



Technical Data Sheet – Type B PEMWE CCM

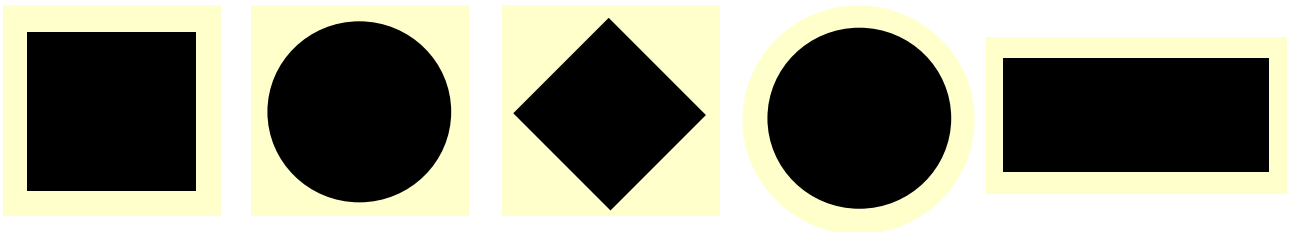
XH Laboratory
We develop PEMWE CCM for green hydrogen

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Product description

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|---------------------|--|
| PEM: | XHA501, which is a 50um reinforced short side-chain PFSA membrane |
| Anode catalyst: | Iridium compound and mixtures |
| Cathode catalyst: | Platinum and mixtures |
| Active area: | 50mm*50mm, centered on PEM, (other dimension available upon demanding) |
| Membrane dimension: | 75mm*75mm, (other dimension available upon demanding) |

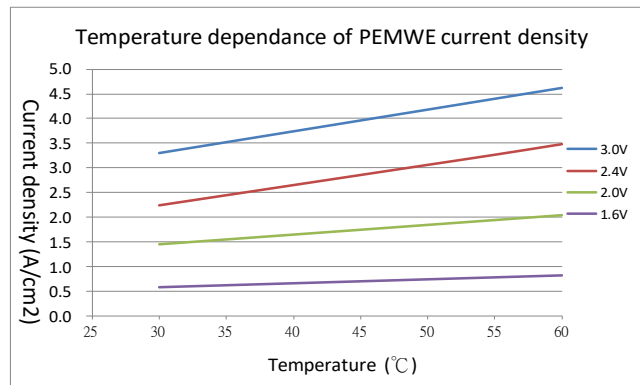
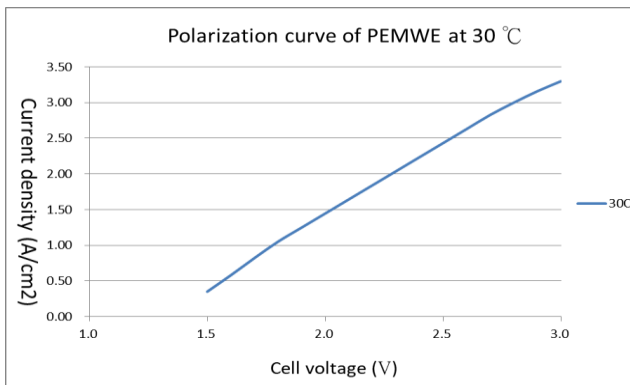
XHA501 is a specially designed reinforced short side-chain PFSA PEM with 50um thickness; therefore, it possess high ionic conductivity while remains good mechanical strength. The catalyst layers are formulated so that the CCMs have very high performance and are durable; however, please do not reverse the electric polarity during operation because the catalyst types in anode and cathode are different. These CCMs are very durable upon varying electric potential or frequent on-off operations. It is also possible that customers can specify different type of membranes such as Nafion N-115, N-117, FS-990-PK, F-10100, DM6321, DME670, NEPEM series, and so on, based on their demand; however, customers usually have to offer these PEMs if we do not have them in stock. Electrodes and membranes can be made into rectangular or circular geometry; customized dimensions and configurations are acceptable. We also provide the cutting for manifold holes on the membrane for customers. This particular type of catalyst coated membrane (CCM) is designed to provide the highest efficiencies and purest hydrogen via electrolysis.



Operation

This CCM can withstand high DC voltage when in operation; however, porous transport layer (PTL) of platinum plated titanium material is recommended as the standard gas diffusion media on anode if the cell is to be operated at such high voltages. If titanium felt, carbon paper or carbon cloth is employed as the GDL on anode, the operation potential should not go higher than 2.2V. Pre-wetting is a plus but not mandatory for this specially designed CCM.

Performance data



The above performance data were recorded through our in-house measurements; however, measurements of our PEMWE CCM via other companies and/or organizations may give different results due to different flow field design, conductivity of the bipolar plates, and material nature of the gas diffusion media of the electrolytic cells. Therefore, these performance data should not be considered for the purposes of standard, product verification, etc.