



C-160

Macroporous Strong Acid Cation-Exchange Resin

(For treatment of condensate and process solutions)

Technical Data

PRODUCT DESCRIPTION

Purolite C-160 is a macroporous poly(styrene sulphonate) cation-exchanger designed to withstand conditions of considerable thermal, osmotic, and mechanical stress such as those found in ion-exchange treatment of condensate, aqueous solutions of glycerol, glycols, sugar alcohols, and other polyhydroxy organic compounds. Such treatment includes softening, catalysis, heavy metal removal, and various deionizing procedures. In the Quentin process, for example, in which sugar solutions of around 70° Brix are used, at high temperatures (60-70°C), its sponge-like structure permits higher rates of diffusion of the complex nitrogenous materials taken up by the strong-acid resin during demineralization, and facilitates their removal on regeneration. **Purolite C-160** is also used in the ammonium form for partial demineralization of concentrate syrups, and in the Gryllus process, both of which require a resin of superior resistance to thermal and osmotic shock. However, for use with the high viscosities normally encountered during the processing of sucrose, the more closely-graded version, **Purolite C-160S** is normally recommended.

It is well suited to the selective removal of heavy metals where it offers usefully high selectivity combined with fast kinetics. The specially treated **Nuclear Grade** form is recommended for treatment of radioactive waste.

Typical Chemical and Physical Characteristics

Polymer Structure	Macroporous polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Groups	Sulphonic acid
Ionic Form - as shipped	Sodium - Na ⁺
Total Capacity (Na ⁺ Form)	2.4 eq/l min
Moisture Retention (Na ⁺ Form)	35-40%
Bead Size Range (microns)	+1200 <5%, -300 <1%
Screen Size Range (U.S. Standard Screen)	16-50 mesh
Reversible Swelling (Na ⁺ @ H ⁺)	4%
Specific Gravity (Na ⁺ Form)	1.30
Shipping Weight	820-860 kg/m ³ (51-54 lb/ft ³)
Temperature Limit (Na ⁺ Form)	140°C (285°F)
(H ⁺ Form)	120°C (250°F)
pH Limits	None