



XUS 43600.00 Chelating Resin

Selective for Platinum Group Metals

Product	Type	Matrix	Functional group
XUS 43600.00	Chelating resin	Styrene-DVB, macroporous	Thiouonium

Typical Physical and Chemical Properties

Total exchange capacity, min.	eq/L	0.7
Water content	%	42 - 65
Bead size distribution		
Volume median diameter	µm	500 - 650
400 - 720 µm, min.	%	95
Particle density	g/mL	1.06
Shipping weight**	g/L	675
	lbs/ft ³	42

Recommended Operating Conditions

- Maximum operating temperature (OH⁻) 60°C (140°F)
- pH range 0 - 7
- Bed depth, min. 910 mm (3 ft)
- Flow rates:
 Service 2 - 12 bed volumes/hour
 Backwash See Figure 1
- Regenerant 7 - 15% thiourea in 7 - 15% HCl or pyrolytic destruction to recover the metal

** As per the backwashed and settled density of the resin, determined by ASTM D-2187.

Typical Properties and Applications

XUS 43600.00 is a thiuronium functionalized chelating resin that is very selective for platinum group metals. The product is made using a Dow-patented process which produces beads with remarkable size uniformity. It is high capacity with excellent physical strength.

XUS 43600.00 chelating resin is highly selective for platinum group metals and can be used in hydrometallurgical mining, metal scavenging and chemical processing. Metal loading of as much as 10 to 12 oz. per cubic foot have been reported. The resin can be regenerated with 7 to 15% thiourea in 7 to 15% HCl. The resin is not stable in alkaline conditions as the urea group will hydrolyze. Due to the high loading capacity of XUS 43600, it can be economical to recover the metal by pyrolytic destruction. For more details on this process see ["DOWEX™ Ion Exchange Resins in the Recovery of Precious Metal from Acidic Halogen Leach Liquors \(364KB PDF\)."](#)

Packaging

25 liter bags, 5 cubic foot fiber drums or 1 cubic meter super sacks

Figure 1. Backwash Expansion Data

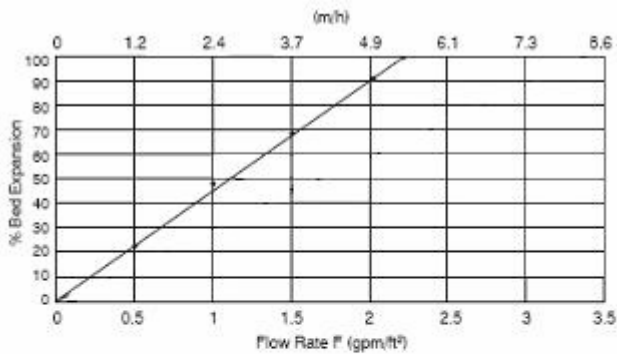
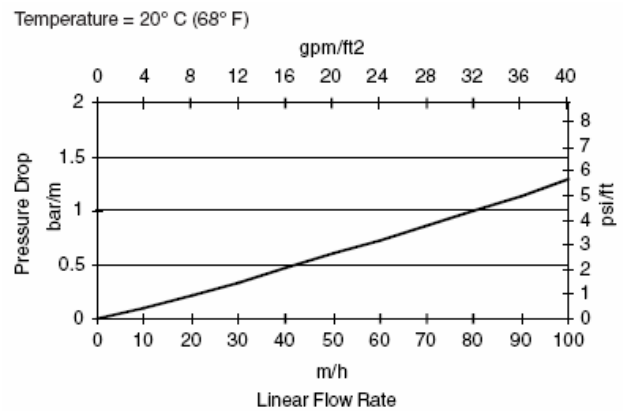


Figure 2. Pressure Drop Data



For other temperatures use:

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

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

For other temperatures use:

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

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

Dow Ion Exchange Resins

For more information about ion exchange resins, call the Dow Water Solutions 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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