



## AMBERJET™ 4200 Resin

For Industrial Water Treatment

### Description

AMBERJET™ 4200 Resin is a uniform particle size, high quality, strong base type 1 anion exchange resin designed for use in all general demineralization systems. The uniformity and mean particle size of AMBERJET 4200 Resin have been optimised for use in industrial equipment including mixed beds, when paired with AMBERJET 1000 or DOWEX™ MARATHON (TM) C cation resins. AMBERJET 4200 Resin can be directly substituted for conventional gel anion exchange resin in new equipment and in rebeds of existing demineralisers.

### Typical Physical and Chemical Properties

Physical form	Yellow translucent spherical beads
Matrix	Styrene divinylbenzene copolymer
Functional group	Trimethyl ammonium
Ionic form as shipped	Cl <sup>-</sup>
Total volume capacity	1.3 eq/L (28.5 kgr/ft <sup>3</sup> )
Moisture retention capacity	49–55%
Shipping density	670 g/L (42 lbs/ft <sup>3</sup> )
Particle size	
Uniformity coefficient	1.2
Harmonic mean diameter	0.60–0.80 mm
< 0.425 mm	0.5% max
Maximum reversible swelling	Cl <sup>-</sup> → OH <sup>-</sup> : about 30%

### Suggested Operating Conditions

Maximum operating temperature	60°C / 140°F (OH form); 100°C/212°F (Cl form)
Minimum bed depth	800 mm (2.6 ft)
Service flow rate	5–50 BV*/h (0.6–6.2 gpm/ft <sup>3</sup> )
Maximum service velocity	60 m/h (2.5 gpm/ft <sup>2</sup> )
Regeneration	
Regenerant	NaOH
Level	40–100 g/L (2.5–6.3 lbs/ft <sup>3</sup> )
Concentration	2–5%
Minimum contact time	20 minutes
Slow rinse	2 BV at regeneration flow rate
Fast rinse	3–6 BV at service flow rate

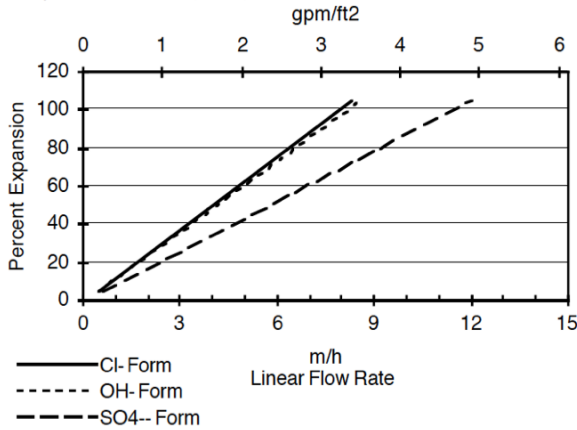
\*1 BV (Bed Volume) = 1 m<sup>3</sup> solution per m<sup>3</sup> resin

## Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERJET™ 4200 Resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERJET 4200 Resin, 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**

Temperature = 25° C (77° F)



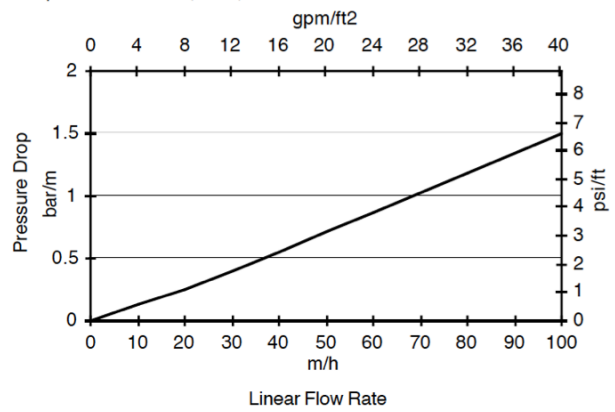
**For other temperatures use:**

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

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

**Figure 2. Pressure Drop Data**

Temperature = 20° C (68° F)



**For other temperatures use:**

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

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

## Packaging

25 liter bags or 7 cubic foot drum.

## 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.

## Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

### 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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