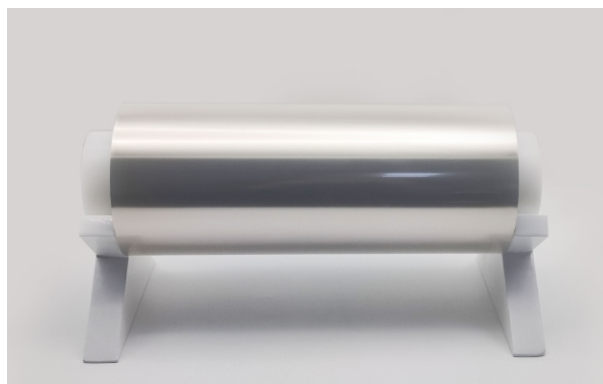
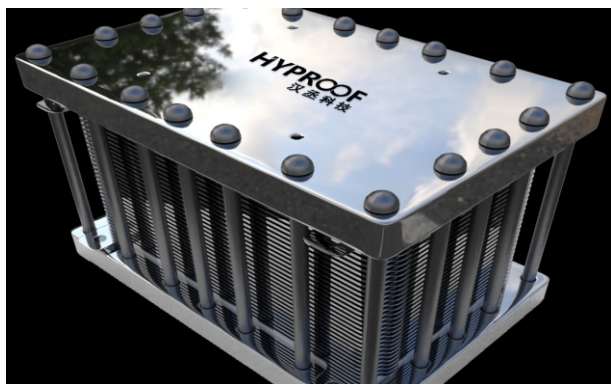


Proton Exchange Membrane for Water Electrolysis



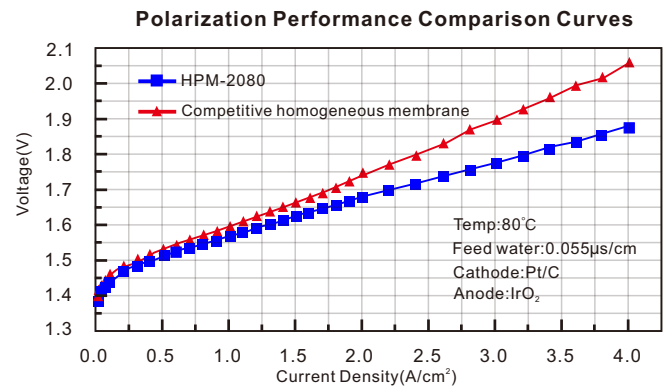
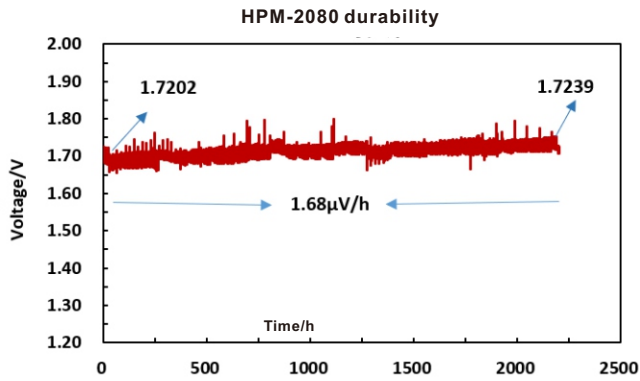
Product Description

- The HPM series proton exchange membrane for water electrolysis is reinforced perfluorosulfonic acid proton exchange membrane (PEM). It has properties of high proton conductivity, high selectivity and high stability in both acidic and corrosive environments, and is widely used in electrolyzer. It is identified by membrane type and identification number (batch number).

Specification	HPM-2050		HPM-2080		HPM-20110	
Thickness, μm	50 \pm 2		80 \pm 3		110 \pm 4	
Density, g/cm^3	2.0 \pm 0.05					
Ionic Exchange Equivalent Weight, g/mol	900-1000					
Proton Conductivity, mS/cm	\geq 70					
Tensile Strength, MPa	TD	MD	TD	MD	TD	MD
	\geq 35	\geq 35	\geq 35	\geq 35	\geq 30	\geq 30
Breaking Elongation, %	\geq 100					
Linear Swelling Rate (25 $^{\circ}$ C/24h), %	\leq 5					
Linear Swelling Rate (80 $^{\circ}$ C/1h), %	\leq 5		\leq 5		\leq 6	
Test Standards	GB/T 20042.3-2022					

Test Requirements

- Before testing, please place the membrane samples in a laboratory environment (23 \pm 2 $^{\circ}$ C/73.4 \pm 3.6 $^{\circ}$ F, 50 \pm 5%RH) for 24h;
- Test condition is 25 \pm 2 $^{\circ}$ C/77 \pm 3.6 $^{\circ}$ F, 100%RH;
- It is tested with 10mm rectangular sample, tensile rate: 50mm/min.



Suggested Activation Methods

On-line Activation Process:

1. After finishing production process of CCM, please keep the CCM dry, seal it and then place it in the electrolyzer;
2. Cycle pure water at a certain temperature (80°C/176°F) into the anode side of the electrolyzer, and activated for 4 hours with low current (1→2A).

Notes

1. Keep the membrane package closed/sealed before use;
2. Open the package and handle it in a clean and dust-free area in use, all surfaces in contact with the membrane must be smooth and flat (experimental gloves must be worn during operation);
3. Store the membrane in its original packaging and stack horizontally to avoid prolonged exposure to light or high temperatures (> 40°C/104°F) after use.

Delivery Methods

Product information: Products are cut as required at (23±2°C/73.4±3.6°F, 50±5%RH). The fluctuation of ambient temperature and humidity will cause the size change of the membrane. It is recommended to confirm the membrane size requirements with customer service before shipping.

1. The standard size of sheet product includes:

Width: 0.2m - 0.6m

Length: 0.2 m - 0.6m

2. The standard size of roll product includes:

Standard width of roll product: 0.31m and 0.62m

Standard length of roll product: 50m - 100m

3. For non-standard customized size:

Roll width for special orders is 0.2m - 1.2m, minimum order requirement is 100m² (note: special requirements will add additional cost and lead time).

4. Transportation mode: The product is delivered in form of flat sheet or roll. Before use. Please contact customer service if you have special needs.

