

SEPARATION TECHNOLOGIES

ION EXCHANGE RESINS

DUOLITE C 20

MIXED BED DE - IONISATION



Demineralised water of very low conductivity and silica leakage, can be obtained using Duolite C - 20 with Duolite A 101 D/ A 113 .Performance of mixed bed depends on

1. Effective separation after backwash.
2. Purity of regenerant chemicals.
3. Type of water used during regeneration.
4. Influent concentration.

TABLE NO.1

SULPHURIC ACID REGENERATION (CO- CURRENT)

REGENERATION LEVEL kg / M ³ OR gms / lit 100% H ₂ SO ₄	OPERATING EXCHANGE CAPACITY eq / ltr		
	A	B	C
	REGENERANT CONC. 5% WHERE USED AS POLOSHING UNIT	REGENERANT CONCENTRATION. 2 - 2.5 % ALK / TC > 50%	REGENERANT CONCENTRATION. 2 - 2.5 % ALK / TC < 50%
30	0.41	--	0.33
40	0.46	0.46	0.37
60	0.55	0.49	0.43
80	0.60	0.53	0.46
100	0.64	0.56	0.49
120	0.68	0.58	0.51

TABLE NO. 2

LEAKAGE CHARACTERISTICS

REGENERATION LEVEL kg / M ³ OR gms / lit 100% H ₂ SO ₄	LEAKAGE AS % OF INFLUENT CONCENTRATION					
	FEED WATER (Na + K)					
	100 %	80 %	60 %	40 %	20 %	10 %
30	47.0	32.6	22.4	11.7	5.9	3.7
40	44.9	29.6	19.4	9.7	4.6	3.0
60	30.6	19.4	10.2	4.9	2.6	1.6
80	25.5	12.4	6.7	2.9	1.7	1.0
100	18.4	7.6	4.0	1.9	1.2	0.8
120	14.3	5.6	3.0	1.3	0.8	0.4

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TABLE NO. 3

HYDROCHLORIC ACID REGENERATION (CO- CURRENT)

USING 4 - 8 % w / v CONCENTRATION

REGENERATION LEVEL kg / M ³ OR gms / lit 100% HCl	OPERATING EXCHANGE CAPACITY eq / ltr
30	0.63
40	0.70
60	0.84
80	0.95
100	1.0
120	1.1

TABLE NO. 4

LEAKAGE CHARACTERISTICS

REGENERATION LEVEL kg / M ³ OR gms / lit 100 % HCl	LEAKAGE AS % OF EMA INFLUENT					
	FEED WATER (Na + K)					
	100 %	80 %	60 %	40 %	20 %	10 %
20	48	35.0	24.0	14.0	7.0	4.5
40	44	29.0	19.0	9.5	4.5	2.9
60	30	19.0	10.0	4.8	2.5	1.6
80	25	12.0	6.6	2.8	1.7	1.0
100	18	7.5	3.9	1.9	1.2	0.8
120	14	5.5	2.9	1.3	0.8	0.5
140	10	4.0	2.1	0.8	0.5	0.3

For general characteristics refer our respective Product Data Sheet.

- A. Operating exchange capacity can be derived using Table No 1 and 3 for D. M.stream as well as for single unit Mixed Bed operation.
- B Leakage characteristics for single unit Mixed Bed operation can be determined from Table No. 2 and 4

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