



FORBLUE™ S-SERIES

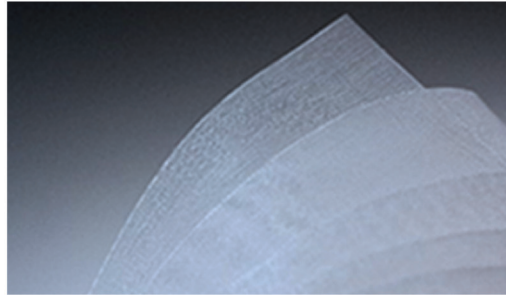
CREATION THROUGH SEPARATION



A Cation Exchange Membrane for Proton Exchange Membrane Water Electrolysis and Redox Flow Batteries

Features

- Sulfonic fluoropolymer single-layer membrane
- High chemical resistance
- High mechanical strength
- Can be reinforced by special PTFE fabric
- Easy to handle
- High ion exchange capacity
- Very low resistance with high ion selectivity

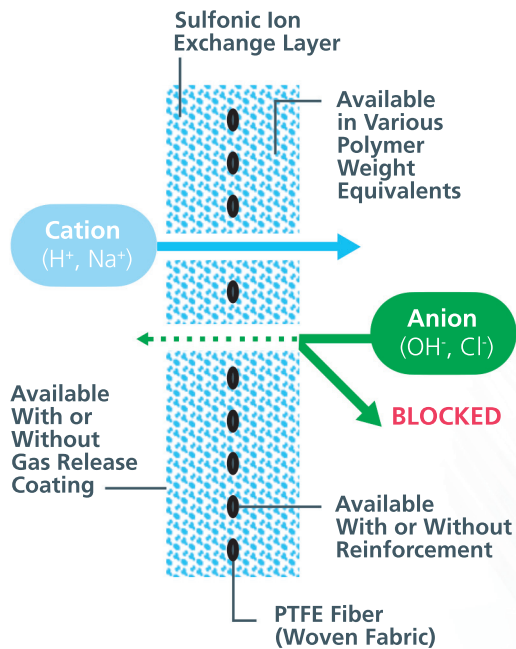


FORBLUE™ S-SERIES Grades

Property	Unit	Sx-2301DH	S-2301WN	Sx-1811WN	Sx-1831WN
Counter Ion		H ⁺	Na ⁺	Na ⁺	Na ⁺
Dry / wet		Dry	Wet	Wet	Wet
Thickness *1	μm	280	330	330	360
Ion Exchange Capacity	meq/g	1.0	1.0	1.1	1.25
Water Content (H ⁺ form) *2	wt%	35	35	55	100
Ion Transport Characteristics		High Selectivity	High Selectivity	Low Resistance	Low Resistance

*1 Thickness = Values are test data, without guarantee. DH data shows dry state thickness and WN data show wet state thickness.

*2 Moisture content of polymer item = Evaluated the value after replacing the counter ion to H⁺ and immersion in water, 100°C, 1 hr.



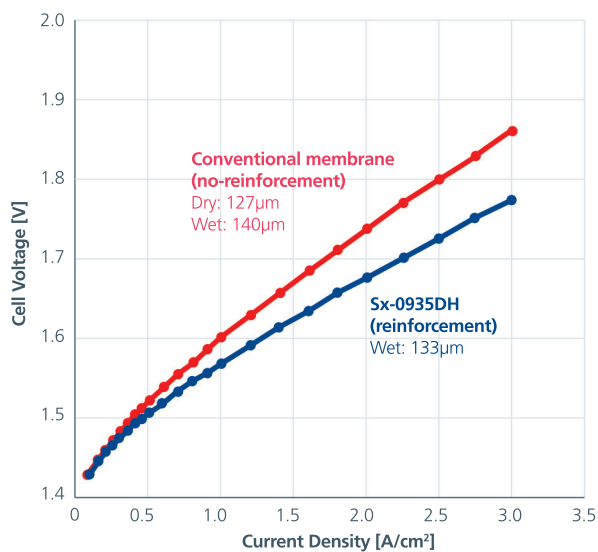
R&D FORBLUE™ S-SERIES Grades

Property	Unit	Sx-0935DH	Sx-1235DH
Usage		PEMWE	PEMWE
Counter Ion		H ⁺	H ⁺
Dry / wet		Dry	Dry
Thickness **	μm	90	140
Ion Exchange Capacity	meq/g	1.25	1.25
Characteristics		Reinforcement	Reinforcement

*1 Thickness = Values are test data, without guarantee. DH data shows dry state thickness and WN data show wet state thickness.

Performance of Sx-0935DH

Lower cell voltage compared to conventional membrane



Anode: 1 mg_{Ir}/cm²
Cathode: 0.4 mg_{Pt}/cm²
Active area: 25 cm²
Temperature: 80°C

The data are presented without any guarantee or warranty, express or implied.

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