

Project Updates

Fiber Insulation Properties (182-07)

The meeting for Project 182-07, Fiber Insulation Properties, was cancelled, because no new data had been received from the contractor. Eric Minford and Galen Hodge visited the contractor on May 15 and learned that they have not yet been able to get the high pressure furnace operational and provide reproducible data. Eric made some suggestions to them, and we hope to have data to discuss at AmeriTAC 100 in October.

Asset II (150-02)

MTI has received from the contractor version 11.2 of this data program. A few copies have been distributed to individuals that frequently use the program for evaluation. Additional copies are available from the MTI office, 1 copy per company. Version 12.0, which will fully complete the program, has been promised from the contractor by the end of this year.

Terahertz Imaging (166-08)

A draft of a final report for the Terahertz Imaging project was received from the contractor this week. The contractor is RPI, and the draft report will be posted on the MTI website under the Terahertz project. Project team members are encouraged to review the document and send comments to Tony Scribner, Project Manager (tscribner@mti-global.org), or to Gene Liening, Project Champion (elliening@dow.com).

MTI Meeting Statistics:

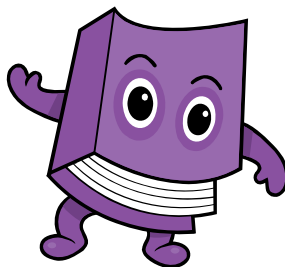
- ❖ Total Attendance – 57
- ❖ Member Companies Represented – 29
- ❖ Potential Members – 1
Jenny Been / Alberta Research Council

Upcoming MTI Meetings

- ❖ **AsiaTAC 2009** – September 23-25, 2009 – Renaissance Zhongshan Park Hotel, Shanghai, China
- ❖ **AmeriTAC 100** – October 19-22, 2009 – Airport Marriott, San Francisco, CA
- ❖ **AmeriTAC 101** – February 22-25, 2010 – Trade Winds, St. Petersburg, FL

AsiaTAC 2009

MTI's Third AsiaTAC Meeting will be held September 23-25 at the Renaissance Shanghai Zhongshan Park Hotel, 1018 Changning Road, Shanghai 200042, China. No meeting fee will be charged to attend. A Stainless Steel Seminar followed by an informal networking reception will be held on September 23. The Stainless Steel Seminar agenda, AsiaTAC 2009 Meeting agenda, meeting registration form and hotel reservation form are posted in the Member Hot Topics area of the MTI website (www.mti-global.org). Non-residents will need a passport and visa. Those needing a letter to support the visa should email their request to Lori Elgin at lrelgin@mti-global.org. The meeting registration and hotel reservation deadline is August 24.



MTI Publications Special Offer

For a limited time only, the following 3 new MTI publications are available to members at a very special member price (plus shipping):

- Guidance for Plant Personnel in Gathering Data & Samples for Materials Failure Analysis – \$15
- User's Guide for Evaluating New Polymer Systems – \$15
- Repair & Damage Assessment of Glass-Lined Equipment – \$20

To order MTI publications, click on the Store tab of the MTI website (www.mti-global.org). Be sure to place your order from the MTI Member Order Area to receive this special pricing. The regular MTI member discount of up to 75% off the list price applies to all other MTI products.

Other News:



A paper, entitled "**Risk-Based Inspection for Polymers**," was just accepted for CORROSION 2010 Conference & Expo, NACE's annual conference that will take place March 14-18, 2010 at the Henry B. Gonzales Convention Center in San Antonio, Texas. This paper will be coauthored by MTI and Becht Engineering, the contractor on the MTI project on RBI for Polymers.

Dissemination of information is an important aim of CEBELCOR. Their website <http://server2.publiset.be/publiset/cebelcor/index.lasso> provides free access to all the publications of CEBELCOR. Currently, the most recent "**Rapports Techniques de CEBELCOR**" are available for downloading. See the section "publications," select, and click. More and more reports will be downloadable in the near future. If there is a special interest for a given report, send an email to CEBELCOR with your request. Individual membership in CEBELCOR is only 65€/year and will ensure immediate action on published information, and it also includes EFC membership.



Humor Corner

"To spot the expert, pick the one who predicts the job will take the longest and cost the most."

"A failure will not appear until a unit has passed final inspection."

"Logic is a systematic method of coming to the wrong conclusion with confidence."

Mystery Behind Iron's Smells Is Revealed

(from Chemical Engineering News, Oct 2006)

[Dietmar Glindemann](#) and [Andrea M. Dietrich](#) of Virginia Polytechnic Institute & State University exposed human skin to various forms of iron and used mass spectrometry to show that the resulting metallic odor is due largely to volatile 1-octen-3-one. Similar enones have been identified previously in human sweat. They also showed that copper and brass (a copper-zinc alloy) also give rise to metallic odors.

The researchers believe that 1-octen-3-one, which is used commercially as a fragrance in toiletries and as a food flavoring, forms along with C₆ to C₁₀ *n*-aldehydes by a redox reaction between iron in the metal objects and lipid peroxides formed from polyunsaturated fatty acids in skin oil. When iron objects come in contact with the skin, perspiration oxidizes the metal to Fe²⁺ ions, and the metal ions reduce and decompose the lipid peroxides to the "bouquet" of organic carbonyl compounds. In blood, iron is already available as Fe²⁺ in heme molecules.

Test subjects immediately recognized the musty iron odor when they handled pieces of the metal or a solution containing Fe²⁺ ions. In contrast, the testers didn't sense the odor when smelling a piece of metal they didn't touch or when Fe³⁺ solutions were applied.

"The smell of iron on contact with skin is ironically a type of human body odor," Glindemann notes. "That we smell the metal itself is actually an illusion." Human sensitivity to this particular odor may have evolved from the need to track wounded prey or injured family or tribal members, the researchers suggest.

As reported by Paul Dillon in the Nov 1993 issue of Materials Performance, I had always assumed that the odor of rusty iron was from volatile ferric ions. This assumption was based upon the fact that ferric chloride solutions, containing a tiny amount of excess hydrochloric acid, will distill overhead at atmospheric pressure. This can be demonstrated with a simple boiling/condensing laboratory rig.

Submitted by Tony Scribner, MTI Associate Director

Be on the  **K** out for the new google search coming to the MTI website soon!