



ENGINEERING DATA SHEET

These data provide information to calculate the operating capacity of Amberlite IRA67 and IRA67RF used for water demineralisation.

The properties of these products are described in the Product Data Sheets PDS 0226 and 0444 A.

OPERATING CAPACITY

The operating capacity is obtained by multiplying the basic capacity value from table 1 by the correction factors A, B and C from tables 2 to 4.

$$\text{Cap} = \text{Cap}_0 \times A \times B \times C$$

Table 1 : Basic Capacity versus SO₄/FMA* Ratio

SO ₄ /FMA %	Capacity eq/L (Cap ₀)
0	1.26
20	1.29
40	1.32
60	1.34
80	1.37
100	1.39

*FMA = Free Mineral Acidity = Anions of Strong Acids

Table 2 : Capacity Correction Factor A versus CO₂/Total Anions Ratio

CO ₂ %	Factor A
0	0.88
10	0.90
20	0.93
30	0.95
50	1.00

Table 3 : Capacity Correction Factor B versus Water Temperature

Water °C	Factor B
5	0.90
15	1.00
20	1.02
30	1.06
40	1.09

Table 4 : Capacity Correction Factor C versus Run Length (hours)

Run (hours)	Factor C
4	0.90
6	0.94
8	0.96
12	0.98
18	0.99
> 24	1.00

Table 4 : Suggested Operating Conditions

Maximum operating temperature _____	35°C
Minimum bed depth _____	700 mm
Service flow rate _____	5 to 40 BV*/h
Maximum linear velocity _____	50 m/h
Regenerant _____	NaOH
Level _____	130 % of ionic load
Flow rate _____	2 to 8 BV/h (minimum contact time : 30 minutes)
Concentration _____	2 to 4 %
Slow rinse _____	2 BV at regeneration flow rate
Fast rinse _____	8 to 16 BV at 10 BV/h

* 1 BV (Bed volume) = 1 m³ solution per m³ resin

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