

Low Cost and High Performance

Dreamweaver's purpose is to deliver the lowest cost, highest performance battery separators in the world. This is our long term commitment to you.

Production-Scale Material Available

As of today, Dreamweaver has qualified six products on large-scale production equipment. The products and production volumes are shown below.

Product	Quantity Available
Silver AR80L	15 million m ² /year
Silver AR40	20 million m ² /year
Silver AR30	20 million m ² /year
Silver AR25	20 million m ² /year
Silver 40	20 million m ² /year
Silver 25	20 million m ² /year

Please email [Laura Bruce](#) or call (864) 968-3320 to allow us to quote your application, as we are giving fantastic discounts to help fill this capacity.

Silver AR 80L Expanded Applications

[Dreamweaver Silver AR80L](#) is finding its way into many different applications for aqueous electrolytes, including alkaline cells, NiMH cells and other aqueous electrolyte cells, in addition to the original Zn-air cells for which it was designed. It offers:

- 28% less thickness
- 37% lower Gurley
- >50% lower internal resistance
- Fast wet out

Silver AR: A Comparison with Other Commercial Materials

Dreamweaver has commissioned several outside vendors to test three [Dreamweaver Silver AR](#) products (40, 30 and 25) against three competitive products. The results are largely similar, with both sets of materials performing well in super capacitors. On average, the DWI materials showed 9% higher capacitance, and 27% lower ESR. They were also 21% higher strength, and had 25% lower moisture content. For a full report, see here [Silver AR White Paper](#)

Membrane Property	Units	Dreamweaver Silver AR 25	Dreamweaver Silver AR 30	Dreamweaver Silver AR 40	Dreamweaver Silver AR 80
Thickness (33 psi)	µm	27	32	37	83
Thickness (25 psi)	µm	25	30	35	79
Gurley (100)	seconds	55	39	37	125
Porosity	%	54%	61%	60%	59%
Pore Size	µm	1.0	1.4	1.0	0.7
TD Shrinkage @ 90 C	%	0%	0%	0%	0%
MD Shrinkage @ 90 C	%	0%	0%	0%	0%
TD Shrinkage @ 150 C	%	1%	1%	0%	0%
MD Shrinkage @ 150 C	%	1%	1%	1%	1%
TD Strength	MPa/cm ²	150	145	145	125
MD Strength	MPa/cm ²	140	145	150	130
Elongation	%	2.0%	1.9%	2.2%	2.7%
Young's Modulus	MPa/cm ²	20000	16000	17500	16000
Puncture Strength	g	306	257	370	350

Multi-Cathode Battery Test

Dreamweaver has partnered with [Argonne National Laboratories](#) to provide comparative testing of DWI separators in cells with different cathodes provided by Argonne's CAMP (Cell Analysis, Modeling and Prototyping) Facility. Cathodes tested will include LCO, LMO, NCM and LFP. Catch their joint presentation at the [32nd International Battery Seminar](#) in Fort Lauderdale, FL, March 9th -12th!

Cooperative Test Program

Dreamweaver would like to do your R&D for you! Just send us your electrode materials and current separator (and your NDA), and we'll build small pouch cells with your materials, and identical cells with Dreamweaver materials, and share the results with you. We'll test the formation and first cycle capacity and efficiency, the rate capability, self-discharge during quarantine, and cycle life for the first 250 cycles, and then report the results to you, and even share the cells for further testing. If there are problems, we'll help you work through them!

Dreamweaver Drying Recommendations

Dreamweaver has done tests for [drying our separators](#) at various temperatures, and based on the results had increased the recommended drying temperature from 100-120 C to 140 C. Hand sheets should be dried at 140 C for 1 hour, while production rolls should be dried at 140 C for at least 24 hours. If the material is not properly dried, cells may experience low coulombic efficiency for the first 3-5 cycles, gas generation, and degradation in cycle life at if cycled at high temperature and high voltage (over 4 V). [Full Report Here](#)

Frequently Asked Questions

Based on what we have learned from making hundreds of our own cells, and working with customers to make thousands more, we have produced a list of Frequently Asked Questions and answers that can provide expectations of performance in different cells, and also things that might be encountered in cell design. Everything from drying guidelines to amount of electrolyte needed and expectations for performance on safety tests is included. A copy can be found on our [website](#).



Marketing Activities

We had a busy 2nd Quarter that we hope to carry over to the 4th Quarter. In the second quarter, the [Dreamweaver website](#) received over 8,000 visits! We have participated in 7 different conferences so far this year with Brian Morin speaking at 5 of them. We are excited to keep up the active pace. ***We appreciate all the support we continue to receive.***

Upcoming Events

- [2014- EU-US Frontiers of Engineering Symposium, Seattle, WA](#) - November 10th - 12th
- [2014 Lithium BATTERY Power, Washington, DC](#) - November 11th - 12th
- [Battery Safety, Washington, DC](#) - November 13th - 14th
- [Supercapacitors USA, Santa Clara, CA](#) - November 19th - 20th
- [NaatBatt Annual Conference, Phoenix, AZ](#) - February 16th - 19th, 2015
- [Leadership Workshop, Charleston, SC](#) - March 3rd - 5th
- [32nd International Battery Seminar, Ft. Lauderdale, FL](#) - March 9th - 12th



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