

#### Product Name & Description

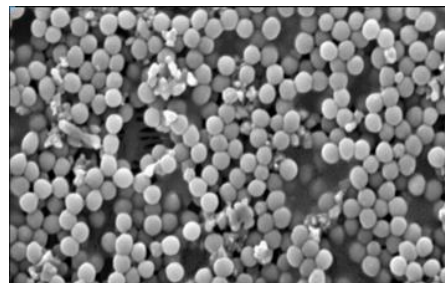
Celgard® QT17P2HX

16.5<sup>1</sup> µm Two-Sided Super Thin-Adhesive Coated  
Microporous Trilayer Membrane (PP/PE/PP)

<sup>1</sup> Average as-coated thickness, 16 µm after lamination

#### Primary Applications

**High Power** Lithium-Ion Battery Systems that need heat and pressure activated dry and wet electrode-separator adhesion



SEM images for illustrative purposes only

#### Product Benefits

- Suitable for cost-effective high-speed lamination and heat press processes in cell manufacturing
- Helps improve cell productivity and mechanical strength by stabilizing electrode and separator interfaces in dry (during assembly) and wet (during and following electrolyte filling) states
- Enhances battery cycle life by improving wettability, reducing electrical resistance at the electrode - separator interface and by increasing resistance to degradation by oxidation in high voltage applications
- Offers significant advantages of Celgard® low-impedance trilayer base films and water-based coating
- Designed to minimize slit roll self-adhesion<sup>2</sup>
- No interlayer film needed

<sup>2</sup> When stored in the original packaging in low-humidity / below 77° F [25 ° C] without direct sunlight

#### 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	16.5
Gurley (JIS)	Seconds	190
Porosity (Calculated)	%	50
TD Shrinkage @ 105°C / 1 Hour (typical)	%	0
MD Shrinkage @ 105°C / 1 Hour (typical / max) <sup>3</sup>	%	3.0 / 8.0
TD Tensile Strength (typical / min)	Kg/cm <sup>2</sup>	135 / 110
MD Tensile Strength (typical / min)	Kg/cm <sup>2</sup>	1950 / 1550
Puncture Strength (typical / min)	Grams Force (gf)	360 / 340

<sup>3</sup> Free-standing film; shrinkage is zero for films laminated to electrodes

Protected by one or more patents and/or patents pending

At the Center of Membrane Innovation

### 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

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#### Korea

*Sales & Technical Service*

Phone: +82 41-905-6001

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#### China

*Sales & Technical Service*

Phone: +86 21 3813 9910

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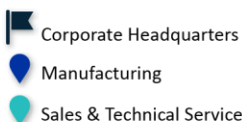
Fax: +81 3-6891-3769

#### India & South Asia

*Sales & Technical Service*

Phone: +91 80 4256 1104

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