

### Product Name & Description

Celgard® 4560  
 25µm Monolayer Microporous Membrane (PP),  
 Laminated to a PP Non-Woven Fabric



### Primary Applications

Primary Lithium Batteries

### Product Benefits

- Thick, multilayer construction provides increased strength and high puncture resistance
- PP non-woven laminate enables high electrolyte retention for long working life
- Low electrical impedance provides high-rate capabilities
- Zero TD shrinkage reduces internal shorting

### Technical Data (Typical Properties)

Basic Film Properties	Unit of Measure	Typical Value
Laminated Film Total Thickness	µm	90
Laminated Film Gurley (ASTM)	Seconds	10
Microporous Membrane (Typical Properties)		
Thickness	Thickness	25
Gurley (JIS)	Seconds	200
Porosity (calculated)	%	55
TD Shrinkage @ 90°C / 1 Hour (typical)	%	0
MD Shrinkage @ 90°C / 1 Hour (typical / max)	%	1.1 / 5.0
TD Tensile Strength (typical / min)	Kg/cm <sup>2</sup>	130 / 80
MD Tensile Strength (typical / min)	Kg/cm <sup>2</sup>	1170 / 770
Puncture Strength (typical / min)	Grams Force (gf)	325 / 200

### Packaging

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

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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. Review the Product Safety Data Sheet for environmental, health and safety information related to this product.

