

Product Name & Description

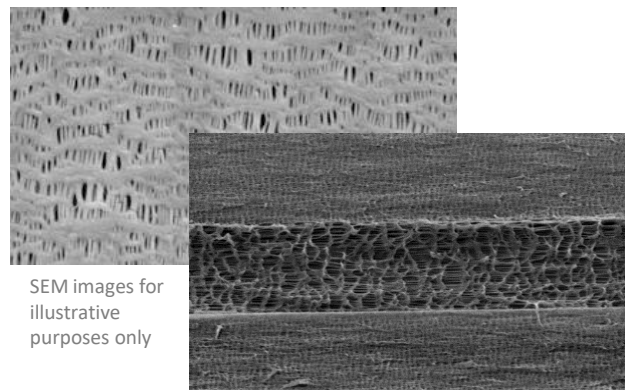
Celgard® S1810
18µm Trilayer Microporous Membrane (PP/PE/PP)

Primary Applications

High Power Lithium-Ion Battery Systems:
Automotive EDV, ESS

Product Benefits

- Designed for improved high-speed cell winding and coating ability
- Reduced post compression spring back to aid in efficient can insertion
- Enhanced TD characteristics for improved puncture performance
- Highest porosity enhances rate performance relative to other Celgard® PP/PE/PP products
- Ultra low electrical impedance
- PP outer layer provides high temperature melt integrity, oxidation resistance; PE inner layer provides high speed shutdown feature



Packaging

Please contact your Celgard representative for more information on product roll lengths and slit widths.

Technical Data (Typical Properties)

Basic Film Properties	Unit of Measure	Typical Value
Thickness	µm	18
Gurley (JIS)	Seconds	190
Porosity (Calculated)	%	53
TD Shrinkage @ 105°C / 1 Hour (typical)	%	0
MD Shrinkage @ 105°C / 1 Hour (typical / max)	%	3.8 / 4.6
TD Tensile Strength (typical / min)	Kg/cm ²	115 / 105
MD Tensile Strength (typical / min)	Kg/cm ²	2070 / 2000
Puncture Strength (typical / min)	Grams Force (gf)	410 / 390

Manufacturing Locations

United States

Headquarters, Manufacturing and R&D at Charlotte

13800 South Lakes Drive
Charlotte, North Carolina
28273 United States

Phone: +1 704-588-5310

Fax: +1 704-588-5319

Manufacturing and R&D at Concord

390 Business Boulevard
Concord, North Carolina
28027 United States

Phone: +1 704-720-5200

Fax: +1 704-720-5211

China

Manufacturing & Distribution

Celgard (Shanghai) Materials Technology Co., Ltd.

Building 2, 180 North Ruying Road,

China (Shanghai) Pilot Free Trade Zone,

Pudong New District, Shanghai, 200131 China

Phone: +86 (21) 5028 0001

Sales Offices

Europe, Middle East & Africa (EMEA)

Sales & Technical Service

Phone: +33 3 88 82 41 08

Fax: +33 3 55 03 59 03

Korea

Sales & Technical Service

Phone: +82 41-905-6001

Fax: +82 41-905-6099

China

Sales & Technical Service

Phone: +86 21 3813 9910

Fax: +86 21 3813 9911

Japan

Sales & Technical Service

Phone: +81 3-6891-3750

Fax: +81 3-6891-3769

India & South Asia

Sales & Technical Service

Phone: +91 80 4256 1104

Fax: +91 80 4256 1106



DISCLAIMER, LIMITED WARRANTY: This product is to be used only by persons familiar with its use. It must be maintained within the stated limitations. Most non-developmental, purchased Celgard products are sold subject to Celgard's then current Sales T&C's. No other warranty is expressed or implied. Purchaser assumes all responsibility for the use and safety of this product. To the best of our knowledge, the information contained herein is accurate. However, neither CELGARD, LLC nor any of its affiliates assumes any liability whatsoever for the accuracy or completeness of this information. Final determination of the suitability of any material and whether there is any infringement of patents is the sole responsibility of the user. Users of any substance should satisfy themselves by independent investigation that the material can be used safely. We may have described certain hazards, but we cannot guarantee that these are the only hazards that exist. An Article Information Sheet may be available upon request. This product may be provided in confidence under NDA and as such is Celgard Confidential.

