

# PPG Filtration Technology for Electrocoat



## The Next Generation of Ecoat Filtration

Through advanced membrane technology, PPG has raised ultrafiltration performance expectations in electrocoat (Ecoat) applications by optimizing spiral wound membrane element efficiency, durability and cost savings for new and existing systems.



### Higher Flux. Lower Cost.

Who better to develop the next generation in Ecoat filtration than the company that invented Ecoat? At the heart of this groundbreaking filtration technology is the proprietary PPG membrane—the product of more than a half century of Ecoat pioneering expertise.

PPG membrane is an advanced, single layer membrane uniquely composed of water-attracting (hydrophilic) filler and water-repelling (hydrophobic) polymer. Together, these opposing surface energies create strong capillary forces that actively pull water through the membrane, producing higher flux and exceptional filtration efficiency.

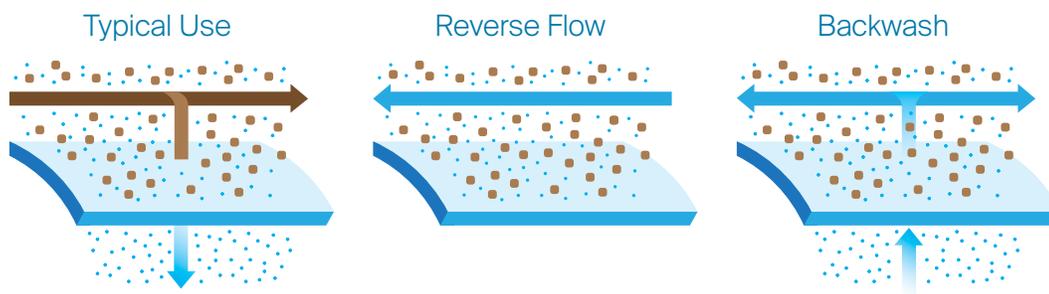
PPG has optimized the conventional spiral-wound element design to maximize the unique performance qualities of the PPG membrane. The result is a drop-in element that delivers greater productivity, lower overall cost and longer lifetime than conventional spiral-wound elements.

This advanced ultrafiltration element is ideal for a wide range of Ecoat applications, including:

- Automotive
- Aerospace
- Appliance
- Metal Furniture
- Metal Parts
- Industrial

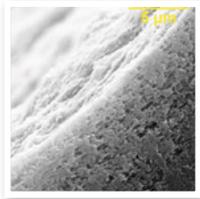
### The Exclusive Ecoat Backwash Benefit

A clean filter is an efficient filter. Assuring filter elements remain clean and free flowing is fundamental to maintaining a stable Ecoat process. During typical use, Ecoat elements become increasingly fouled over time, reducing performance throughout the element's service life. Cleaning spiral-wound Ecoat elements has traditionally been limited to reversing the flow of clean water through the concentrate line, which is only marginally effective.

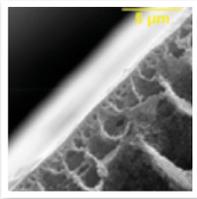


The unique durability of the PPG membrane allows the user to choose between reverse flow or backwash cleaning through the permeate line. That translates to filter elements that perform at peak efficiency longer and require fewer change-outs.

# Unique Membrane Design for Exceptional Performance



PPG



PVDF

PPG membrane has a uniform, composite single-layer design durable enough for flow in either direction. Traditional cast, multi-layer membrane elements are designed for one-way flow and are prone to delamination under pressure of backwash.

## Field Experience

A small investment in minor plumbing and valves enabled one Ecoat plant to be easily retrofitted for backwash cleaning, enabling extended element lifetime and long-term filtration performance improvement.

## Improving Performance of Existing Systems

Existing systems can benefit from the performance and financial advantages of advanced PPG membrane technology.

- Standardized configuration enables simple drop-in replacement of existing elements
- Longer lifetime
- Reduced consumables and associated costs over time
- Potential for increased capacity with no added capital
- Add backwash capability with minimal investment

## Creating the Ultimate New Ecoat Filtration System

New Ecoat plants outfitted with an ultrafiltration system utilizing proprietary PPG spiral wound membrane technology deliver top performance and immediate cost savings at lower initial investment.

- Optimized system enables higher flux and backwash capability
- Minimized ongoing operating and consumables expense
- Extended filter service lifetime



## PPG 7640 Spiral-Wound Filter Element Specifications

|  |  |  |   |
|--|--|--|---|
|  | <p><b>Single Seal</b></p> <p><b>DESCRIPTION</b><br/>Spiral wound membrane<br/>FRP outer wrap<br/>One brine seal on top<br/>Single ATD on both ends</p> <p><b>DIMENSIONS</b><br/>Diameter (A) 7.48" (190 mm)<br/>Overall Body Length (B) 40.0" (1016 mm)<br/>Permeate Tube ID (C) 1.285" (32.6 mm)<br/>Membrane Area 307 ft<sup>2</sup> (28.5 m<sup>2</sup>)<br/>Weight 40 lb (18.2 kg)</p> |  | <p><b>Double Seal</b></p> <p><b>DESCRIPTION</b><br/>Spiral wound membrane<br/>FRP outer wrap<br/>Two brine seals on top<br/>Single ATD one end, double on the other end</p> <p><b>DIMENSIONS</b><br/>Diameter (A) 7.48" (190 mm)<br/>Overall Body Length (B) 40.0" (1016 mm)<br/>Permeate Tube ID (C) 1.285" (32.6 mm)<br/>Membrane Area 307 ft<sup>2</sup> (28.5 m<sup>2</sup>)<br/>Weight 40 lb (18.2 kg)</p> |
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