
Shallow Shell™ Technology – Ion Exchange Innovation for Improved Industrial Water and Process Applications

Shallow Shell™ Technology

Purolite's Shallow Shell technology—or SST®—is designed to improve softening and demineralization performance. Our R&D and manufacturing teams perfected an advanced resin bead structure to increase regeneration efficiency, reduce leakage and fouling, and conserve rinse and dilution water so that systems run better, with less expense and enhanced performance.

How it is Different

For all resin beads to work, they need to be activated. Our exclusive process leaves the center of each SST bead inactive. This eliminates the sites that take the longest to exchange, are the most difficult to regenerate, and are the most susceptible to fouling.

Why it is Better

SST resins deliver better throughput with reduced chemical regenerant usage and minimal leakage. Each bead features a uniform depth of functionality, so all beads react at the same rate for consistent performance. The Shallow Shell Technology structure shortens the diffusion path and creates more rapid ion exchange. The beads also resist osmotic shock, which extends the life of the resin.

Resin Type and System Compatibility

SST cation resins effectively reduce fouling and leakage from Ca, Mg, Fe, Ba, and Sr, while SST anion resins greatly minimize organic fouling and silica leakage.

The technology is compatible with co-flow, counter-flow and packed bed systems, improving economic and process results for softening and demineralization applications.

Key Advantages

- Requires 15% less regenerant chemicals to achieve equal or better operating performance
- Provides up to 50% savings in rinse and dilution water
- Reduces leakage by over 20% at same regenerant dosage as traditional resin
- Suitable for co-flow, counter-flow and packed bed systems
- Supports ISO 14001:2004 initiatives toward environmental management and impact; uses less chemical regenerant and generates less waste

Watch the video to learn how Shallow Shell Technology works at www.bit.ly/purolite



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A leader in ion exchange and resin technology—and one of the world's largest developers and manufacturers of quality softening and demineralizing resins, adsorbents, catalysts, and specialty high-performance ion exchange products—our global sales force is the largest and most knowledgeable in the industry.

We're ready to solve your most complex process challenges. For further information on Purolite® products and services, visit Purolite.com or contact your nearest Technical Sales Office.

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