# DOWEX MONOSPHERE 550A (OH)

## A Uniform Particle Size Strong Base Anion Exchange Resin for Mixed Bed Demineralization & 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 |
| | $kgr/ft^3$ as $CaCO_3$ | 24.0 |
| Water content | % | 55 - 65 |
| Bead size distribution† | | |
| Mean particle size | µm | 590 ± 50 |
| Uniformity coefficient, max. | | 1.1 |
| >850µ,max. | % | 5 |
| <300µ, max | % | 0.5 |
| Whole uncracked beads, min. | % | 95 |
| Crush strength | | |
| Average, min. | g/bead | 350 |
| >200 g/bead, min. | % | 95 |

| Ionic conversion | $OH^-$ | $Cl^-$ | $CO_3^-$ |
|---|---|---|---|
| | 93% min. | 0.5% max. | 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 | | |
|---|---|---|
| Particle density | g/ml | 1.08 |
| Shipping weight | g/l | 640 |
| | $lbs/ft^3$ | 40 |
| Total swelling ($Cl^- \rightarrow OH^-$) | % | 25 |

| 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 |

†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:
North America . . . . . .1-800-447-4369
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Europe . . . . . .(+32) 3-450-2240
Japan . . . . . .(+81) 3-5460-2100
Australia . . . . . .(+61) 2-9776-3226
http://www.dowex.com

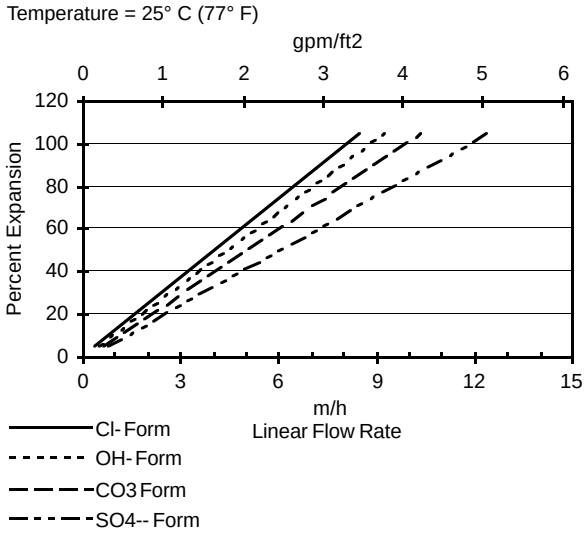
## Typical properties and applications:

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.

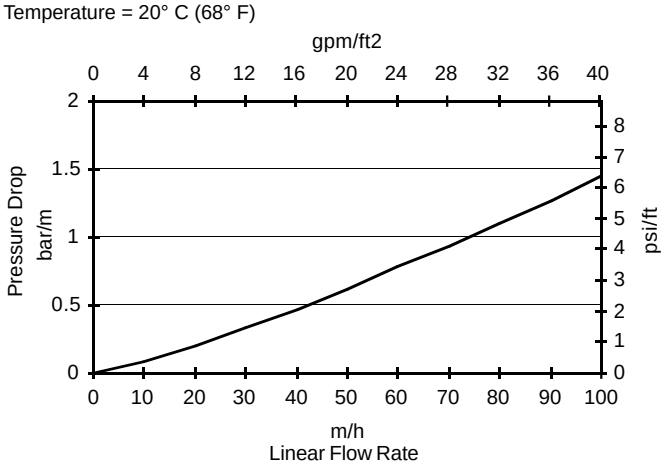
### Packaging

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)], where F ≡ gpm/ft$^2$
$F_T = F_{25°C}$ [1+ 0.008 (1.8$T_{°C}$ - 45)], where F ≡ m/h

### 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

**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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