



DuPont™ AmberLite™ P2X110 Ion Exchange Resin

Multi-purpose Mixed Bed Resin for PEM Electrolyzer Water Polishing

Key Features

- Specially designed for ions present in PEM recirculation loop.
- Enhanced ion and silica removal capacity for long lifetime and robust electrolyzer operation.
- Capable of delivering >18MOhm-cm quality water
- Low metal and TOC impurity leachables from resin
- Suitable for operating temperatures up to 70°C

Key Applications

- Ion removal polisher for PEM recirculation loop water in hydrogen electrolyzers.
- Point-of-use polishing for ultrapure makeup water treatment.

Typical Properties

Physical Properties

Copolymer	Styrene-divinylbenzene
Matrix	Gel/Gel
Type	Strong acid cation; Strong base anion
Functional Group	Sulfonic acid; Trimethylammonium
Physical Form	Translucent, spherical beads
Particle Diameter	540 - 700 μm [§]
Fines <300 μm	< 0.1%
Capacity Utilization factor	> 85%
Shipping Weight	700 g/L
Purity (Iron, Dry Basis)	< 50 mg/kg

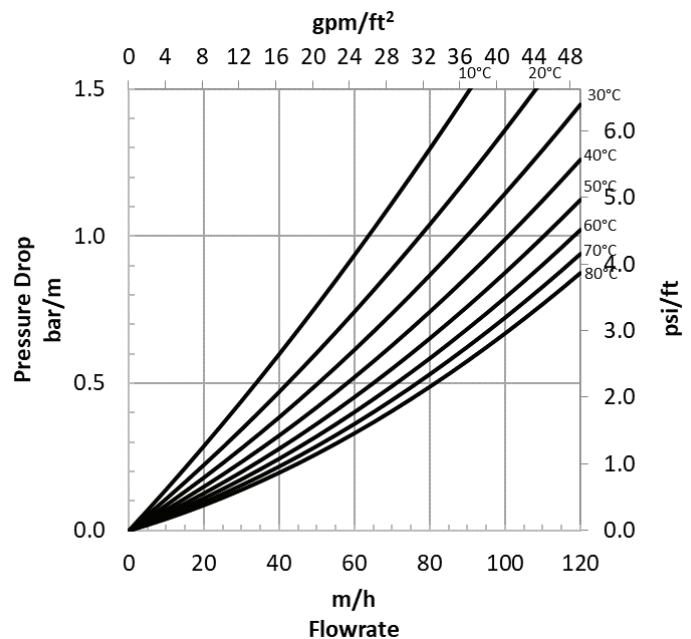
Suggested Operating Conditions

Maximum Recommended Operating Temperature	70°C*
Maximum Resin Bed Pressure Drop	< 150 kPa / 22 psi
Recommended Bed Height	1.2 - 1.5 meters / 47 - 59 inches

Hydraulic Characteristics

Pressure drop data is valuable for process, equipment selection and system design. Estimated pressure drop for AmberLite™ P2X110 Ion Exchange Resin as a function of service flowrate and temperature is shown in Figure 1. These pressure drop expectations are valid at the start of the service run with clean water.

Figure 1: Pressure Drop — Temperature = 10 – 80 °C (50 - 176°F)



* To understand the effects of elevated temperature operation (60 - 70°C), please contact your DuPont technical representative.

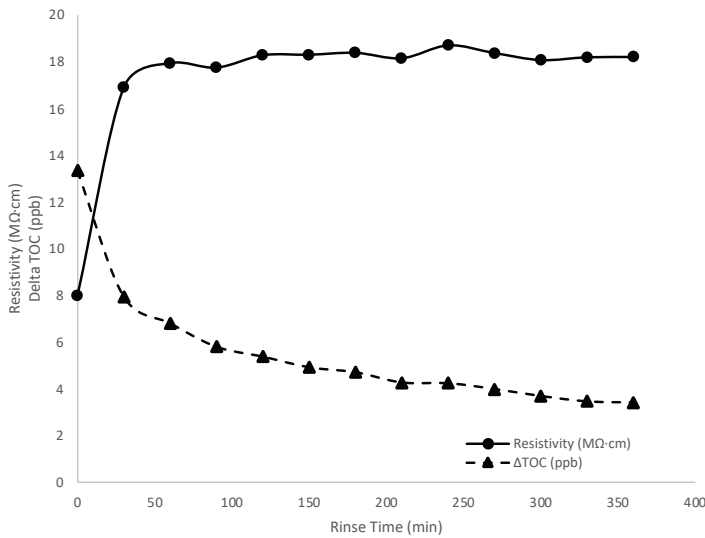
** Refer to Recommended Operating Conditions for Mixed Bed Ion Exchange Units for more information (Form No. 45-D01127-en).

§ For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 45-D00954-en).

Rinse Properties

Rinse curve is an indicator of resin cleanliness and expectation of performance at start-up. Resins with shorter rinse down curves are a choice when fast start-ups are needed. Typical rinse curves for resistivity and total organic carbon (TOC) as a function of rinse time at 25 bed volumes per hour based on our quality control procedure for AmberLite™ P2X110 are shown in Figure 2.

Figure 2: Resistivity and TOC Rinse Performance



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Form No. 45-D04668-en, Rev. 0
September 2023