

### Product Name & Description

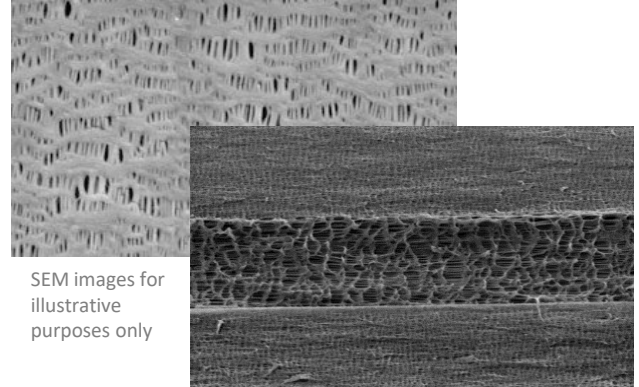
Celgard® S2010  
20µm Trilayer Microporous Membrane (PP/PE/PP)

### 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	20
Gurley (JIS)	Seconds	200
Porosity (Calculated)	%	54
TD Shrinkage @ 105°C / 1 Hour (typical)	%	0
MD Shrinkage @ 105°C / 1 Hour (typical / max)	%	2.5 / 6.0
TD Tensile Strength (typical / min)	Kg/cm <sup>2</sup>	110 / 75
MD Tensile Strength (typical / min)	Kg/cm <sup>2</sup>	2050 / 1600
Puncture Strength (typical / min)	Grams Force (gf)	400 / 320

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