International
Aircraft Materials Fire Test Working Group

Hosted by Polyplastex
Clearwater, Florida
February 10 & 11, 1992

The group was welcomed to Clearwater and introductions were exchanged. The first subject for discussion was present problems with the OSU. Data was presented showing the effect of varying the thickness of the inner cone. This work was undertaken because it has been discovered that some chambers have been constructed out of tolerance in that area.

The next Major area of discussion was on the various Round Robins presently in progress. Data was presented on the inlet air flow measurements for the oil burner test methods. Data showed that the burner could be calibrated for the seat test at a number of inlet airflow settings, and that the shape of the flame was different for all. Although there seamed to be a lot of interest only DLR has supplied data to date.

Data was presented on the use of an upper pilot spark igniter. The data was on a limited amount of materials and indicated that an upper spark could be used without interfering with data collection. A discussion was held as to the best way to keep the upper pilot lit. It was suggested that the 14 hole burner should be increased to 16 holes. It was also suggested that no air be mixed with the methane to the upper burner, as that helped to maintain the flame. Someone even suggested the use of hydrogen. It was agreed that a new definition of flame extinguishment should be derived for the 14 hole (or 16 hole) burner.

The next round robin to be discussed was the electric wiring smoke RR. Data was presented showing results of various size wires.

The last round robin to be discussed was that of using methane as a possible standard material. All the data had not yet been received and analyzed, therefore it was not presented. The group of labs involved meet to discuss the RR

Next, NIST presented the results of their contract with the FAA Technical Center to develop a quicker method of calibration for the NBS smoke chamber. Their results indicate that with the use of a new more uniform heating element the same calorimeter as used in the OSU could be used with the NBS chamber. Some concern was expressed that a new heating element would change past results. NIST showed the heating element and stated that comparison tests to the present heating element will be conducted. The FAA Technical Center will purchase a number of the heating elements for tests. Some of these elements will be made available for RR testing to interested labs at the next group meeting.

The next order of business was on how to organize for the modifications to the handbook test methods. A task group will be set up, chaired by the Technical Center, to review

each handbook test method. As each test method was discussed a sheet was circulated for lab to volunteer to participate on a task group for that test method. Copies of those sheets are attached. Any lab wishing to sign up that has not yet done so should contact the FAA Technical Center. The Chairman of each group will be contacting the members by the end of March with farther instructions.

The first test method up for discussion was the Vertical Bunsen Burner. Various suggested changes were proposed. Methane was suggested as the only fuel source. There was some opposition based on a stated unavailability of methane in some parts of the world. The elimination for the need to measure the flame temperature was opposed by one lab that suggested using a more modern method than a thermocouple to obtain it. The need for a better definition of burn length was agreed by all, however no agreement on what it should be could be reached. The most heated debate came over a proposal to require the burner to be centered under the lower edge of the front face of the specimen. One lab stated that no one does it like that of thick samples. However numerous labs in the group responded that they do. Similar discussions were held concerning the horizontal and 45 degree Bunsen Burner tests.

The next test method for discussion was the 60 degree test for wire. The major area of discussion was over a proposed change in placement of the burner, eliminating the complex angle. It was agreed that round robin tests would be conducted.

The Heat Release and Smoke test methods brought little new discussion except in the area of standard panels. The mini group that was to look into the problem as of yet have not, but still plan to.

The last test methods discussed were the Oil Burner test for seats and cargo liners. No new items were discussed.

The final subject for discussion was the development of new test methods. A presentation was made on arc tracking and the development of a new flamibility test for wiring.

It was announced that the FAA Technical Center will be sponsoring a conference on advanced fire resistance interior aircraft materials during the 2nd week of Feb. 1993. There will be a meeting of this group at the Technical Center to coincide with the conference. The next group meeting will be at the Technical Center June 23 and 24th, and the following meeting at British Aerospace September 15 and 16.

I would like to take this opportunity to thank Polyplastex for a super job in hosting the meeting. A great time was had by all, and I know I speak for all when I say THANK YOU POLYPLASTEX.

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