

Engineering Services

The Big-Picture Advantage for Fluids Testing and Consultation Services



Houghton International: the only supplier that brings you full knowledge of metallurgy, chemistry, fluid technology, manufacturing processes, sustainability and specialized waste treatment.

We understand our customer's needs so we can join forces with your team to tackle tough problems and find new ways to cut costs, increase production, enhance quality, reduce waste, and protect equipment from wear and tear. Houghton's full-service chemistry and engineering labs work together to analyze individual customer needs. Then we recommend fluid technologies, process changes, even equipment upgrades...all of which address the many variables at work in your plant. By looking at the big picture – the complete picture – Houghton delivers what others cannot: a BIG solution.

Process Fluid Management

Process fluid management optimizes the fluids used to make metal parts. Metalworking fluids may be washer fluids or cutting fluids such as coolants and lubricants. Process fluid management can be accomplished by improved engineering methods and/or by specialized equipment to assist in process optimization.

So why use Houghton? Our engineering team has over 90 years of experience in metalworking fluid optimization, as well as several patents to prove our unique offerings.

We also have the expertise of more than fifty chemists and scientists to work through even the most challenging issues.

- System filtration (vacuum, media and pressure types)
- Tramp oil removal (skimming, coalescing and centrifuging)
- Base chemical recovery and recycling (MVR chemical recovery)

Engineering Lab Services

Do you have a wastewater treatment system that is not operating correctly? Are you planning to change fluids and/or processes? Are you unsure how this will impact the function and operating cost of your current wastewater treatment system? We have the personnel, equipment and laboratory capabilities to evaluate your processes. We can also arrange for on-site testing of certain processes. Please contact us for more details.

- Process design validation – Houghton can perform UF compatibility testing to determine if an ultra-filter is feasible for an application or if an ultra-filter will foul a membrane. Houghton can also perform testing to determine if an MVR or evaporator is feasible for a specific site by simulating full-scale systems.
- Modeling and treatability studies – Houghton can provide UF and MVR testing, wastewater treatment comparisons, environmental compliance testing, and physical/chemical testing of filtration systems. This includes filter media comparisons and oxidation and electro-chemical oxidation tests.



Fluid Partnerships Making a World of Difference

Engineering Plant and Process Design

When you are building a new manufacturing or processing plant that uses industrial fluids, Houghton makes the perfect fluid technology consultation partner.

Houghton's engineers keep up with the latest trends in chemical manufacturing processes that are involved with making metal parts. Using state-of-the-industry technology in the first place can save more money than attempting to retrofit an inadequate design.

- Master planning – Houghton can provide building layouts and recommend sustainable green chemistry, process and instrumentation development, cradle-to-grave fluid management, and fluid storage and distribution.
- Process consulting – Houghton can provide waste stream analysis, forensic waste studies, replacement chemical studies, process improvement techniques, process cost analysis and facility upgrade recommendations.
- Process control and automation – Houghton can recommend how best to integrate your fluid process and wastewater treatment systems.

Water and Wastewater Management

Houghton offers a complete water and wastewater management service, including engineering concepts, design drawings, bid documents and equipment. This can be a basic equipment specification or a full turnkey installation of a wastewater treatment system. No job is too big or too small, so we can benefit both large and small companies alike.



HOUGHTON

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- Purified water production (reverse osmosis and deionizing equipment)
- Industrial wastewater treatment (mechanical vapor recompression [MVR], ultrafiltration [UF], chemical treatment, oxidation and biological treatment)
- Process water recycling/zero discharge (MVR/UF/Recycle) U.S. Patent Number 8,460,553
- Oil separation and recovery (MVR and/or UF, decanting systems and chemical treatment)

Non-Fluid Process Management

Did you know that significant volumes of metalworking fluids are lost to wet metal chips? Did you also know that your metal chips lose scrap value due to moisture content? Did you know that stringy chip bundles have less value than small chips? Further processing your chips will save money in recovered metalworking fluids, produce dryer chips, and result in denser metal wastes. Houghton can help you save money by providing engineering support in the following areas – briquetting, chip processing/ crushing, and filtration/swarf separation.

