

RESIN SPECIFICATIONS		
Weak Acid Cation WAC		
	Type of resin	Weak Acid Cation
	Total Exc Cap(meq/ml) min	4
	Physical Form	Moist Beads
	Ionic Form	H+
	Screen Size (Wet) ISS mm	16-50 US mesh
	Voids	About 40%
	% Moisture	47+/- 3
	Uniformity Coefficient(Max)	1.8
	Swelling	Approx 100 (H+ to Na+)
	Matrix	Poly Acrylic co-Polymer
	Density(BW settled) gms/lit	670-710 Na+ 730-770 H+
	Operating pH	Stable from 05-14
	Max Operating Temp	100
	Osmotic Strength	Good
	Mechanical Strength	Elastic Beads
	Resistance to reducing agents	Good
	Life of resin	4-5 years
	Resin attrition loss/year %	5 max
	Resin loss due to fines/year%	5 max
	Max press drop across each vessel (kg/cm ²)	1.045
	Particle size	0.3-1.2 mm (95% min)
	Effective size	0.45-0.55

Strong acid cation (SAC)		
	Type of resin	Strong acid Cation
	Total Exc Cap(meq/ml) min	1.8 in H 2 in Na form
	Physical Form	Moist Spherical
	Ionic Form	Hydrogen
	Screen Size (Wet) ISS mm	
	Voids	About 40%
	% Moisture	52+/- 3
	Uniformity Coefficient(Max)	1.8
	Swelling	Approx 7 (Na+to H+)
	Matrix	Poly Styrene Co-Polymer
	Density(BW settled) gms/lit	----- 800-840 H+
	Operating pH	Stable from 0-14
	Max Operating Temp	120
	Osmotic Strength	Good
	Mechanical Strength	500g/Bead
	Resistance to reducing agents	Good
	Life of resin	4-5 years
	Resin attrition loss/year %	5 max
	Resin loss due to fines/year%	5 max
	Max press drop across each vessel (kg/cm ²)	1.13
	Particle size	0.3-1.2 mm
	Effective size	0.45-0.55

Weak Base Anion (WBA)	
Type of resin	Weak base anion
Total Exc Cap(meq/ml) min	1.5 min
Physical Form	Moist Spherical Beads
Ionic Form	Free Base
In free base form gm/ltr	1.5 min
	16-50 US mesh
Voids	About 40%
% Moisture	47+/- 3
Uniformity Coefficient(Max)	1.8
Swelling	20 (FB to Cl)
Matrix	Polystrene co-Polymer
Density(BW settled) gms/lit	640-670
Operating pH	0-9
Max Operating Temp	80
Osmotic Strength	Good
Mechanical Strength	600 g/bead
Resistance to reducing agents	Good
Life of resin	4 years
Resin attrition loss/year %	5 max
Resin loss due to fines/year%	5 max
Max press drop across each vessel (kg/cm ²)	0.7
Particle size	0.3-1.2 mm
Effective size	0.45-0.55

Strong base Anion (SBA)		
	Type of resin	Strong base anion
	Total Exc Cap(meq/ml) min	1.3
	Product code	A-23 GEL
	Physical Form	Moist Spherical
	Ionic Form	Cl
	Screen Size (Wet) ISS mm	16-50 US mesh
	Voids	About 40%
	% Moisture	53+/- 3
	Uniformity Coefficient(Max)	1.8
	Swelling	20 (Cl to OH))
	Matrix	Poly Styrene Co-Polymer
	Density(BW settled) gms/lit	----- 670-710
	Operating pH	Stable from 0-14
	Max Operating Temp	80
	Osmotic Strength	Good
	Mechanical Strength	400g/Bead
	Resistance to reducing agents	Good
	Life of resin	4 years
	Resin attrition loss/year %	5 max
	Resin loss due to fines/year%	5 max
	Max press drop across each vessel (kg/cm ²)	0.6
	Particle size	0.3-1.2 mm
	Effective size	0.45-0.55

Parameters	WAC	SAC	WBA	SBA	MB (C)	MB (A)
Ionic load	253	234.53	232	109.65	1	0.02
Regeneration Level	1.03% of design cap	92	1.1% of design cap	76	70	60
Exchange Capacity in kg/m ³	135	66.97	62.5	38.8	54.5	3.3
Correction Factor (Temp)	1	1	1	1	1.01	
Correction Factor (Na/TC)	-----	1.1	---	-----	1.16	
Correction Factor (Alk/TC)	1.09	0.93	---	-----	1.05	
Correction Factor (Bed depth)	1.05	1.07	--		1	
Correction factor (SO ₄)	---	---	0.8919	0.93		
Correction factor (SiO ₂)	---	---		0.88		
Correction Factor (FMA)	---	---	0.9538	---		
Correction factor (Run length)		0.99		---	1.01	
Correction Factor (CO ₂)	---	---	1.0548	1		
De-ration factor	0.5949	0.8233	0.81678	0.978	0.2233	0.79
Total correction factor	0.680	0.892	0.7329	0.8003	0.2774	0.79
Design exchange capacity in kg/m ³	91.89	59.75	45.8	31.06	15.12	2.6
Effective resin volume in m ³	15.06	21.47	17.7	12	2.638	3.05
Work done per cycle in kg	1396.96	1476.30	909.05	372.5	32.10	7.95
Gross output per cycle in m ³	5521.59	6363.38	3921.68	3397	32104	39756