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Product Data Sheet

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AMBERLITE™ MB20 Resin

Mixed Bed Resin for High Purity Water Applications

Description

AMBERLITE™ MB20 Resin is an ionically equilibrated mixed bed resin. It is a fully regenerated, ready-to-use mixture of a strong acid cation exchanger with a strong base type 1 anion exchanger. AMBERLITE MB20 Resin has been developed for the production of high purity water. It can be used for all applications requiring totally demineralised water, free of silica and of carbon dioxide.

The operating capacity of the mixed bed can be estimated using the following formula, which gives an approximate determination of volume of water that can be treated:

$$BV = \frac{500}{\text{TDS (meq/l)}} \quad \text{or} \quad \text{gals} = \frac{187500}{\text{TDS (as CaCO}_3\text{)}}$$

where BV (Bed Volume) is the number of litres of a feed water containing a TDS (Total Dissolved Solids) given in meq/L (or gals per ft³ resin with TDS as CaCO₃) that can be demineralised with one litre of the resin mixture when run to exhaustion.

If required, AMBERLITE MB20 Resin can be regenerated after exhaustion. Both components must be separated by backwashing and regenerated separately.

Typical Physical and Chemical Properties

Physical form	Mixture of white to amber spherical beads
Matrix	Styrene divinylbenzene copolymer
Functional groups	Sulphonic acid and trimethylammonium
Ionic form as shipped	H ⁺ /OH ⁻
Composition in volume	38–44% cation, 56–62% anion
Shipping density	715 g/L (45 lbs/ft ³)
Particle size	
< 0.300 mm, max.	3%

Suggested Operating Conditions

Maximum operating temperature	120°C / 250°F
Minimum bed depth	700 mm (2.3 ft)
Service flow rate	20–40 BV*/h (2.5–5 gpm/ft ³)
Regeneration	
Type	Cation: HCl or H ₂ SO ₄ ; Anion: NaOH

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

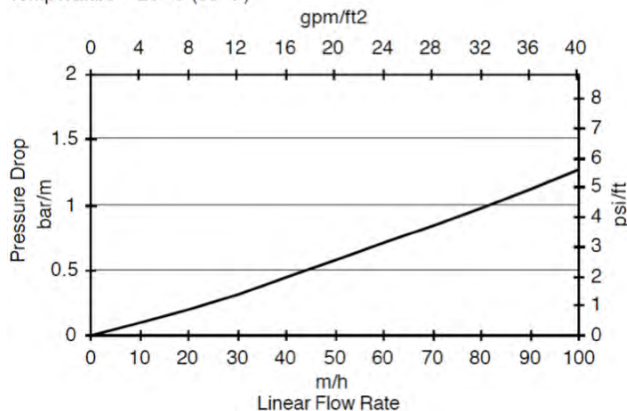
Packaging

25 liter bags or 7 cubic foot drum

Hydraulic Characteristics

Figure 1. Pressure Drop Data

Temperature = 20° C (68° F)



For other temperatures use:

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

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

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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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