



## DOWEX™ HCR-S/S

A High Capacity Cation Exchange Resin for Domestic Applications

| Product        | Type               | Matrix           | Functional group |
|----------------|--------------------|------------------|------------------|
| DOWEX™ HCR-S/S | Strong acid cation | Styrene-DVB, gel | Sulfonic acid    |

| Guaranteed Sales Specifications |  | Na <sup>+</sup> form |
|---------------------------------|--|----------------------|
| Total exchange capacity, min.   | eq/L<br>kgr/ft <sup>3</sup> as CaCO <sub>3</sub> | 1.9<br>41.5          |
| Bead size distribution range†   |  |                      |
| 300 - 1,200 μm, min.            | %  | 90                   |
| < 300 μm, max.                  | %  | 1                    |
| Whole uncracked beads, min.     | %  | 90                   |
| Color throw, as packaged, max.  | APHA   | 20                   |
| Acidity range                   | pH   | 7.0 - 10.5           |

| Typical Physical and Chemical Properties             |                            | Na <sup>+</sup> form |
|--|----------------------------|----------------------|
| Water content  | %                          | 48 - 52              |
| Total swelling (Ca <sup>++</sup> → Na <sup>+</sup> ) | %                          | 5                    |
| Particle density                                     | g/mL                       | 1.30                 |
| Shipping weight                                      | g/L<br>lbs/ft <sup>3</sup> | 800<br>50            |

|  |  |  |
|--|--|--|
| Recommended<br>Operating<br>Conditions | • Maximum operating temperature            | 120°C (250°F)                              |
|  | • pH range                                 | 0 - 14                                     |
|  | • Bed depth, min.                          | 800 mm (2.6 ft)                            |
|  | • Flow rates:                              |  |
|  | Service/fast rinse                         | 5 - 50 m/h (2 - 20 gpm/ft <sup>2</sup> )   |
|  | Backwash                                   | See Figure 1                               |
|  | Co-current regeneration/displacement rinse | 1 - 10 m/h (0.4 - 4 gpm /ft <sup>2</sup> ) |
| • Total rinse requirement              | 3 - 6 Bed volumes                          |  |
| • Regenerant:                          | 8 - 12% NaCl                               |  |

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

## Typical Properties and Applications

DOWEX™ HCR-S/S cation exchange resin is a high capacity resin with excellent kinetics and good physical, chemical and thermal stability. DOWEX HCR-S/S is used for domestic applications in the co-current mode of regeneration. For counter-current regeneration, DOWEX HCR-S/S CR is available.

## Packaging

25 liter bags or 1 cubic foot bags

Figure 1. Backwash Expansion Data

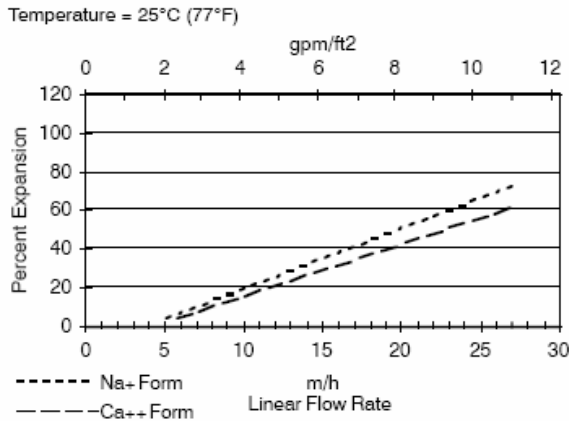
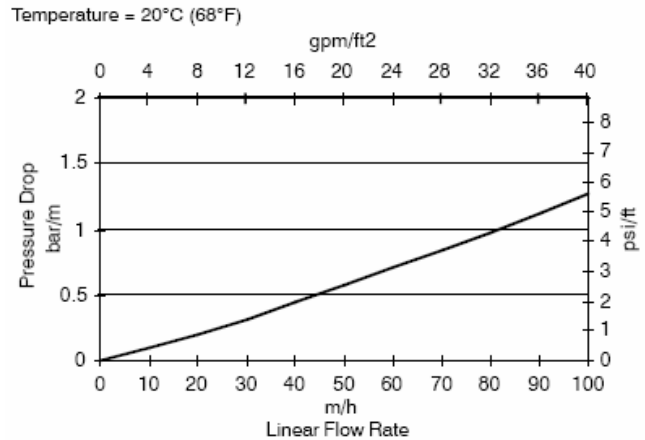


Figure 2. Pressure Drop Data



### 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:

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

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

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:

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<http://www.dowex.com>

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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