PUROLITE
ION EXCHANGE RESINS

C 150

PUROLITE C 150 is a polystyrene macroporous strong acid cation exchanger crosslinked with divinylbenzene. The unique structure of **PUROLITE C 150** allows for high capacity and exceptional physical and chemical stability. The unusual matrix of this resin promotes better kinetics, equal to those of a gel exchanger such as **PUROLITE C100**, and better diffusion rates into and out of the beads.

PUROLITE C 150 also adsorbs and elutes organics faster and more thoroughly than typical macroporous resins.

PUROLITE C 150 is suitable for water softening in both industrial and household applications and for large and small demineralisation units. Hot water and condensate softening, with temperatures up to 130 °C, is a typical application for **PUROLITE C 150.**

PUROLITE C 150 is supplied in the sodium form, ready for softening use and must be double regenerated with HCl or H_2SO_4 for use in demineralisation.

TYPICAL PHYSICAL AND CHEMICAL CHARACTERISTICS

Polymer structure	Polystyrene crosslinked with DVB
Physical form and appearance	Opaque spherical beads
Functional groups	$R\text{-}SO_3^-$
Ionic form, as shipped	Na^+
Particle size	0.3 - 1.2 mm
	with 1% max. < 0.3 mm
	and 5 % max. > 1.2 mm
Total exchange capacity , Na^+ form	1.8 eq/l min
Moisture retention, Na^+ form	48 - 53 %
Reversible swelling, Na^+ ----> H^+	5 % max
Specific gravity, Na^+ form	1.25
Shipping weight	785 - 825 g/l
Maximum operating temperature	130 °C
pH range, stability	0 - 14

STANDARD OPERATING CONDITIONS

Operation	Rate	Solution	Minutes	Amount
Service	8-40 BV/h	Influent water	-	-
Backwash	9-15 m/h (at 5-15 °C)	Influent water	5 - 20	1.5 - 4.0 BV
Regeneration	2-4 BV/h	NaCl 10%	25 - 35	80 - 240 g/l
		H_2SO_4 0.5-8%	30 - 60	60 - 200 g/l
		HCl 3-6%	30 - 40	50 - 150 g/l
Slow rinse	2 - 4 BV/h	Influent water	20 - 30	1.0 - 2.0 BV
Fast rinse	8 - 40 BV/h	Influent water	20 - 30	4.0 - 6.0 BV

Backwash = 50 - 75%
Design rising space = 100%

CAPACITY AND LEAKAGE

Operating exchange capacity and leakage figures for **PUROLITE C 150** can be obtained by consulting the relevant **PUROLITE C 100** (sodium cycle) and **PUROLITE C 100 H** (hydrogen cycle) technical data sheet.

The same leakage data apply to both **PUROLITE C 100** and **PUROLITE C 150** while the operating capacity figures valid for **PUROLITE C 100** should be downrated by approx. 10% to calculate the operating capacity of **PUROLITE C 150.**

Many of the warnings given for **PUROLITE C 100** when regenerated with sulphuric acid apply also to **PUROLITE C 150**.

When **PUROLITE C 150** is exhausted with a high amount of calcium ions the regeneration should be carried out with hydrochloric acid to prevent precipitation of calcium sulphate. Should hydrochloric acid be unsuitable for availability or cost, sulphuric acid can be used but a stepwise regeneration procedure must be used to minimise the risk of precipitation.

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