reaction water.

It promptly removes any generated gases. This is one of the key components that significantly affects the performance of the electrolytic cell.



The basic structure of the PEM (Proton Exchange Membrane) electrolysis device