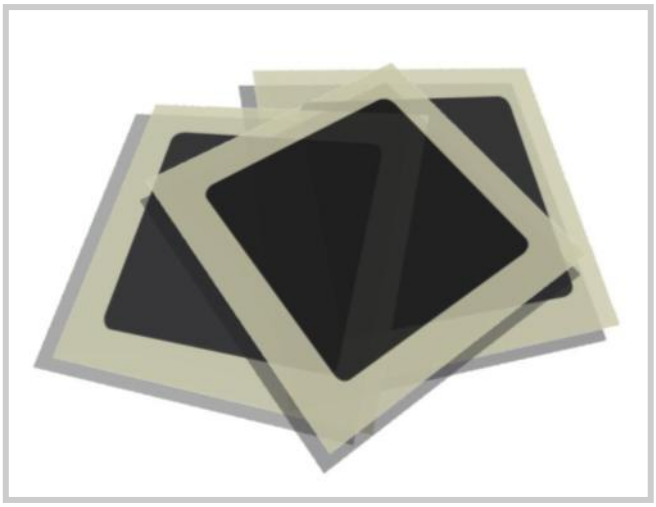
Membrane and Electrode Assemblies

Membrane and Electrode Assemblies (MEAs) for all Proton Exchange Membrane Fuel Cells, Regenerative Fuel Cells, and Electrolyzers

SPECIFICATIONS

- MEAs for use in all types of fuel cells including:
  - Hydrogen-Air
  - Reformate-Air
  - Hydrogen-Oxygen
  - Reversible Hydrogen-Oxygen
  - Direct Methanol
- Standard MEAs sizes
  - 5 cm^2 active area
  - 25 cm^2 active area
  - 50 cm^2 active area
  - 100 cm^2 active area
- Custom MEAs produced to specification in any size up to 20 cm x 20 cm (active area) and in virtually any shape
- Supplied with, or without, gas diffusion layers
- MEAs available in two configurations
- Custom membranes and catalysts available upon request
- Normal range of loadings: 0.3 mg/cm^2 to 8.0 mg/cm^2



- High-quality, reliable MEAs
- Custom MEAs are manufactured to satisfy all application requirements and to ensure product performance
- Seasoned scientists and fuel cell experts available to provide guidance, as needed
- Strict confidentiality is maintained for each customer

FuelCellsEtc
PO Box 9230 | College Station, TX 77842
Phone: 979.635.4706
Email: mea@FuelCellsEtc.com
www.FuelCellsEtc.com

Membrane and Electrode Assemblies

Membranes

- Standard membranes available:
  - Nafion™ 212
  - Nafion™ 115
  - Nafion™ 117

Other membranes available upon request

Catalysts

- Standard catalysts available:
  - Pt on Carbon, Pt Black, Pd Black, PtRu, IrRu

Other catalysts are available upon request, or send us your custom catalyst and we will apply it to a membrane for your use

Standard MEAs

Electrochemical Configuration	Active Area (cm^2)	GDLs	Membrane Area (cm^2)	Catalyst Loading (cm^2) Anode	Catalyst Loading (cm^2) Cathode	Nafion Type
Electrolyzer	5 25 50 100		56 110 196 309	3 mg/cm^2 IrRuox	3 mg/cm^2 PtB	115
Reversible	5 25 50 100		56 110 196 309	1.5 mg/cm^2 each PtB and IrRuox	3 mg/cm^2 PtB	115
Direct Methanol (DMFC)	5 25 50 100	Elat and Carbon Cloth, Free Floating	56 110 196 309	4 mg/cm^2 PtB	4 mg/cm^2 PtB	117
Hydrogen Air	5 25 50 100	Elat, Pressed, or Free Floating	56 110 196 309	.5 mg/cm^2 60 wt% Pt on Carbon	.5 mg/cm^2 60 wt% Pt on Carbon	212
Hydrogen Oxygen	5 25 50 100	Elat, Pressed, or Free Floating	56 110 196 309	4 mg/cm^2 PtB	4 mg/cm^2 PtB	115

Additional Features

- Normal range of loadings is from 0.3 mg/cm^2 to 8.0 mg/cm^2
- Supplied with, or without, gas diffusion layers
  - MEAs without gas diffusion layers feature two thin film catalyst layers applied directly to a membrane (3-layer)
  - MEAs with gas diffusion layers can have the catalyst as either a thin film on the membrane or on the gas diffusion structure (5-layer structure available)
- MEAs available in two configurations:
  - a symmetrical (with identical catalysts on both sides) or
  - asymmetrical (with different catalysts on each side)
- MEAs can be furnished with a thin film catalyst layer on one side of the membrane and a catalyzed gas diffusion structure on the other side