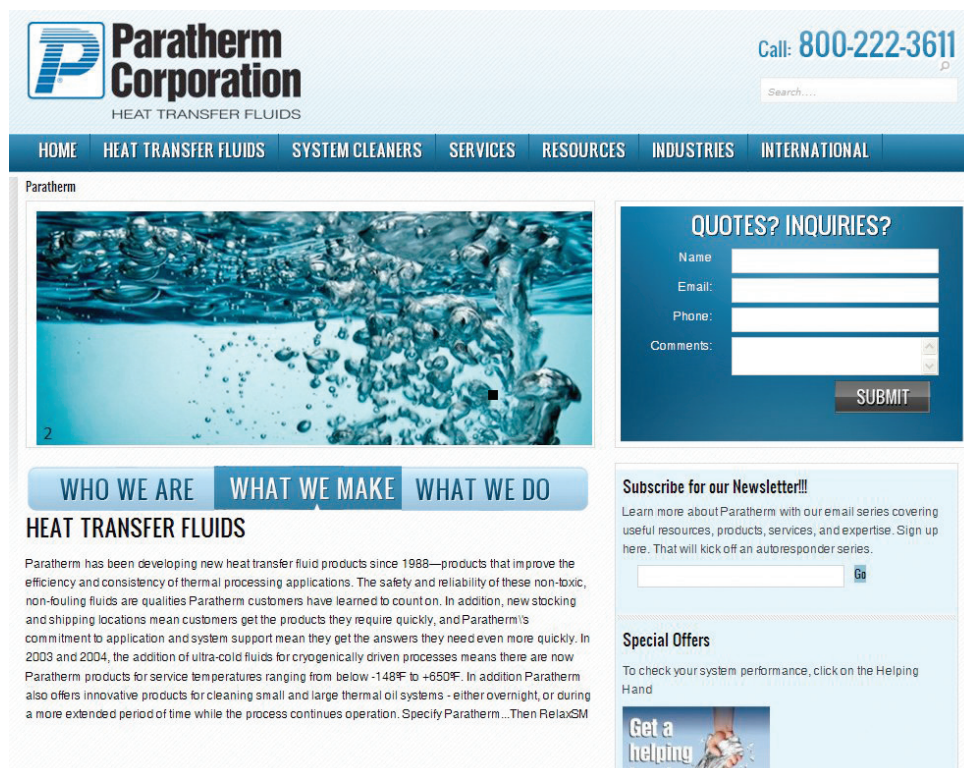


Introducing the New Paratherm Website!

The new design of the Paratherm website improves user interactivity and increases availability of the technical content.

Even before joining the world wide web in 1996, Paratherm believed in an educational, informational approach to its audience of engineers, plant managers, and maintenance professionals.

Paratherm's Technical Data Sheets, a series of one-to two-page articles covering important aspects in the operation, maintenance, and design of hot-oil temperature control systems, were routinely sent via postal mail in response to product inquiries and sales leads. Many hot-oil system users relied on this advice, whether they became Paratherm customers or not.



Information is easier to find

"At the core of our beliefs is education," says John Fuhr, President and CEO of Paratherm. "Not many fluid manufacturers have invested in technical expertise and customer training the way we have. Our Technical Data Sheets are one example."

Still evolving, those datasheets have been revised and expanded. They have been reformatted as web pages and PDF files. They still form the heart of information Paratherm shares with hot-oil system users throughout the world — only now, the sharing is more often electronic, via direct download on the web, or through email subscriptions.

Paratherm's Technical Data Sheets, now over 20 in number, are still available in our new website, in the Resources section.

The redesign, at www.paratherm.com, modernized the look and feel of the website, last updated in 2003. "Web users, as well as search engines, have evolved over the past nine years," says Andy Andrews, Paratherm's Marketing Manager, who is overseeing the new design. "The challenge now is to make all the information easier to use and to find, both for the human using the CPU/Browser interface, and for the indexing functions of search engines such as Google."

Improved interactivity for the user was also a major objective in the redesign process.

"It's no longer sufficient to expect a web visitor to feel satisfied with a one-way process, reading the web contact and then reacting accordingly, perhaps with a phone call, or an email," says Andrews. "These days, internet users expect options, choices in how they receive information, and how they might respond. So we built in handles for these functions. Our web visitors can subscribe to receive, for example, our User's Guide technical data sheets, in regular installments via email."

Yes, those same Technical Data Sheets mentioned above, as forming the heart of Paratherm's educational information, dating *continued on page 3*

Troubleshooting specific applications

In the December 2011 issue of Chemical Engineering Magazine, Paratherm's director of Technology, Jim Oetinger, wrote a feature article about troubleshooting specific applications using indirect-heating systems and heat transfer fluids. (Our working title for the article was "Anatomy of a Heat Transfer Fluid Analysis, but the editors went all-engineer on us and titled the piece "Troubleshooting Heat Transfer Fluid Systems."

The article covered, in some detail, five actual cases where we had performed fluid analysis on working systems, found issues, identified "culprits", and suggested solutions;

- A large facility where production had decreased. The thermal fluid sample, extracted at operating temperature, was nearly solid at room temperature
- A chemical plant where a vacuum reactor was taking too long to heat. It was due to a faulty sensor.
- A poultry processor suffered reduced throughput from a continuous convection oven. Fluid analysis was normal, but further investigation revealed a coil blockage problem.
- Pressure fluctuations in another chemical facility, where fluid deterioration was suspected, turned out to be due to a far more common villain.
- A hot-roll calendaring operation was experiencing repeated seal failures on rotating joints. Forensic persistence found high iron content in the suspended material in the fluid analysis.



Jim Oetinger,
Director of Technology

Jim has over 30 years experience in the chemical and plastics industries. He has been involved with a wide range of products and processes including pigments, refrigerants, consumer plastic recycling, polymer compounding, process instrumentation and spray dried polymers. In addition, Oetinger has over 20 years of experience in sales, marketing, and technical support of thermal fluids. Jim has authored articles on thermal fluid and system troubleshooting for Process Heating, Chemical Engineering Progress, Plastics Technology and Die Cast Management. A member of the Delaware Valley Chapter of the American Institute of Chemical Engineers, he holds a Chemical Engineering degree from Clarkson University and a Masters of Management degree from Northwestern University.

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CHEMICAL ENGINEERING
www.che.com
Electronically reprinted from December 2011

HEAT-TRANSFER SYSTEM DESIGN & TROUBLESHOOTING

Troubleshooting Heat-Transfer Fluid Systems

Real examples demonstrate how to analyze problems in heat transfer systems. The culprit is oftentimes not the thermal fluid

Jim Oetinger
Paratherm Corp.

Part 2

FIGURE 1. A very high viscosity thermal fluid can be a reason for failure of a heat-transfer system

Articles about thermal fluid systems often start with a variation of the statement that "thermal fluid systems typically require little ongoing maintenance for the first few years of operation" and then go on to extol the various advantages of indirect thermal-fluid process heating over competitive heating methods, such as direct heat, steam and so on. The corollary to that statement, however, is that by the time there is a problem, the operating personnel that were trained on the system have moved on, been reassigned or promoted. As a result, when things do go wrong, the guessing begins. And, unless there is an obvious cause like a geyser from the expansion-tank vent or a pump that sounds like it's moving ball bearings, someone will likely blame the thermal fluid for the problem.

There are several problems that seem to occur with some frequency. This article reviews a number of real examples and describes how the symptoms can be misinterpreted. The suspected fluid properties and the testing procedures necessary to determine which of the fluid properties (if any) is responsible for the problem are examined (Figure 1). Finally, recommended corrective actions are proposed.

Decrease in production rates
The following three examples explore production-rate problems, with the analyses and findings that resulted. A simple flowchart that can help in this type of analysis is given in Figure 2.

Example 1: A large facility experienced reduced productivity from its thermal fluid system that was operating at 450°F. The heater outlet temperature was increased to maintain throughput on several pieces of equipment, but the process was still losing ground. (Note: this is an excellent reason to log the heater outlet temperature so that you know when changes started, should you have a problem.) Previous test results had indicated the presence of carbon sludge in the fluid, so plans were made to activate a sidestream filter to remove the carbon. Before the plan was implemented, however, a sample of thermal fluid was taken that immediately identified the problem.

The fluid property that has the greatest effect on heat transfer rates is viscosity. Because the fluid heat-transfer coefficient (which controls the rate of heat transfer between the heat exchange surface and the fluid) is only one element of the overall heat-transfer coefficient, changes in the viscosity at elevated temperature (350°F or more) have to be significant (on the order of 200%) to cause a noticeable change in system performance. In this case, the problem was obvious and required no testing—a sample that was extracted at operating temperature went almost solid when it cooled. This put the fluid well above the 200% threshold.

Example 2: A chemical plant requested a sample kit to test its thermal fluid because one of its vacuum reactors was taking too long to heat. Even though the fluid had been in the system for many years and had recently been tested, it was assumed that the fluid must have gone "bad." This situation is probably one of the more common scenarios for heat transfer systems. The problem comes to light when someone realizes that the heater temperature has to be increased to keep production on schedule. In this case, the evidence against the fluid was further strengthened by the relatively "normal" heater pressure and temperature readings. This prompted the request for the sample kit and a quotation for a complete fluid change-out. While the latter course of action is appealing to the fluid supplier, it was unlikely to solve the problem since the problem wasn't the fluid.

The overriding evidence in this specific situation was that there had been no maintenance required on the system since the fluid had been tested. Fluid had not been removed or added (which eliminates contamination as a suspect) nor had any of the operating conditions changed. It turned out that there was a leak in

TJ Morris, who for the past two years has very capably served as Paratherm's sales engineer for the Poultry and Meat industries, left Paratherm in April to fill an application-engineering position with a manufacturer of heat processing equipment.

While Paratherm seeks a qualified replacement, TJ's responsibilities will be handled jointly by George Schreiber, and by Director of Technology Jim Oetinger. We have valued TJ's association with Paratherm, and we believe he has served you and the industry well. We all wish him well in his future endeavors.

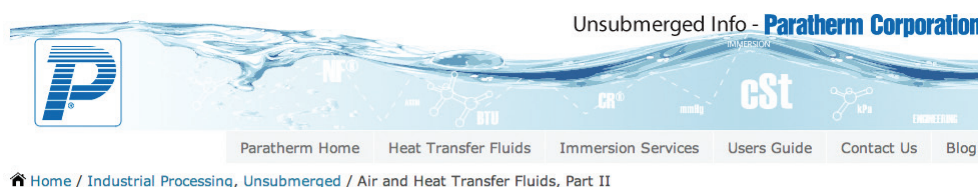
The Paratherm UnSubmerged Blog

Paratherm is blogging. Not frequently, but whenever we come across subjects we want to air out...

The blog is called "Unsubmerged Info." In it, we go a little deeper into some of the topics and ideas we care about. Of course, we cover Heat Transfer Fluids, and their applications, and the equipment. But we also discuss other things; some business technology, some engineering history.

For instance, we reviewed some online virtual trade shows, and the internet platforms where they're hosted. We explored a little about how business and industrial publishers are lagging behind consumer publishers in formatting their content for newer devices such as e-readers and smart phones.

And we use the blog to introduce the technical content we later use in our monthly Tipsheet series. Tips about maintaining and operating hot-oils and hot-oil systems. So if you're already subscribed to Paratherm's Tipsheet, and you're really just interested in the "meat and potatoes" and not the trimmings, you're all set. If you'd like to read our thoughts on some bits and pieces beyond our immersion in indirect heating and thermal processing, check out the blog. Here's the link... <http://www.thermal-fluids.com>



Air and Heat Transfer Fluids, Part II

By joetinger on December 13, 2011

Does lab testing tell the whole story?

There are a number of accelerated aging laboratory tests that are designed to determine oxidation-inhibitor performance and longevity. Most involve bubbling pure oxygen through a heated sample that has an oxidation catalyst (usually copper wire) submerged in it. The effectiveness of the additive is determined by measuring the byproducts of degradation — sludge formation, acid-number increase and viscosity increase — at the end of the test.



Oxidation Stability Apparatus (Photo courtesy of Koehler Instrument Co., Inc.)

Older tests (such as IP 48) that utilized a high oxygen flow-rate for a short period of time have been superseded by longer duration but lower oxygen flow-rate tests (such as ASTM D2440) that have proven to be more representative of real-life oxidation

Recent Posts

- Air and Heat Transfer Fluids, Part III
- Air and Heat Transfer Fluids, Part II
- Air and Heat Transfer Fluids, Part 1
- Industry Magazines on an E-Reader
- Insulation, Part 3: Minimizing Fire Hazard Using Mixed Insulation Materials

Categories

- Business Technology
- Industrial Processing
- The History of Engineering
- Unsubmerged

Archives

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- December 2011
- October 2011
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- May 2011
- March 2011
- December 2010
- October 2010
- September 2010
- August 2010



Meet Gabe Melo!

Business Development Manager
Central America
Mexico
South America
Portugal and Spain

Melo's background with Latin American business and his cultural and language skills in Portuguese, Spanish, and English round out his business skill set and will serve him well in his new role. He will manage current distribution and develop new distribution relationships along with providing service to client companies directly in these parts of the world.

Mr. Melo brings with him 7 years of experience in new business development and international sales. He holds a business management degree from West Chester University of Pennsylvania, and is currently pursuing his MBA in international business.

continued from page 1

Information is easier to find

all the way back to the company's founding in 1988.

The new web design also features prominent inquiry forms and general newsletter subscription forms on every page of the site. Other quick email options, for individual product information, and short technical tipsheets are located elsewhere on the site, easily found as you browse through the product information.

Links to detailed product information on Paratherm's 8 heat transfer fluids and 3 system cleaning liquids, descriptions of Paratherm's services, and other resources such as articles in industry trade journals are also presented in the site's navigation.

Links to Facebook, LinkedIn, and the Paratherm Blog are also available for social media users.



Thirsty?

Just in time for the scorching days of summer, we're throwing in a cool, cool Paratherm water bottle with this year's edition of In The Loop.

This 26-ounce aluminum cylinder, in the steely metallic blue reminiscent of Superman's comic book hair, will keep your hydration chilled and tasty in any circumstance. With a screw-on lid, a food-grade

(Just like Paratherm NFI) liner, and a matching carabiner, you can tuck this 2 11/16 diameter (or 72.5mm — we measured it with last year's caliper) H2O vessel into a bike-frame holder, hang it from your rucksack, or secure it to your parachute for sipping at terminal velocity. Gunga Din would be impressed, and even Kipling himself, with his notoriously bad eyesight, would certainly be able to discern the screamingly obvious logo from a distant 100 meters or more through arid desert air, blowing sand, and those squiggly mirage heat refractions. (Don't forget to remove the 'biner from inside the bottle!).

Paratherm was one of the many exhibitors at the NPE2012 conference and trade show in April. Congratulations to our three winners! Tony Ingle, CMI, Ball Ground, GA; Walter Harfmann, Darnel Inc, Monroe, NC; and Hal Button, Akrochem Corp, Barberton, OH. They visited our booth and entered our contest and won a Nook Tablet along with a system fill of Paratherm OR™ Heat Transfer Fluid.



Make a note of it!

Our ADDRESS has changed! Please note our new address change. We are in the same building, just a different street number.

31 Portland Road
West Conshohocken, PA
19428 USA



Jed Seybold, Paratherm's Senior Global Business Development Manager will be exhibiting at ACHEMA 2012 in Frankfurt, Germany this June. ACHEMA is the world forum of the process industries and the trend-setting technology summit for chemical engineering, environmental protection and biotechnology. This is the leading international meeting point for decision-makers and experts from all related industries.

2012 Trade Shows:

Biodiesel Conference: Gaylord Palms Convention Center, FL

Informex: Morial Convention Center, New Orleans, LA

NPE: Orange County Convention Center, FL

GPA: Hilton Riverside, New Orleans, LA

ILTA: Hilton Americas, Houston, TX

Achema 2012: Frankfurt, Germany



Paratherm Corporation
HEAT TRANSFER FLUIDS

31 Portland Road, West Conshohocken, PA 19428 USA
800-222-3611 610-941-4900 • Fax: 610-941-9191
info@paratherm.com www.paratherm.com

Andy Andrews	Marketing Manager
John Fuhr	President & CEO
Roger Fuhr	Operations Manager
Gabriella Giammarco	Marketing Assistant
Terry Gonzalez	Lab Technician, Production Coordinator
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Ray Klim	Food Industry Specialist

Gabriel Melo	Business Development Manager
Cheryl Nolan	Marketing & Clerical Assistant
Jim Oettinger	Director of Technology
Betty Ouadah	Administrative Assistant
Ryan Ritz	Regional Sales Engineer
Esther Robertson	Office Manager
George Schreiber	General Manager
Jed Seybold	Senior Global Business Development Manager