

Is Particulate Fouling Limiting Your Resin Performance?

Ion exchange systems are designed to deliver high-efficiency water treatment—but only when conditions remain ideal. In real-world operations, **resin fouling, mechanical issues, and poor feedwater quality** can significantly impact system performance. One of the most common and often overlooked threats? **Particulate fouling**.

When feedwater contains high levels of suspended solids, those solids can accumulate within the resin bed. The resin—while designed for ion exchange—acts like a filter and begins to trap particulates inside its structure. Over time, this can lead to major system disruptions.

What Happens When Particulates Accumulate?

Without regular monitoring and cleaning, particulate fouling can result in:

1. Channeling

As particulates block pathways in the resin bed, water begins to flow through specific “channels” instead of evenly across the entire bed. This reduces effective contact with the resin, lowering ion exchange efficiency.

2. High Differential Pressure

Clogged resin beds restrict flow, which increases pressure across the vessel. To prevent equipment damage or exceedance of pressure limits, operators often reduce flow rates—**leading to decreased water output**.

3. Poor Regenerations

If fouling prevents regenerant chemicals from fully contacting the resin, only portions of the bed are regenerated. This leads to inconsistent water quality, lower resin capacity, and **shortened resin life**.



How to Detect It: Resin Sampling & Lab Testing

The best way to catch particulate fouling early is through **regular resin sampling and lab analysis**. RTI offers a full-service in-house resin lab that specializes in:

- Testing resin condition
- Identifying the presence of particulate contamination
- Assessing capacity and fouling levels
- Recommending a cleaning or replacement plan

Our reports provide a clear diagnosis and give operators the data they need to make informed decisions.



The RTI Solution: Resin Cleaning That Works

If particulate fouling is confirmed, there's no need to replace your resin immediately. **RTI offers patented cleaning protocols** that remove particulates and restore resin performance.

Our cleaning process:

- Is tailored to your specific resin type (cation, anion, or mixed bed)
 - Removes fouling without damaging the resin structure
 - Can be performed on-site or off-site
 - Helps extend resin life and **reduce operational costs**
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Benefits of Working with RTI

Choosing RTI means you get more than just a cleaning service. You get a partner in long-term system performance:

- **Fast turnaround** on lab testing
 - **Expert diagnosis** from experienced technicians
 - **Proven cleaning results** that restore flow and capacity
 - **Cost-effective maintenance** that avoids premature resin replacement
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Serving Industrial Water Systems Across Industries

RTI supports water treatment systems in:

- Power generation
- Chemical manufacturing
- Food & beverage processing
- Pulp and paper production
- Municipal and industrial water treatment



Need Help With Your Resin System?

If you're seeing drops in flow, higher pressure across vessels, or poor regeneration results—**particulate fouling may be the cause.**

Contact RTI today to request a resin test kit, schedule a cleaning, or speak with a technician.



Call us: 215-682-7099



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