

# water

## RESINDION RESINS FOR WATER TREATMENTS

TDS 10031

RELITE CNS - Weakly Acidic Resin

TDS 10031

### RELITE CNS

RELITE CNS is a new porous weak acid cation exchanger having an acrylic matrix.

This resin is characterised by very high operating capacity, excellent physical stability, and relatively small volume change on conversion to the monovalent alkali form. The first class kinetics and resistance to attrition and osmotic shock make RELITE CNS especially suited for application in the most exacting of conditions eg very high temporary hardness waters either in the hydrogen or monovalent alkali form. A further aspect of stability (see Recommended Operating Conditions, below) is the ability of RELITE CNS to perform at temperatures up to 100°C.

The composition of this resin complies with the existing food processing rules and regulations.

### TYPICAL CHARACTERISTICS

Matrix	:	Porous copolymer acrylate-DVB			
Functional group	:	Carboxylic			
Colour and physical form	:	White yellowish translucent/opaque beads			
Particle size range	:	0.3 - 1.18	m m		
Effective size	:	0.40 min	m m		
Uniformity Coefficient	:	1.7	max		
Ionic form at the delivery	:	H <sup>+</sup>			
Volume change	:	+ 50 % max	H <sup>+</sup> --> Na <sup>+</sup> form;	+ 10 % max	H <sup>+</sup> --> Ca <sup>++</sup> form
Total exchange capacity	:	4.2 min	eq/l		
Water retention	:	45 - 52	%		
Chemical stability	:	stable in the whole pH range			
Thermal stability	:	120 °C	max		
Shipping density	:	800	g/l approx.		
Standard packaging	:	25 or 1000	liter bags		

### RECOMMENDED OPERATING CONDITIONS

Operating pH range	:	5 - 14				
Operating temperature range	:	5 - 100	°C			
Minimum bed depth	:	800	m m			
Linear operating flowrate	:	2 - 60	m/h			
Backwash expansion	:	50 - 80	%			
Regenerants	:	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	NH <sub>4</sub> OH	Na <sub>2</sub> CO <sub>3</sub>
Regenerant level range	:	40 - 200	55 - 270	180 - 230	150 - 200	230 - 300 g/l
Concentration range	:	1 - 5	0.7 - 5	2 - 3	1.5 - 3	5 - 7 %
Slow rinse volume	:	1.5 - 2	BV			
Fast rinse volume	:	3 - 5	BV			

**Resindion** S.r.l.

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## OPERATING CAPACITY

Operating capacity depends on various parameters, such as inlet composition, endpoint, kinetic load and regenerant level.

In case of need, please contact our TECHNICAL DEPARTMENT.

Fig. 1 BED EXPANSION IN WATER

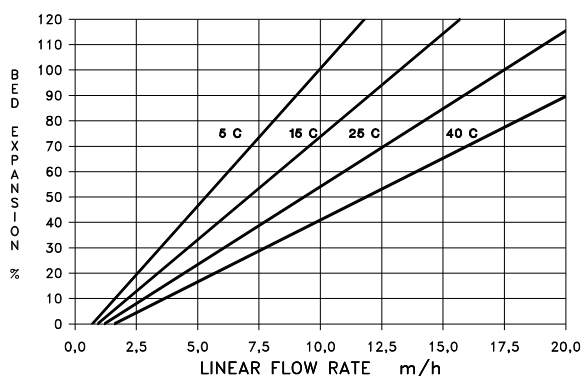
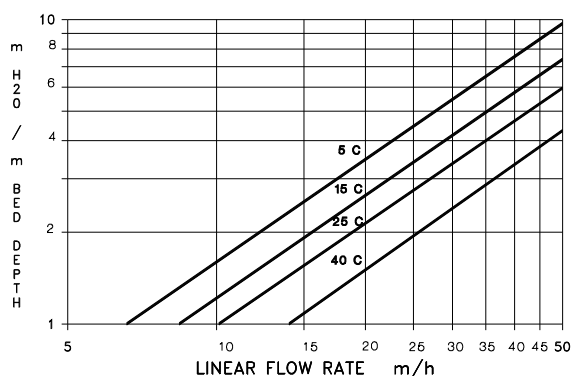


Fig. 2 PRESSURE DROP IN WATER



<b>RECOMMENDED HCl QUALITY FOR REGENERATION (*)</b>	
Suspended solids	0 ppm
Chlorine	10 ppm
Iron	20 ppm
Heavy metals	10 ppm
Sulphates	5000 ppm
(*) Values referred to HCl 100%.	

<b>RECOMMENDED H<sub>2</sub>SO<sub>4</sub> QUALITY FOR REGENERATION (*)</b>		
Purity	95	%
Suspended solids	0	ppm
Iron	50	ppm
Arsenic	5	ppm
Lead	5	ppm
(*) Values referred to H <sub>2</sub> SO <sub>4</sub> 100%.		

<b>RECOMMENDED NaOH QUALITY FOR REGENERATION (*)</b>	
Silica	10 ppm
Iron	10 ppm
Mercury	2 ppm
Heavy metals	5 ppm
Chlorates	10 ppm as O <sub>2</sub>
Sodium carbonate	0.5 %
Sodium chloride	0.5 %
Sodium sulphate	0.2 %
Hardness	0 %
Suspended solids	0 %
(*) Values referred to NaOH 100%.	