

IMAC® HP1110 Na

Strong Acid Cation Exchanger

PRODUCT DATA SHEET

IMAC HP1110 Na is a uniform particle size, gel type strong acid cation exchange resin. It has excellent physical, chemical and thermal stability. IMAC HP1110 Na has been specially developed for potable water softening and food applications (i.e. decalcification of saccharose thin juice) following a special route which does not use chlorinated solvents. The uniformity and mean particle size of IMAC

HP1110 Na offer many advantages in reverse flow regenerated units especially those using compact bed systems such as Amberpack : easier commissioning, higher capacity, better kinetics.

IMAC HP1110 Na is produced in a free flowing form which makes the filling of the units and cartridges very easy and rapid.

PROPERTIES

Matrix _____	Styrene divinylbenzene copolymer
Functional groups _____	Sulphonates
Physical form _____	Uniform size, amber beads
Ionic form as shipped _____	Na ⁺
Total exchange capacity ^[1] _____	≥ 2.2 eq/L (Na ⁺ form)
Moisture holding capacity ^[2] _____	36 to 44 % (Na ⁺ form)
Shipping weight _____	820 g/L
Harmonic mean size _____	540 to 650 µm
Uniformity coefficient ^[2] _____	≤ 1.3
Fines content ^[2] _____	< 0.300 mm : 0.5 % max
Coarse beads _____	> 1.180 mm : 1.0 % max
Maximum reversible swelling _____	Na ⁺ → H ⁺ : 10 %
Chemical resistance _____	Insoluble in dilute solutions of acids or bases and common solvents

^[1] Average value calculated from statistical quality control.

^[2] Contractual value

Test methods are available on request.

SUGGESTED OPERATING CONDITIONS (WATER TREATMENT)

Maximum operating temperature _____	120°C
Service flow rate _____	5 to 50 BV*/h
Regenerant _____	NaCl HCl H ₂ SO ₄
Level (g/L) _____	50 to 240 40 to 120 40 to 200
Concentration (%) _____	10 4 to 10 0.7 to 6
Flow rate (BV/h) _____	2 to 8 2 to 5 2 to 20
Minimum contact time _____	20 minutes
Slow rinse _____	2 BV at regeneration flow rate
Fast rinse _____	1 to 3 BV at service flow rate

* 1 BV (Bed Volume) = 1 m³ solution per m³ resin

COMPLIANCE

IMAC HP1110 Na is approved in France, Austria, Poland, the UK for the treatment of potable water. It complies with the Council of Europe Resolution AP(89)2, with the German Food Law and with the FDA regulation 21 CFR 173.25 (a) provided it has been pre-treated according to Rohm and Haas recommendations.

IMAC HP1110 Na is approved by la Direction Générale de la Concurrence, de la Consommation et de la Répression des Fraudes in France as sugar industry processing aid.

For further details regarding individual registrations/compliances, please contact your nearest Rohm and Haas office.

QUALITY CONTROL

All IMAC HP resins are manufactured and purified specially for use in non industrial applications. Every batch of IMAC HP1110 Na is analysed to ensure its compliance with high purity specifications, in particular :

- Physical and chemical properties,
- Individual release of certain substance in the treated water,

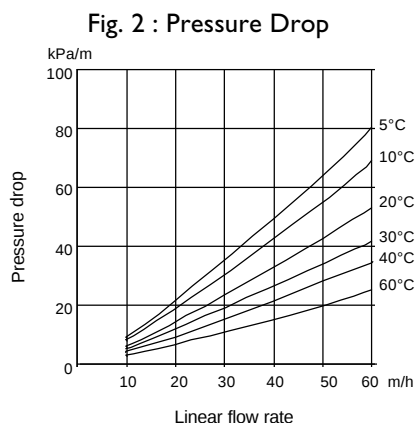
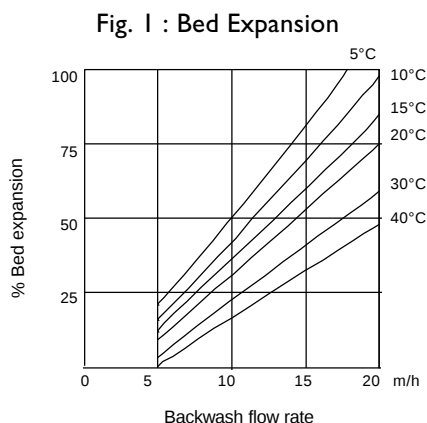
- Global release of organic substances expressed in TOC (Total Organic Carbon),
- Total microbial count.

COMMISSIONING

IMAC HP1110 Na is ready to use : all that is required at the time of commissioning is to perform a full regeneration cycle followed by a rinse with a least 20 bedvolumes of water. This is valid only if the resin is stored at a temperature of less than 25 °C and protected from UV radiations and if the storage time between production dated (printed on the bags) and final use does not exceed 24 months.

HYDRAULIC CHARACTERISTICS (Water treatment)

Figure 1 shows the bed expansion of IMAC HP1110 Na as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for IMAC HP1110 Na, as a function of service flow rate and water temperature. Pressure drop data are valid at the start of the service run with a clear water and a correctly classified bed.



AMBERJET is a trademark of Rohm and Haas Company and its affiliates, Philadelphia, U.S.A.

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.

Rohm and Haas Company makes no warranties either expressed or implied as to the accuracy or appropriateness of these data and expressly excludes any liability upon Rohm and Haas arising out of its use. We recommend that the prospective users determine for themselves the suitability of Rohm and Haas materials and suggestions for any use prior to their adoption. Suggestions for uses of our products of the inclusion of descriptive material from patents and the citation of specific patents in this publication should not be understood as recommending the use of our products in violation of any patent or as permission or license to use any patents of the Rohm and Haas Company and its affiliates. Material Safety Data Sheets outlining the hazards and handling methods for our products are available on request.