

# COMMITTEE NOTES



A Newsletter published by the A.E. Petsche Company,  
summarizing recent actions in the Aerospace Wire Industry Committees,  
of interest to Electronics, General Aviation, Airlines, & Other Electrical Wire Users.

Spring 2003

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The below articles cover some of the topics, reports, and discussions that occurred at the SAE AE-8A, AE-8C1, AE8-C2, and AE-8D Subcommittee Meetings held during the Spring of 2003 at Cincinnati, OH and San Diego, CA.

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## **TEFZEL, the CAA, and the CTSB**

In March of 2002, the Civil Aviation Administration (CAA) of the UK released an Airworthiness Notice concerning the use of M22759/16 wire in post delivery installations. This document was referenced by the Canadian Transportation Safety Board (CTSB) report concerning the SwissAir Flight 111 accident. The flow rate of the resin for the insulation is thought to affect the final temperature rating of the wire. However, many in the group feel that as long as the wire meets or exceeds the requirements of the specification, the wire can be qualified and can be used without restrictions.

## **AE-8F Power Distribution**

Due to decreasing involvement and participation, the Power Distribution group will be absorbed into the other groups of AE-8. There is concern that the needs associated to these requirements

are unique and are ever increasing in its demands of the Power Distribution industry. A presentation given depicted the hazards associated with improper handling of the connector and cables of high current applications.

### **NEMA and WC27500**

An official request to the NEMA subcommittee responsible for the cabling specification met and considered the SAE concerns pertaining to a QPL that would accompany the specification. A negative reaction resulted. An overriding concern by the NEMA group was the potential of limiting trade by creating a QPL, and thus potential liability that might swing back their direction.

### **De-Icing Fluid Does Inhibit**

Representatives from the SAE G12 Fluids Subcommittee submitted a request to allow the removal of Tolytriazole (TTZ) and any other flame inhibitors within the mixture of aircraft de-icing fluid. Excerpts from a report were presented that stated very large concentrations of TTZ are required to readily inhibit flame propagation, and that the levels presently within the fluids do not begin to approach these concentrations. Also stated is the fact that European fluids do not and have never contained flame inhibitors. The inclusion of flame inhibitors is causing a delay to the release and development of potentially more effective fluids for de-icing.

Within the electrical committee, the remembrance of electrical fires caused by de-icing fluid prior to the inclusion of the flame inhibitor remains strong. A request to fluids committee is to leave the flame inhibitor within the fluid until further, and current, testing can be accomplished.

### **Sealing Plugs Raise Their Heads (Again)**

A long-term effort to standardize the design of sealing plugs resulted in the present AS27488 sealing plugs dimensions. Now that the new parts have been released in the industry, complaints and problems are causing the committee to revisit this topic. The length of the plugs is interfering with accessories for short connector designs. The solution may be to design a "long" sealing plug and a "short" sealing plug for each cavity size.

### **38999 Vibration Sensitivity**

A test has been proposed and a corresponding amendment to the M38999 specification in order to assure material-to-material bottoming during engagement of a mated connector pair. Previous results with a sinusoidal sander device and shake table show that if a 300 Hertz resonance is exceeded, then failure of engagement has resulted. This modification to the specification and test procedure will close the known discrepancy that has existed since initial release of the Series III connector design.

### **Alumel & Chromel Replacement**

Little did the industry recognize that these products were licensed proprietary products until the company that owned the products went out of business. In response, generic products have been developed that are being produced to fill the vacancy that was created. Thermocouple Type K are a Nickel Chromium and Nickel Aluminum alloys used for the positive and negative lead wires and associated termination devices.

## **SAE AEISS 2003 Aerospace Electrical Interconnect Systems Symposium**

The SAE AE-8 Committee and Subcommittees is hosting the 2003 AEISS in Nashville, TN in conjunction with the scheduled committee meetings during the week of 20 October. Technical presentations and industry participation will be pervasive throughout the Military and General Aviation community including Avionics, Electrical, and Electronic representatives.

### **Further Information:**

Readers who do not attend these industry meetings and would like additional details on any of the above topics, or wish to input their views and experiences on these subjects for future Committee sessions, should contact:

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