



AMBERSEP™ 900 SO₄ Resin

Industrial Grade Strong Base Anion Exchanger

Description

AMBERSEP™ 900 SO₄ Resin is a macroreticular polystyrene type 1 strong base anion exchange resin containing quaternary ammonium groups. This resin allows removal of anions, including weakly dissociated ones like silica. In addition the macroreticular structure imparts excellent resistance to mechanical and osmotic shock. AMBERSEP 900 SO₄ Resin has been specially developed for use in mixed bed applications. Due to its excellent mechanical strength and good kinetics, it is particularly recommended for use in applications such as condensate polishing where these resins can be operated at flow rates up to 120 m/h.

Typical Physical and Chemical Properties

Physical form	Ivory spherical beads
Matrix	Styrene divinylbenzene copolymer
Functional groups	Trimethyl ammonium
Ionic form as shipped	SO ₄ ⁻
Total volume capacity	1.00 eq/L (21.8 kgr/ft ³) (Cl ⁻ form)
Moisture retention capacity	60–68% (Cl ⁻ form)
Shipping density	690 g/L (43 lbs/ft ³)
Particle size	
Uniformity coefficient, max.	1.45
Harmonic mean diameter	0.50–0.70 mm
> 1.180 mm, max.	1.0%
< 0.300, max.	0.5%
Maximum reversible swelling	Cl ⁻ → OH ⁻ : 25%

Suggested Operating Conditions

Maximum operating temperature	60°C / 140°F
Service flow rate	10–120 BV*/h (1.25–15 gpm/ft ³)
Regenerant	NaOH
Concentration	4%
Level	80–150 g/L (5–9.4 lbs/ft ³)
Minimum contact time	30 minutes
Slow rinse	2 BV at regeneration flow rate
Fast rinse	4–8 BV at service flow rate

*1 BV (Bed Volume) = 1 m³ solution per m³ resin or 7.5 gals per ft³ resin

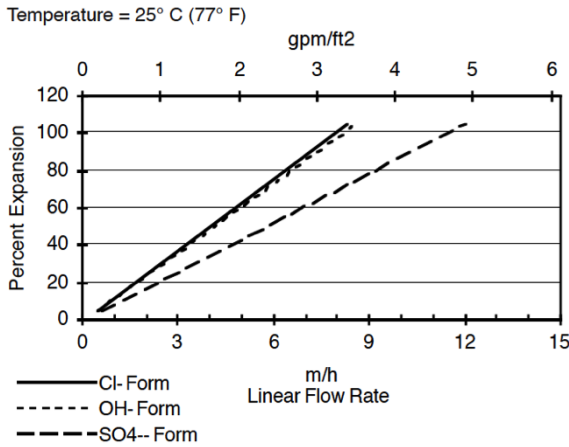
Packaging

25 liter bags

Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERSEP™ 900 OH as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERSEP 900 OH as a function of service flow rate and water temperature. Pressure drop data are valid at the start of the service run with clear water and a correctly classified bed.

Figure 1. Backwash Expansion Data

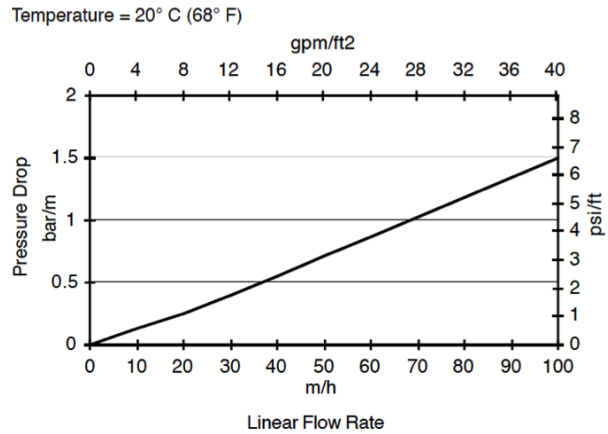


For other temperatures use:

$$F_T = F_{77°F} [1 + 0.008 (T_{°F} - 77)], \text{ where } F \equiv \text{gpm/ft}^2$$

$$F_T = F_{25°C} [1 + 0.008 (1.8T_{°C} - 45)], \text{ where } F \equiv \text{m/h}$$

Figure 2. Pressure Drop Data



For other temperatures use:

$$P_T = P_{20°C} / (0.026 T_{°C} + 0.48), \text{ where } P \equiv \text{bar/m}$$

$$P_T = P_{68°F} / (0.014 T_{°F} + 0.05), \text{ where } P \equiv \text{psi/ft}$$

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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DOW™ Ion Exchange Resins

For more information about DOW™ resins, call the Dow Water & Process Solutions business:

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Warning: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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