



# DOWEX MARATHON A LB

**A Uniform Particle Size, Strong Base Anion Exchange Resin Specifically Designed for Layered Bed Applications**

Product	Type	Matrix	Functional group
DOWEX* MARATHON* A LB	Type 1 strong base anion	Styrene-DVB, gel	Quaternary amine

Guaranteed Sales Specifications		Cl <sup>-</sup> form
Total exchange capacity, min.	eq/l	1.3
	kgr/ft <sup>3</sup> as CaCO <sub>3</sub>	28.4
Water content	%	48 - 55
Uniformity coefficient, max.		1.1

Typical Physical and Chemical Properties		Cl <sup>-</sup> form
Mean particle size <sup>†</sup>	µm	650 ± 50
Whole uncracked beads	%	95 - 100
Total swelling (Cl <sup>-</sup> → OH <sup>-</sup> )	%	20
Particle density	g/ml	1.09
Shipping weight	g/l	690
	lbs/ft <sup>3</sup>	43

Recommended Operating Conditions	
Maximum operating temperature:	
OH <sup>-</sup> form	60°C (140°F)
Cl <sup>-</sup> form	100°C (212°F)
pH range	0-14
Bed depth, min.	760 mm (2.5 ft)
Flow rates:	
Service/fast rinse	5-60 m/h (2-24 gpm/ft <sup>2</sup> )
Regeneration/displacement rinse	4-10 m/h (1.6-4 gpm/ft <sup>2</sup> )
Total rinse requirement	3-5 Bed volumes
Regenerant:	
Type	2-4% NaOH
Organic loading, max.	3 g KMnO <sub>4</sub> /l resin

<sup>†</sup>For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 177-01775/CH 171-476-E).

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# DOWEX Ion Exchange Resins

For more information about DOWEX resins,  
call Dow Liquid Separations business:

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Australia . . . . . (+61) 2-9776-3226  
<http://www.dow.com/liquidseps>

## Typical properties and applications:

DOWEX\* MARATHON\* A LB strong base anion resin is a uniform particle size resin designed specifically for use in layered anion beds. It is sized roughly 75 microns larger than standard DOWEX MARATHON A

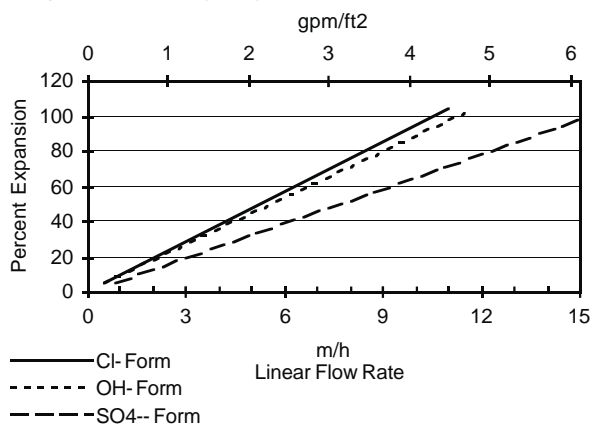
resin. When used with DOWEX MARATHON WBA weak base anion resin, the differences in densities and size ensure the resins maintain excellent separation.

## Packaging

25 liter bags or 5 cubic feet fiber drums.

**Figure 1. Backwash Expansion Data**

Temperature = 25° C (77° F)



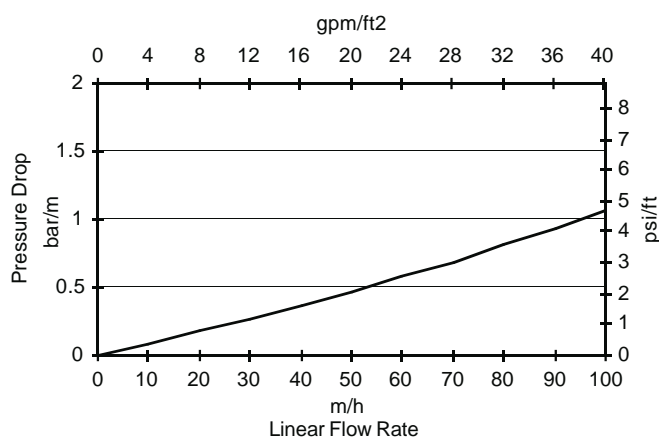
## For other temperatures use:

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

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

**Figure 2. Pressure Drop Data**

Temperature = 20° C (68° F)



## For other temperatures use:

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

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

**Warning:** Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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