The STRAINRITE Companies World Class Filtration

Achieving Crystal Clarity for a Next-Generation Chemical Coating—How Strainrite Glass Media Solved a Persistent Haze Challenge for a Growing Industrial Customer

CASE STUDY

Background

A leading industrial coatings manufacturer developing an innovative isopropyl alcohol-based product required absolute optical clarity in their formulation—a necessity for performance and visual quality. During lab-scale development, an unexpected haze threatened the launch, prompting a search for a reliable filtration partner.

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The Challenge

- **Hazy Product:** Lab-scale batches developed a visible haze after blending, adversely affecting the amber product's clarity.
- **Root Cause:** The haze was identified as suspended salts, primarily 1–5 microns in size.

EARLY ATTEMPTS

► **1 µm disc filters**: Only moderate haze reduction; media type unknown.

► **1 µm Meissner polypropylene capsule:** Also moderate success.

► **0.2 µm Meissner polypropylene capsule:** Improved, but still not perfect. Filtration was slow and problematic due to high media volume relative to batch size.

Laboratory Bottleneck: Even with finer filtration, end users struggled to achieve the required combination of throughput and clarity.

The Strainrite Solution

When the pilot plant team was consulted, Strainrite's filtration specialists drew on experience with salt removal and recommended a shift away from polypropylene—as commonly used by competitors—toward **glass fiber media**.

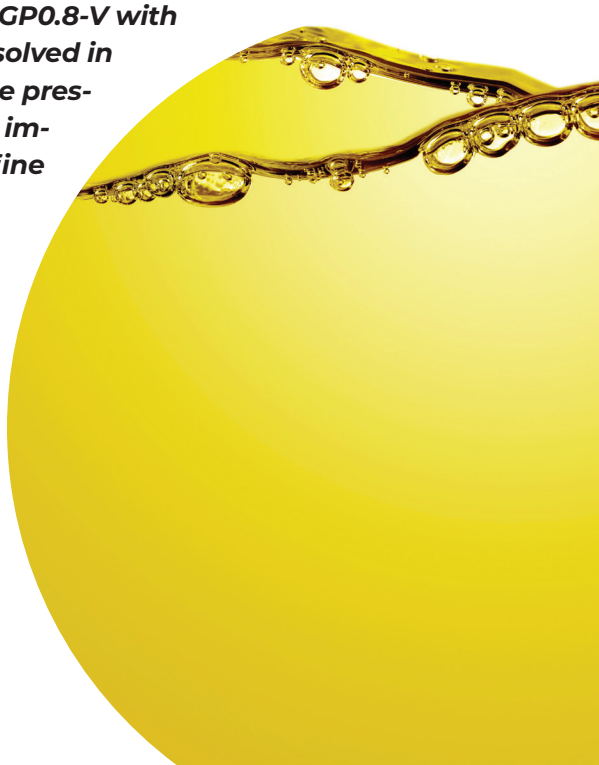
KEY STEPS

- Proposed the Strainrite **MCP5D101GP0.8S** capsule filter (glass pleat P 0.8 µm glass media).
- Laboratory trial conducted using a **MAXX-Cap** with glass pleat 0.8 media.

RESULTS

The customer's words say it all:

"I finished a filtering trial using the MAXX-Cap MCP5DO0GP0.8-V with great success!!! I filtered 4.5 kg of the solid material (dissolved in IPA/Water to 58% solids) through the filter with ease. The pressure required was less than 10 psi and the flow was very impressive. Material came out crystal clear indicating the fine solid was completely filtered out."



HIGHLIGHTS

- **Outstanding Clarity:** All visible haze removed; final product crystal clear.
- **Efficient Throughput:** Low pressure (<10 psi) with high flow rates—significantly better than previous attempts.
- **Operator Satisfaction:** Simple set-up, no blockage, and minimized handling for small-scale lab batches.

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From Lab to Production: Scalable Success

- **Pilot Plant Adoption:** Based on expected flow rate, size of application we moved from a lab-scale single use MAXX-Cap to a Large Diameter Madd MAXX GF cartridge. while still using the same media. Mad-MAXX GF while using the same 0.8 micron media that was trialled with the Maxx Cap Glass Pleat capsule.
- **Full Production:** With commercial launch, two coating lines are operating in parallel, each equipped with duplexed #1 size housings and Strainrite Mad-MAXX GF 0.8 filters.

MAXX-Cap & MADD-MAXX GF Filter

Commercial Impact

- **Problem Solved:** Glass media succeeded where poly propylene failed—delivering not only technical perfor mance, but also faster batch times and reliable scale-up.
- **Partnership Value:** Strainrite's expertise enabled rapid troubleshooting, minimized development delays, and helped the customer bring a new product to market with confidence.

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