



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 kgr/ft ³ as CaCO ₃	1.1 24.0	
Water content		%	55 – 65	
Bead size distribution [†]				
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 ⁻ 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/ft²)
 - Service/condensate polishing 40-150 m/h (16-60 gpm/ft²)
 - Backwash See figure 1
 - Co-current regeneration/displacement rinse 1-10 m/h (0.4-4 gpm /ft²)
- Total rinse requirement 2-5 Bed volumes
- Regenerant:
 - Type 4-8% NaOH
 - Temperature Ambient or up to 60°C (140°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 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

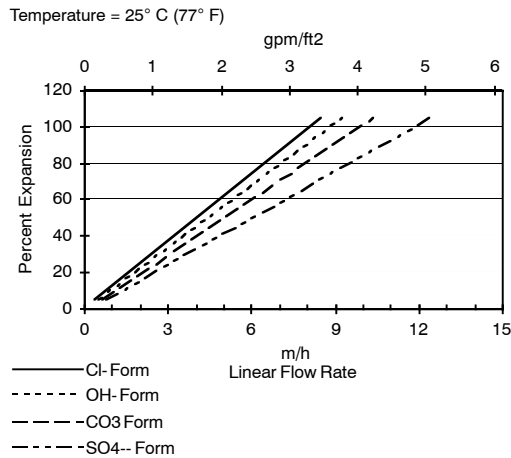
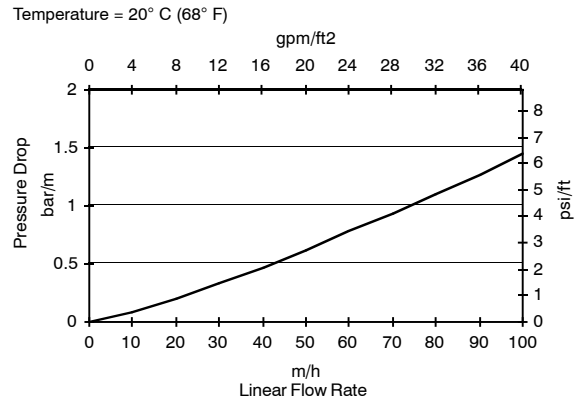


Figure 2. Pressure Drop Data



For other temperatures use:

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

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

For other temperatures use:

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

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

DOWEX Ion Exchange Resins

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

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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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