

PRODUCT DATA SHEET

**AMBERJET™ 4600 Cl**  
**Industrial Grade Strong Base Anion Exchanger**

AMBERJET 4600 Cl resin is a uniform particle size, high quality, strong base type 2 anion exchanger designed for use in all general demineralisation systems. The uniformity and mean particle size of AMBERJET 4600 Cl resin have been optimised for

use in industrial equipment including co-flow, reverse flow regenerated units and packed bed systems. It can be directly substituted for conventional gel anion exchange resin in new equipment and in rebeds of existing demineralisers.

**PROPERTIES**

Physical form _____	Yellow translucent spherical beads
Matrix _____	Styrene divinylbenzene copolymer
Functional group _____	Dimethyl ethanol ammonium
Ionic form as shipped _____	Cl <sup>-</sup>
Total exchange capacity <sup>[1]</sup> _____	≥ 1.25 eq/L (Cl <sup>-</sup> form)
Moisture holding capacity <sup>[1]</sup> _____	45 to 51 % (Cl <sup>-</sup> form)
Specific gravity _____	1.085 to 1.115 (Cl <sup>-</sup> form)
Shipping weight _____	680 g/L
Particle size	
Uniformity coefficient <sup>[1]</sup> _____	≤ 1.25
Harmonic mean size _____	0.60 to 0.80 mm
< 0.425 mm <sup>[1]</sup> _____	0.5 % max
Maximum reversible swelling _____	Cl <sup>-</sup> → OH <sup>-</sup> : 20 %

<sup>[1]</sup> Contractual value

Test methods available upon request

**SUGGESTED OPERATING CONDITIONS**

Maximum operating temperature _____	35 °C
Minimum bed depth _____	800 mm
Service flow rate _____	5 to 50 BV*/h
Maximum service velocity _____	60 m/h
Regeneration	
Regenerant _____	NaOH
Level _____	30 to 100 g/L
Concentration _____	2 to 5 %
Minimum contact time _____	20 minutes
Slow rinse _____	2 BV at regeneration flow rate
Fast rinse _____	3 to 6 BV at service flow rate

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

## PERFORMANCE

AMBERJET 4600 Cl resin has better regeneration efficiency than type 1 resins, resulting in a higher capacity. However its affinity for silica is lower. Operating capacity and silica leakage depend on several factors such as water analysis, temperature and regenerant level. The engineering data sheets EDS 0410 A and 0411 A provide information to calculate them.

## LIMITS OF USE

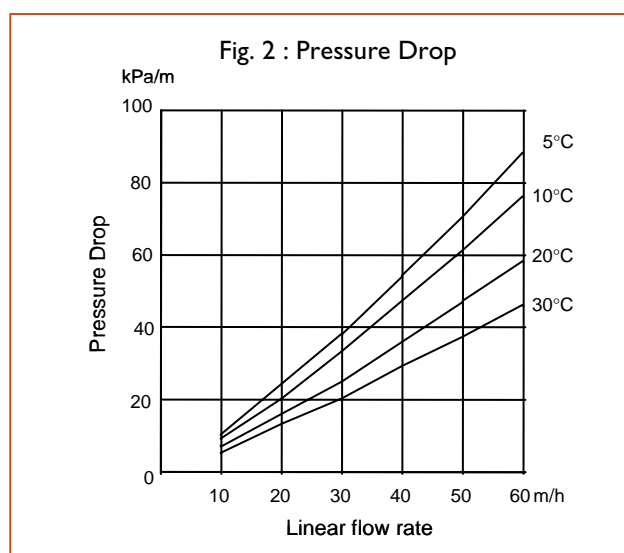
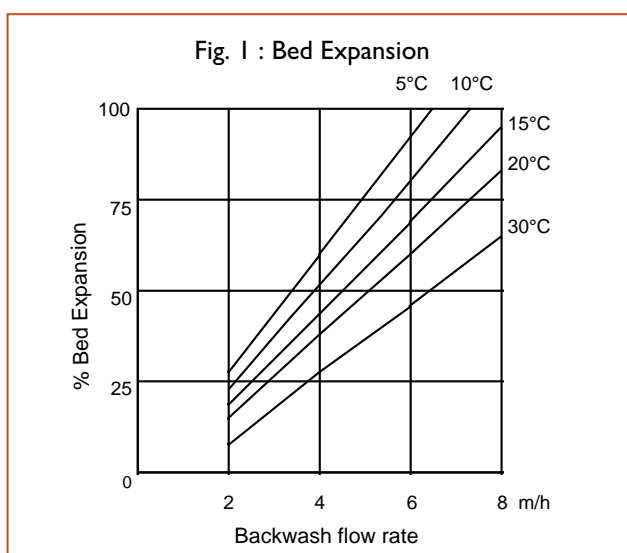
AMBERJET 4600 Cl resin is suitable for industrial uses. For all other specific applications such as pharmaceutical, food processing or potable water applications, it is recommended that all potential users seek advice from Rohm and Haas in order to

determine the best resin choice and optimum operating conditions.

Caution: as all type 2 anion exchangers, AMBERJET 4600 Cl resin tends to lose its strongly basic groups when the fluid to be treated or the regenerant solution has a temperature exceeding 35°C.

## HYDRAULIC CHARACTERISTICS

Figure 1 shows the bed expansion of AMBERJET 4600 Cl resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERJET 4600 Cl 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.



All our products are manufactured in ISO 9001 certified facilities.

Rohm and Haas/Ion Exchange Resins - Philadelphia, PA - Tel. (800) RH AMBER - Fax: (215) 409-4534  
Rohm and Haas/Ion Exchange Resins - 75579 Paris Cedex 12 - Tel. (33) 1 40 02 50 00 - Fax : 1 43 45 28 19

<http://www.amberlite.com>

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Ion exchange resins and polymeric adsorbents, as produced, contain by-products resulting from the manufacturing process. The user must determine the extent to which organic by-products must be removed for any particular use and establish techniques to assure that the appropriate level of purity is achieved for that use. The user must ensure compliance with all prudent safety standards and regulatory requirements governing the application. Except where specifically otherwise stated, Rohm and Haas Company does not recommend its ion exchange resins or polymeric adsorbents, as supplied, as being suitable or appropriately pure for any particular use. Consult your Rohm and Haas technical representative for further information. Acidic and basic regenerant solutions are corrosive and should be handled in a manner that will prevent eye and skin contact. Nitric acid and other strong oxidising agents can cause explosive type reactions when mixed with Ion Exchange resins. Proper design of process equipment to prevent rapid buildup of pressure is necessary if use of an oxidising agent such as nitric acid is contemplated. Before using strong oxidising agents in contact with Ion Exchange Resins, consult sources knowledgeable in the handling of these materials.

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