



## AMBERLITE™ IRA458 CI

Industrial Grade Strong Base Anion Exchanger

### Introduction

AMBERLITE IRA458 CI resin is an acrylic gel type strongly basic anion exchange resin, with unique chemical and physical properties. It combines high operating capacity with low silica leakage values.

The flexible acrylic structure of AMBERLITE IRA458 CI resin allows for effective adsorption and desorption of naturally occurring organic molecules, such as humic and fulvic acids, that are present in many water supplies.

### Properties

Physical form	Translucent white spherical beads
Matrix	Crosslinked acrylic gel structure
Functional group	Quaternary ammonium
Ionic form as shipped	Chloride
Total exchange capacity	≥ 1.25 eq/L (Cl <sup>-</sup> form)
Moisture holding capacity	57 to 64 % (Cl <sup>-</sup> form)
Shipping weight	720 g/L
Particle size	
Uniformity coefficient	≤ 1.90
Harmonic mean size	0.600 to 0.900 mm < 0.300 mm 2.0 % max
Reversible swelling	Cl <sup>-</sup> → OH <sup>-</sup> ≤ 20 %

### Suggested Operating Conditions

Maximum operating temperature	35°C
Minimum bed depth	700 mm
Service flow rate	5 to 40 BV*/h
Regeneration	
Regenerant	NaOH
Level	50 to 150 g/L
Concentration	2 to 4 %
Minimum contact time	30 minutes
Slow rinse	2 BV at regeneration flow rate
Fast rinse	4 to 8 BV at service flow rate

### Applications

AMBERLITE IRA458 CI resin is designed to be used in co-flow regeneration units. It is recommended as the working anion exchange resin, or in combination with AMBERLITE IRA96 resin for demineralisation of water having up to 30 % silica when low caustic regenerant consumption and good resistance to organic fouling are primarily required.

### Performance

The engineering data sheet EDS 0273 A provides information to calculate the operating capacity and silica leakage of AMBERLITE IRA458 CI resin used in water treatment.

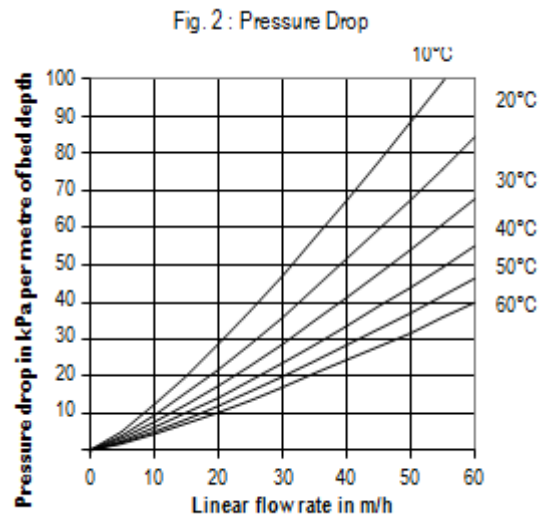
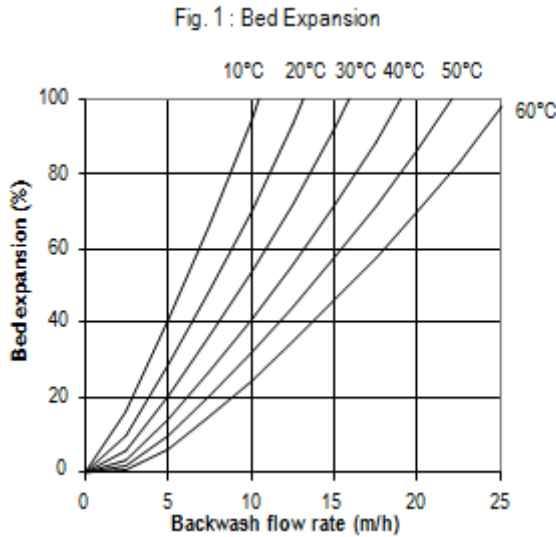
### Limits of use

AMBERLITE IRA458 CI resin is suitable for industrial uses. For 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.

## Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERLITE IRA458 CI resin as a function of backwash flow rate and water temperature.

Figure 2 shows the pressure drop data for AMBERLITE IRA458 CI 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.



**For more information about DOW™ resins, call the Dow Water & Process Solutions business:**

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