AEMTuff™ Membranes

Product Information

Notark AEMTuff are anion exchanging membranes designed to return high electrochemical efficiency with ultra-high durability and very low swell. Typical applications for AEMTuff include hydrogen electrolyzers, flow batteries, water purification (e.g. MCDI) and chemical synthesis processes. AEMTuff membranes return superior hydrogen barrier properties and high durability in the presence of alcohols. AEMTuff is fluorine and PFAS free.

Features & Benefits

Very durable (>10,000 hrs)	Excellent hydrogen barrier
Stability in broad pH range	Stable in presence of alcohol
Ultra-low swell & dimensional stability	Electrochemical efficiency

Typical AEMTuff 6660 Properties

	Conditions	Typical Value	
		TuffPEM 6660	**TuffPEM 7050**
Thickness	Dry, µm	40 - 60µm*	40 - 60µm*
IEC	Titration	1.5 meq/g	1.7 meq/g
Resistance	25°C, 2M NaCl 60°C, 0.1M KOH	0.53 Ωcm^2 0.55 Ωcm^2	0.30 Ωcm^2 0.30 Ωcm^2
Alkaline Stability	80°C, 1M KOH 65°C, 4M KOH 65°C, 10mM K_2CO_3	>10,000 hours >2,000 hours >5,000 hours	>10,000 hours >2,000 hours >5,000 hours
Water Uptake	80°C, 24 hours 25°C, 4 weeks	<10% <10%	<25% <25%
Max Elongation	Dry, 25°C, ASTM D638 Wet (underwater), 25°C	7 – 10 % 8 – 10 %	15 – 20 % 20 – 25 %
Tensile Strength	Dry, 25°C, ASTM D638	40 MPa	30 MPa
Acidic Stability	25°C, 1M acetic acid	>1,000 hours	>1,000 hours
Alcohol Stability	25°C, 1M KOH in 25% EtOH aqueous solution	100% OH^- retention	100% OH^- retention
H_2 Permeability	25°C / 60°C	4.5 / 6 barrer	6 / 10 barrer
E-chemical St.	Stack test, pH 11	>2,000 hours	>2,000 hours
OH^- Conductivity	60°C/80°C	25/40 mS/cm	35/55 mS/cm
Counter Ion	/	Br^-	Br^-

*Alternative thicknesses are available, contact us for additional information.

For additional information, contact us at info@notark.com
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NOTARK™

AEMTuff Related Products and Description

Grade	Form	Thickness	Comment
AEMTuff 7050S	Crumbs	N/A	Soluble, OH^- form
AEMTuff 7050L	Liquid, 5% conc.	N/A	Hydrocarbon, OH^- form
AEMTuff 6660	Free standing	40 – 60µm	Crosslinked*
AEMTuff 7050	Free standing	40 – 60µm	Crosslinked*
AEMTuff C6660**	Composite	20 GSM	For acidic electrolytes
AEMTuff C7050**	Composite	20 GSM	For acidic electrolytes
AEMTuff A6660	Composite	20 GSM	For alkaline electrolytes

*Free standing membranes are shipped with a removable PET underlayment.

** Vanadium typical diffusion rate is ≤0.0001 mol/hr.m^2

Additional Information

	Details
Packaging	Standard reels are 3” core, 1ft wide. Special configurations can be made available.
Storage Recommendation	Room temperature. Avoid storage in direct sunlight.
Safe Handling	Read the GHS Data Sheet carefully and thoroughly before handling and using the product. For a copy of the GHS datasheet, please contact us at support@notark.com

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