

DOWEX MONOSPHERE 550A (OH)

A Uniform Particle Size Strong Base Anion Exchange Resin for Mixed Bed Demineralization and Condensate Polishing Applications

Product	Type	Matrix	Functional group
DOWEX* MONOSPHERE* 550A (OH)	Type 1 strong base anion	Styrene-DVB gel	Quaternary amine

Guaranteed Sales Specifications		OH ⁻ form		
Total exchange capacity, min.		eq/L	1.1	
		kg/ft ³ as CaCO ₃	24.0	
Water content		%	55 – 65	
Bead size distribution ¹				
Mean particle size		µm	590 ± 50	
Uniformity coefficient, max.			1.1	
> 850 µm, max.		%	5	
< 300 µm, max.		%	0.5	
Whole uncracked beads, min.		%	95	
Crush strength				
Average, min.		g/bead	350	
> 200 g/bead, min.		%	95	
Ionic conversion	OH ⁻ 93% min.	Cl ⁻ 0.5% max.	CO ₃ ²⁻ 7% max.	
Trace metals, ppm dry resin, max.				
Na	Fe	Cu	Al	Heavy metals (as Pb)
50	80	40	40	20

Typical Physical and Chemical Properties

Total swelling (Cl ⁻ → OH ⁻)	%	25
Particle density	g/mL	1.08
Shipping weight	g/L lbs/ft ³	657 41

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.	450 mm (1.5 ft)
	• Flow rates:	
	Service/fast rinse	5-60 m/h (2-24 gpm/ft ²)
	Service/condensate polishing	40-150 m/h (16-60 gpm/ft ²)
	Backwash	See figure 1
	Co-current regeneration/displacement rinse	1-10 m/h (0.4-4 gpm /ft ²)
• Total rinse requirement	2-5 Bed volumes	
• Regenerant:		
Type	4-8% NaOH	
Temperature	Ambient or up to 60°C (140°F) for silica removal	

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LENNTECH, WATER TREATMENT AND AIR purification

Rotterdamseweg 402M, 2629HH Delft, The Netherlands

Tel: +31(0)152610900 / Fax: +31(0)152616289

info@lenntech.com / <http://www.lenntech.com>

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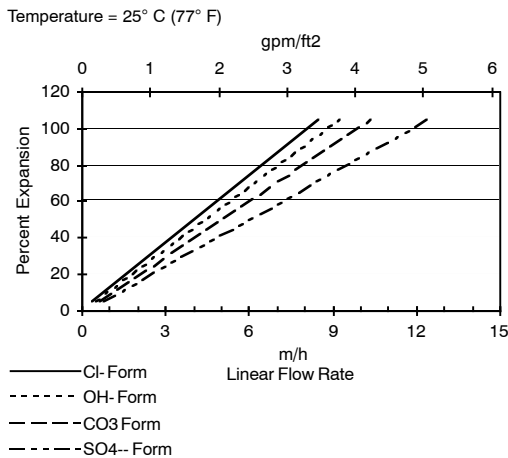
Typical properties and applications

DOWEX MONOSPHERE 550A (OH) anion resin is a premium quality resin with high total exchange capacity, exceptional bead integrity and a distinguishable light color. It is ideally suited to the high flow rate demands commonly encountered in power plant condensate polishing systems. The bead size uniformity of this anion resin and its smaller average particle size results in rapid exchange kinetics and helps provide excellent separability when used with DOWEX MONOSPHERE 650C (H) cation resin.

Packaging

25 liter bags or 5 cubic feet fiber drums

Figure 1. Backwash Expansion Data

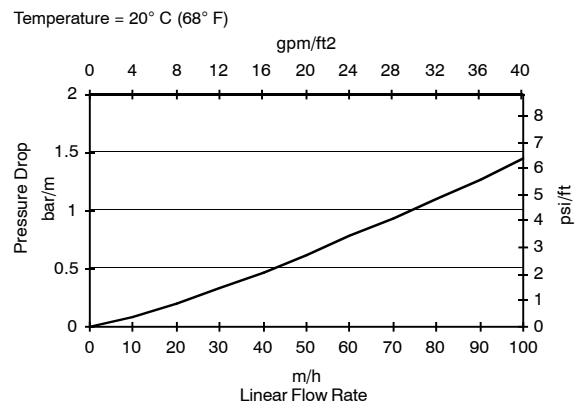


For other temperatures use:

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

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

Figure 2. Pressure Drop Data



For other temperatures use:

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

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

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