AMBERSEP™ 4400 HCO_3

Industrial Grade Strong Base Anion Exchanger

Introduction

AMBERSEP 4400 HCO_3 resin is a uniform particle size, strongly basic anion exchange resin of the type 1 with a clear gel structure, based on cross-linked polystyrene. It has a high capacity and low moisture holding. Due to its uniform particle size distribution AMBERSEP 4400 HCO_3 resin has excellent kinetic and outstanding physical stability, illustrated by its very high bead integrity and its resistance to osmotic shock and mechanical stress.

AMBERSEP 4400 HCO_3 has been specially developed for the extraction of uranium from ore by alkaline leaching.

Properties

Physical form	Light amber spherical beads
Matrix	Styrene divinylbenzene copolymer
Functional group	Trimethyl ammonium
Ionic form as shipped	HCO_3^-
Total exchange capacity	≥ 1.40 eq/L (Cl^- form)
Moisture holding capacity	40 to 48 % (Cl^- form)
Shipping weight	730 g/L
Particle size	
Uniformity coefficient	≤ 1.2
Harmonic mean size	0.53 – 0.63 mm < 0.425 mm 0.5 % max
Maximum reversible swelling	$Cl^- \rightarrow HCO^-$: 10-15 %

Limits of use

AMBERSEP 4400 HCO3 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 Dow Water & Process Solutions in order to determine the best resin choice and optimum operating conditions.

Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERSEP 4400 HCO^- resin as a function of backwash flow rate. Figure 2 shows the pressure drop data for AMBERSEP 4400 HCO^- 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.

Fig. 1: Bed Expansion (23 °C)

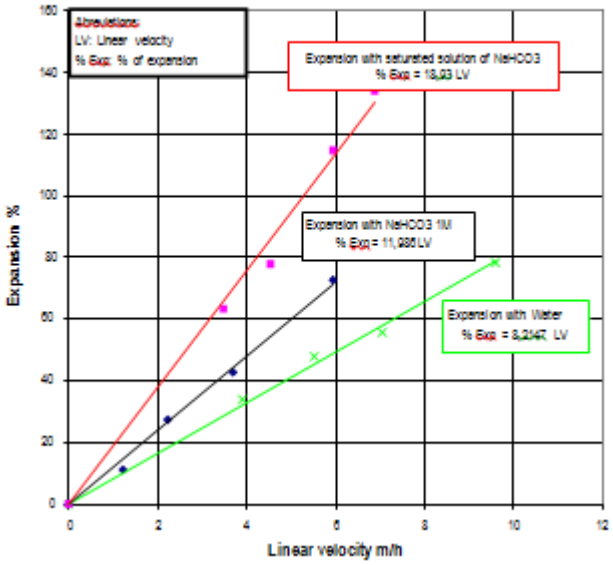
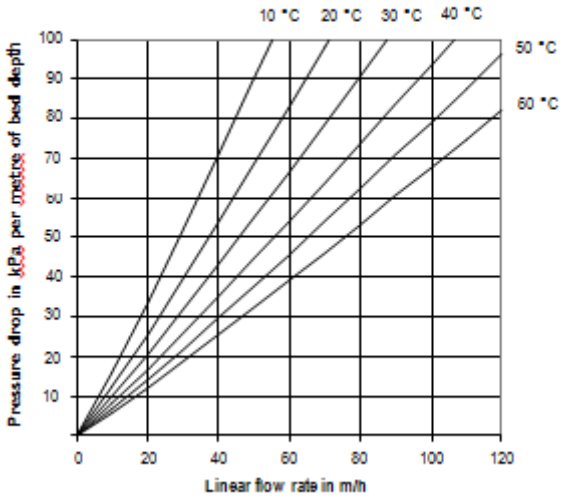


Fig. 2 : Pressure Drop



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