DOWEX™ MARATHON™ A

A Uniform Particle Size, High Capacity, Strong Base Anion Exchange Resin for Demineralization Applications

Product	Type	Matrix	Functional group
DOWEX™ MARATHON™ A	Type I strong base anion	Styrene-DVB, gel	Quaternary amine

Guaranteed Sales Specifications		Cl^- form	OH^- form
Total exchange capacity, min.	eq/L	1.3	1.0
	kgr/ft^3 as $CaCO_3$	28.4	21.9
Water content	%	50 - 60	60 - 72
Uniformity coefficient, max.		1.1	1.1

Typical Physical and Chemical Properties		Cl^- form	OH^- form
Mean particle size†	µm	575 ± 50	610 ± 50
Whole uncracked beads	%	95 - 100	95 - 100
Total swelling ($Cl^- \rightarrow OH^-$)	%	20	20
Particle density	g/mL	1.08	1.06
Shipping weight, approx.	g/L	670	640
	lbs/ft^3	42	40

Recommended Operating Conditions

- Maximum operating temperature:
  - OH^- form: 60°C (140°F)
  - Cl^- form: 100°C (212°F)
- pH range: 0 - 14
- Bed depth, min.: 800 mm (2.6 ft)
- Flow rates:
  - Service/fast rinse: 5 - 60 m/h (2 - 24 gpm/ft^2)
  - Backwash: See figure 1
  - Co-current regeneration/displacement rinse: 1 - 10 m/h (0.4 - 4 gpm /ft^2)
  - Counter-current regeneration/displacement rinse: 5 - 20 m/h (2 - 8 gpm /ft^2)
- Total rinse requirement: 3 - 6 Bed volumes
- Regenerant:
  - Type: 2 - 5% NaOH
  - Temperature: Ambient or up to 50°C (122°F) for silica removal

† For additional particle size information, please refer to Particle Size Distribution Cross Reference Chart (Form No. 177-01775).

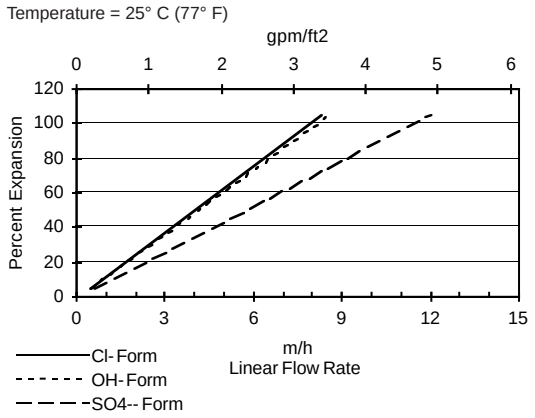
Typical Properties and Applications

DOWEX™ MARATHON™ A anion exchange resin is specifically designed to give high throughput and economical operation in primary demineralizer beds. Because of its uniform particle size, this resin offers a number of economic advantages over conventional (polydispersed) resins. The small uniform bead size of DOWEX MARATHON A resin results in rapid exchange kinetics during operation, more complete regeneration of the resin, and faster, more thorough rinse following regeneration. It can be used for all types of water but especially for waters that have a high percentage of silica and carbon dioxide.

Packaging

25 liter bags or 5 cubic feet fiber drums

Figure 1. Backwash Expansion Data

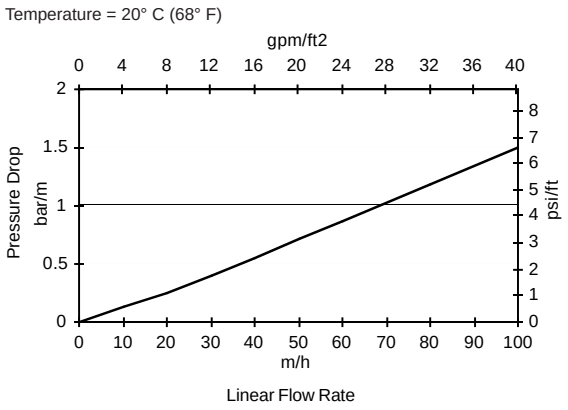


For other temperatures use:

$F_T = F_{77°F}\,[1 + 0.008\,(T_{°F} - 77)]$, where F ≡ gpm/ft^2

$F_T = F_{25°C}\,[1 + 0.008\,(1.8T_{°C} - 45)]$, where F ≡ m/h

Figure 2. Pressure Drop Data



For other temperatures use:

$P_T = P_{20°C}\,/(0.026\,T_{°C} + 0.48)$, where P ≡ bar/m

$P_T = P_{68°F}\,/(0.014\,T_{°F} + 0.05)$, where P ≡ psi/ft

Note: These resins may be subject to drinking water application restrictions in some countries: please check the application status before use and sale.

DOWEX™ Ion Exchange Resins
For more information about DOWEX resins, call the Dow Water Solutions business:

North America:	1-800-447-4369
Latin America:	(+55) 11-5188-9222
Europe:	(+32) 3-450-2240
Pacific:	+60 3 7958 3392
Japan:	+813 5460 2100
China:	+86 21 2301 9000