

## **Attachment No. 1**

### **Minutes of the CE-2.1 Subcommittee on Test Procedures 16 – 17 April 2007 San Diego, CA**

Subcommittee Chair Carl Fritz welcomed everyone, and said that the meeting would be conducted following the published agenda.

#### **1. Approval of the 28 – 29 September 2006 Minutes**

The minutes of the 28 - 29 September 2006 meeting in Reno, NV were approved. Moved by Bob Druckenmiller and seconded by Ralph Antonelli. The motion was unanimously moved and approved.

It is noted that all actions taken by the subcommittee will be simultaneously approved by the CE-2.0 committee.

#### **2. TEST PROCEDURE PROJECTS (BY PROJECT NUMBER)**

A. PN-3787, EIA-364-1000.02 (EIA-364-1001 new designation) Current Rating Verification Procedure (Frank Ruffino and John Healey)

It was moved by Bob Druckenmiller and seconded by Frank Ruffino to circulate on a Letter ballot. The motion was unanimously moved and approved.

B. SP-4942-B, TP-60A, General Methods for Porosity Testing (John Healey)

- Comment from R. Druckenmiller 6 December 2006:

Recommended changes:

4.1.3: Delete paragraph “RECOMMENDED APPLICATIONS.....” Not necessary since this entire method has been deleted

4.1.6.1.1: Spelling change “millileters” to “milliliters”

Carl Fritz reported that there were 4 approved ballots received, one with comments and no rejections received by the ballot expiration date of 5 February 2007. The project leader accepted the editorial comments submitted by Bob Druckenmiller on his approved ballot. It was moved by John Healey and seconded by Bob Druckenmiller to approve the standard and send to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously approved.

C. PN-4943, TP-65, MFG (Max Peel)

It was reported that work is on going.

## Attachment No. 1

### D. SP-4981-A, TP-70B, Temperature Rise Versus Current (Max Peel)

It was reported that there were 7 approved ballots received, one abstention and no rejections by the ballot expiration date of 2 April 2007. It was moved by Dave Bouzek and seconded by Frank Ruffino to approved the standard and send to EIA for EDEC ballot. The motion was unanimously approved.

### E. SP-5064-A-1, TP-110, Thermal Cycling (Max Peel)

Carl Fritz reported that the standard was published August 2006 and received 11 December 2006 by FedEx.

### F. SP-5083, TP- 5, 7, 8, 24, 25, 27, 37, 40, 44, 79, 85, 87, 88, 93, 94, 97, 98 (J. Toran)\*\*

Carl reported that he sent a letter to Max Peel (mpeel26) on behalf of Jeff Toran on 15 August 2006 acknowledging his comments, and sent a letter to EIA for EDEC ballot (mccwil267) on 15 August 2006 to reaffirm all listed standards, except TP-7, 25 and 87. The standards still have not been reaffirmed.

### G. SP-5084-A, TP-36B, Determination of Gas-Tight characteristics Test for Electrical Connectors and or Contact Systems (Jeff Toran)\*\*

Carl Fritz reported that the standard was published September 2006 and received 11 December 2006 by FedEx.

### H. SP-5089-A, TP-55, Current Cycling (Max Peel)\*\*

Carl Fritz reported that there were 5 approved ballots received, one with comments and no rejections received by the ballot expiration date of 29 January 2007. The committee reviewed the revised standard and provided recommended changes. It was moved by Bob Druckenmiller and seconded by Frank Ruffino to send the revised standard out on a second short 30-day ballot. It was also moved that if there are no rejections or negative comments that the standard be sent to EIA for EDEC ballot after the ballot expiration date. The motion was unanimously approved.

### I. SP-5107-A, EIA-364-1002, Test Methodology for Assessing the Performance of Compliant Pin Terminations Used as Free Standing Contacts or in Electrical Connectors and Sockets (Max Peel)

Carl Fritz reported that there were 5 approved ballots received, one with comments, previously discussed at the Reno meeting in September 2006, and no rejections received by the ballot expiration date of 29 January 2007.

## Attachment No. 1

The committee reviewed the latest draft prepared by Max Peel.

1. The committee agreed to change the term “Compliant Pin (Press-fit) Termination” to “Compliant Contact Termination” throughout the standard.

2. The committee after considerable discussion agreed that minimum / maximum boards be used for testing in Group 1. Clause 2 should be changed from “Unless otherwise specified in the referencing document, all testing shall be performed using test boards with plated through holes within the recommended size range.” to “Unless otherwise specified in the referencing document, all testing shall be performed using test boards with plated through holes within the recommended size range, see 2.4, except for group 1 which shall be conducted with test boards with minimum and maximum size plated through holes.

It was moved by Bob Druckenmiller and seconded by Frank Ruffino that the standard be circulated on a short 30-day SP ballot. It was also moved that if there are no rejections or negative comments that the standard be sent to EIA for EDEC ballot. The motion was unanimously approved.

NOTE - The issue of developing test procedures and sequences for a connector system (fully assembled connector) should also be considered. It may be part of this standard or a separate standard.

J. SP-5108, TP- ~~2, 3, 9~~, 13, 14, ~~26~~, 28, ~~35, 38, 42, 50, 54, 95, 99, 100, 102 and 103~~ (C. Fritz)\*\*

Carl Fritz reported the following:

- It was reported that TP-02, 03, 09, 102 and 103 published as reaffirmed 27 March 2006. Received via FedEx on 5 June 2006.
- TP-99 and 100 published as reaffirmed 31 March 2006. Received via FedEx on 21 August 2006.
- TP-35 and 50 published as reaffirmed 27 March 2006. Received FedEx on 7 March 2007.
- TP-38, 42, 54 and 95 published as reaffirmed 31 March 2006. Received FedEx on 7 March 2007.
- TP-26 published as reaffirmed 16 August 2006. Received FedEx on 7 March 2007.

The open standards remain to be reaffirmed.

K. SP-5109-A, TP-18B, Visual Inspection (Carl Fritz)\*\*

Carl Fritz reported that the standard was published February 2007 and received 5 March 2007 by FedEx.

## Attachment No. 1

L. SP-5111-A, TP-59A, Low Temperature (Carl Fritz)\*\*

Carl Fritz reported that the standard was published August 2006 and received 11 December 2006 by FedEx.

M. SP-5124, TP-56C, Resistance to Soldering Heat (Carl Fritz)

Carl Fritz reported that the standard was published August 2006 and received 11 December 2006 by FedEx.

N. SP-5125, TP-28E, Vibration (Carl Fritz)

Carl Fritz reported that the standard was published August 2006 and received 11 December 2006 by FedEx.

O. SP-5126, TP-86, Polarizing/coding key overstress (Carl Fritz)

It was reported that the ballot was issued on 8 February 2007 and that there were 7 approved ballots received, and no rejections by the ballot expiration date of 9 April 2007. It was noted that the standard was already been approved for EDEC ballot at the September 2006 meeting if there were no rejections.

P. SP-5127, TP-92, Wire bending for insulation displacement contacts (Carl Fritz)

It was reported that the ballot was issued on 8 February 2007 and that there were 7 approved ballots received, and no rejections by the ballot expiration date of 9 April 2007. It was noted that the standard was already been approved for EDEC ballot at the September 2006 meeting if there were no rejections.

Q. SP-5134-A, TP-32D, Thermal Shock (Max Peel)

It was reported that the standard was published in December 2006.

R. SP-5142, Standards due for 5-year review: TP-~~01, 21, 22, 39, 43, 45, 53~~, 66, 83, 90, 101, 106, 107 and 108 (Carl Fritz)

Carl Fritz reported the following:

- Sent letter (mccwil277) to EIA for EDEC ballot to reaffirm all listed standards on 29 October 2006.
- TP-01, 21, 22, 39, 43, 45 and 53 published as reaffirmed 1 March 2007, and received FedEx 15 March 2007.

The open standards remain to be reaffirmed.

## Attachment No. 1

S. SP-5143, EIA-364-1000 (John Healey)

It was reported that the ballot was issued on 5 December 2006 and that there were 6 approved ballots received, and no rejections by the ballot expiration date of 5 February 2007. After discussion on a request by JEDEC to add a requirement for 7-year life, it was moved by Frank Ruffino and seconded by John Healey to add the requirement to the standard and recirculate on a short 30-day SP ballot. It was also moved and approved that if there are sufficient ballots received, and there are no rejections or negative comments received by the ballot expiration date, that the standard be sent to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously approved.

T. SP-5148, TP-71B, Solder Wicking (Wave Solder Technique) (Bob Druckenmiller)

Bob Druckenmiller reported the following:

- Ballot issued 5 February 2007 with a ballot expiration date of 5 April 2007.
- The following comment was received from Max Peel on his approved ballot with comment on 7 February 2007.

My approved ballot with comment is attached. My comment is related to par.2.2.2. This para. states that the solder composition should be 60/40, 63/37 or lead free tin. No where else in the document is the solder comp. indicated. Neither is it required to be specified nor recorded in the documentation. Should there be a default comp indicated? Or should this be specified and documented? If I'm required to run the test which one do I use. This should be clarified in the document.

Bob Druckenmiller reported that there were 8 approved ballots received and no rejections by the ballot expiration date of 5 April 2007. The comments received from Max Peel were discussed and accepted as follows:

1. Document should indicate that the solder type is to be specified in clause 5.
2. It shall also be reported in clause 6.
3. Also add: "as specified in the referencing document" after solder types in clause 2.2.2.

It was determined the requested changes were considered clarification and required no additional ballot. It was moved by Bob Druckenmiller and seconded by Frank Ruffino to accept the changes and send the standard to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously moved and approved.

## Attachment No. 1

U. PN-5150, EIA-364-31B, Humidity Test Procedure for Electrical Connectors and Sockets (Max Peel)

Carl Fritz reported that Max Peel is reviewing the comments he received on the letter ballot.

V. SP-5156, TP-17C, Temperature Life (Max Peel)

- Ballot issued 9 February 2007 with a ballot expiration date of 9 April 2007.
- The following was received on the approved ballot with comments from Bob Druckenmiller by e-mail on 16 February 2007.

Paragraph 4.3.4: "internal temperature" is not clear what this is. Suggest adding the word "specimen" either before or after the word internal. Specimen internal temperature or internal specimen temperature.

- The following rejected ballot was received from Max Peel on 5 April 2007

Please find attached my negative ballot for referenced SP. I know that I'm sending a negative ballot on at TP which I'm responsible for. However, this action is a result of a comments received from Bob Druckenmiller. His comment made me review his specific concern and has resulted in additional questions to be raised. Thus, the following are my reasons for said rejection.

1. My concerns relate to Method C and Table 2 of the document.
2. The method deals with the internal temperature of the connectors. First my questions:
  - a) What is the intent of this test? What is it trying to prove?

Committee response: The purpose of Method C was to replace MIL-STD-1344, method 1005.1 as part of the harmonization effort. The committee feels that method remain as a method to get the internal temperature of a connector to desired test temperature by using both internal and external temperature sources.

- b) Par. 4.3.2 indicates that the rated current of the specimen shall not be exceeded nor the temperature rating of the test specimen be exceeded. I don't know what this statement means, since contacts should not be used in a connector when the internal temperature exceeds its temperature rating. That to me would be a poor product destined to create failures. Thus this statement doesn't make sense. The Table 2 numbers do not make sense since it allows a higher internal temperature then the test temperature.

Committee response: When running this test the test current should not exceed the rated current of the connector and the final test temperature should not exceed the rated temperature of the connector. The values in table 2 came directly from MIL-STD-1344, 1005.1.

- c) What is the definition of "internal temp"?

Committee response: It is the internal temperature of the test specimen.

## Attachment No. 1

- d) How do I measure the internal temperature of multiple row connectors (such as a 300 pos, 4 row connector) or of a 50 position circular connector where the hot spot is in the middle position?

Committee response: Place a thermocouple in the center of the specimen or the hot spot of the specimen. The documentation shall indicate where the measurement was taken.

- e) What is the rationale for the temperature levels in the table? Where did they come from?

Committee response: The values in table 2 came directly from MIL-STD-1344, 1005.1.

- f) I would suggest that this procedure be deleted since this test appears to be a temperature rise test and not a T-Life test.

Committee response: Part of harmonization effort and cannot be deleted.

3. What occurs when the internal temp exceeds the connector temperature rating? I would say stop the test since this would be a bad design anyway.

Committee response: See paragraph 4.3.2, that states that the temperature should not be run above the rated temperature of the connector.

4. Temp Rise if performed in connectors seems to be a better technique particularly if the current derating method is used (which states that the T-Rise plus operating ambients should not exceed the temp rating of the connector).

Committee response: Statement unclear what is being requested.

Prior to proceeding with the document, I'll be waiting for the explanations requested.

The committee addressed Max's comments as indicated in the above boxes.

Recommend adding the following as recommended in Bob Druckenmiller's original comment.

Committee response: Suggest adding the word "specimen" either before or after the word internal. Specimen internal temperature or internal specimen temperature.

It was reported that there were 7 approved ballots received, one with comments from Bob Druckenmiller and one rejection from Max Peel. The committee reviewed the concerns that Max raised and provided answers. The committee determined that the suggested wording presented by Bob Druckenmiller be added as clarification and that the standard be sent to EIA for EDEC ballot. It moved by Dave Bouzek and seconded Ralph Antonelli to accept the suggested wording. The motion was unanimously approved.

## Attachment No. 1

W. SP-5157, TP-13D, Mating and Unmating Force Test Procedure for Electrical Connectors and Sockets (Max Peel)

- The following was received on the approved ballot with comments from Bob Druckenmiller by e-mail on 16 February 2007.

Paragraph 2.1.3 A stand-alone statement was added after this paragraph. ‘Simulated mating device or gage (applicable to method B only)’ I would think that this should be part of paragraph 2.1.3 or be assigned a new paragraph number (2.1.4)

- The following was received on the approved ballot with comments from John Healey by e-mail on 9 April 2007.

Comment: Change “he” to “the” in clause 1.2.2

It was reported that there were 7 approved ballot received, one with editorial comments from Bob Druckenmiller and one for John Healey by the 9 April 2007 ballot expiration date, and no rejections. The committee accepted the editorial comments. The standard was previously approved for EDEC ballot if there were no rejections or negative comments.

X. SP-5158, TP-56D, Resistance to Soldering Heat Test Procedure for Electrical Connectors and Sockets (Carl Fritz)

- The following approved ballot with typo error was received from Max Peel on 2 January 2007.

Par 4.5.4: There is reference to a ramp rate of 1 C to 4 C with a conversion of 1.8 F +/- 7.2 F. This is not a proper conversion since it's impossible to have to a negative tolerance on a ramp rate . The F conversion should read as 1.8 F to ? F not a +/-.

Paragraph 4.5.4 should read as follows:

4.5.4 Unless otherwise specified in the referencing document, the heat shall be applied to the test specimens increasing at an average rate of 1 °C to 4 °C (1.8 °F to 7.2 °F) per second until the specified temperature is obtained.

It was reported that there were 5 approved ballots received, one with editorial comments from Max Peel by the 8 February 2007 ballot expiration date, and no rejections. The committee accepted the editorial comments. It was previously approved for EDEC ballot if there were no rejections or negative comments.

## Attachment No. 1

Y. SP-5160, TP-20C, Withstanding Voltage Test Procedure for Electrical Connectors, Sockets, and Coaxial Contacts (Max Peel)

- It was reported that a Memorandum (Request for approval EIA-364-20C and 21C) sent to canvas members on 8 January 2007. This was done because the requested actions by the project leader deviated from the actions taken at the last meeting.

Memorandum approved by Bob Druckenmiller, Carl Fritz and Ralph Antonelli on 8 January 2007, Bill Peverill on 15 January 2007, John Healey 18 January 2007.

- Bill Peverill submitted the following comment to Cecelia at EIA via FAX.

Carl: I faxed it to her. Here's what I said: "New 4.6.1 only applies to Methods A,B &C. 4.6.1 should mention this". Now I'm not sure, I may withdraw my comment. Its a little confusing. Maybe 4.6.1 should be by the Methods. Bill

Max Peel agreed to add to 4.6.1 that this only applies the methods A, B and C only.

It was reported that there were 9 approved ballots received, one with editorial comments from Bill Peverill by the 12 April 2007 ballot expiration date, and no rejections. It was moved by Bob Druckenmiller and seconded by Ralph Antonelli to accept the comment from Bill Peverill for clarification and send to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously approved.

Z. SP-5161, TP-21C, Insulation Resistance Test Procedure for Electrical Connectors, Sockets, and Coaxial Contacts (Max Peel)

- It was reported that a Memorandum (Request for approval EIA-364-20C and 21C) sent to canvas members on 8 January 2007. This was done because the requested actions by the project leader deviated from the actions taken at the last meeting.

Memorandum approved by Bob Druckenmiller, Carl Fritz and Ralph Antonelli on 8 January 2007, Bill Peverill on 15 January 2007, John Healey 18 January 2007.

It was reported that there were 7 approved ballots received by the 13 April 2007 ballot expiration date, and no rejections. It was moved by Bob Druckenmiller and seconded by Dave Bouzek to send the standard to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously approved.

## Attachment No. 1

AA. SP-5162, TP-07C, Contact axial concentricity (Max Peel)

- It was reported that a Memorandum (Request for approval EIA-364-07B) sent to canvas members on 7 December 2006. This was done because the requested actions by the project leader deviated from the actions taken at the last meeting.

Memorandum approved by Ralph Antonelli, and Bob Druckenmiller 7 December 2006, Carl Fritz 8 January 2007, John Healey 18 January 2007, Bill Peverill 19 January 2007.

- The following was received on the approved ballot with comments from Bob Druckenmiller by e-mail on 16 February 2007.

Comments: Figure 1, Note 3: contact should be plural “contacts”

It was reported that there were 6 approved ballots received, one with editorial comments from Bob Druckenmiller by the 13 April 2007 ballot expiration date, and no rejections. The committee accepted the editorial comment. It was previously approved for EDEC ballot if there were no rejections or negative comments.

AB. SP-5163: TP-105A, Altitude - Low Temperature Test Procedure for Electrical Connectors (Max Peel)

It was reported that the standard and letter (mccwil297) with background data sheet was sent to EIA for SP ballot on 28 March 2007.

AC. PN-5164: TP-111, Ionic contamination (John Healey)

John Healey presented the initial draft. It was moved by John Healey and seconded by Frank Ruffino to send out on letter ballot. The motion was unanimously approved.

\*\* Past due for 5-year review

### 3. TEST PROCEDURES AWAITING PROJECT NUMBERS (BY TP NUMBER)

A. TP-25D, Probe damage (Max Peel)

Project leader has officially withdrawn any recommended changes and the project is cancelled.

B. TP-41C, Cable Flexing (Max Peel)

Work in process.

## **Attachment No. 1**

### **C. EIA-364D, Electrical Connector / Socket Test Procedures Including Environmental Classifications (Carl Fritz)**

Carl reported that an errata sheet was issued 23 October 2006 and posted on the ECA web site to correct an error in table B.1. It was moved by Bob Druckenmiller and seconded by Frank Ruffino to obtain a project number to revise the standard to incorporate the change reflected in the errata sheet and make any additional changes deemed necessary by the project leader as part of the 5-year review process. The motion was unanimously approved.

### **4. OTHER BUSINESS**

#### **A. TP-87A, Nanosecond event detection (Max Peel)**

It was noted that work is on going.

#### **B. TP-52, Solderability (Max Peel)**

Awaiting release of J-STD-002C.

### **6. NEW BUSINESS**

#### **A. TP-10 Fluid immersion (Ralph Antonelli)**

- Carl Fritz reported that he received the following e-mail from Max Peel on 20 November 2006.

TP 10: I got word back from DSCC. They have told me in essence to ignore TP 10 for the time being and use JP-5 not JP-8 since we can still get it and that is what everyone else is using. They will be discussing it among themselves and will make a determination at a later point. They have also indicated that hydraulic fluid per Mil-Prf-5606 be used instead on the discontinued Chevron call out.

Based on this, I would like to proposed that we insert this information in the TP. It will be helpful to those who perform this test so they don't have to research what the substitute is. Maybe as an informative note at the bottom of the table. This would save people time and frustration as I just went thru. I lost 3 weeks in this process and has delayed completion of a 12 retention of Qual requirement as well.

## Attachment No. 1

- Carl Fritz reported that the following was received from Ralph Antonelli on 30 November 2006.

I talked to Rick Taylor about the JP5/JP8 item, he told me that the military buys which ever is most commercially available at the time. Dave Leight from the fiber optics side did a couple of Engineering Practice studies regarding fluid immersion with the JP fuels and the Hydraulic fluid MIL-H-5606. However I can't seem to locate them and Dave is somewhere North of you right now deer hunting. I'll keep looking and send you a copy when I find them.

- Carl Fritz reported that he received this e-mail from Ralph Antonelli on 5 December 2006:

Also, regarding JP-5 and JP-8; JP-5 is primarily used by the Navy and JP-8 by the Air Force. The main difference between the two is the flash point temperature. The JP-5 has a higher flash point thereby allowing safer handling on aircraft carriers. I don't know why JP-5 was removed but I feel it should be included in table 1, test condition B along with JP-8.

See also the directives from NAVAIR sent by Ralph Antonelli on 15 December 2006 in File folder "TP 10 Use of JP-8 in lieu of JP-5" in "364 folder".

- Carl Fritz reported that he received this e-mail from Max Peel on 18 December 2006.

The issue still is open as far as I'm concerned and apparently at DSCC also. As you know I had contacted DSCC about this and I did receive an answer. Our instructions were to use JP-5 (which by the way is still readily available). There is a substitute for the Chevron fluid also. Our instructions from DSCC was to use the lubricating fluid per Mil-Prf-5606 which is listed in TP 10.

- Carl Fritz reported that he received this e-mail from Ralph Antonelli on 5 December 2006:

I finally got a response back from Dwight Tabit, I copied and pasted it as follows: "I would think that the fluid immersion test should use the most commonly used fluids out in the field, so it would make sense to me that JP-8 be substituted for JP-5 in EIA-364-10. With the reduced use of JP-5, I would suspect that JP-5 would be harder and harder to get to do the testing."

JP-8 is called out in EIA-364-10 so no change is required there.

I have not heard of a replacement for Chevron Oil, as for the hydraulic fluid MIL-H-5606 it is now MIL-PRF-5606 and is still preferred.

## Attachment No. 1

The fiber optic group did a engineering practice study to look for replacements for MIL-PRF-5606 is an inactive document, however, the services still prefer to use MIL-PRF-5606 along with two superseding documents. The two superseding documents are:

MIL-PRF-87257 - Hydraulic Fluid, Fire Resistant; Low Temperature, Synthetic Hydrocarbon Base, Aircraft and Missile

MIL-PRF-83282 - Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Metric, NATO Code Number H-537

Interchangeability:

MIL-PRF-5606: This fluid is completely compatible with MIL-PRF-6083, MIL-PRF-46170, MILPRF-87257, and MIL-PRF-83282 hydraulic fluids. It may be interchangeable with these fluids for some applications. The selection of the fluids to be used depends on the requirements of the operational system.

MIL-PRF-87257: This fluid is completely compatible with MIL-PRF-5606, MIL-PRF-6083, MILPRF-46170, and MIL-PRF-83282 hydraulic fluids. It may be interchangeable with these fluids for some applications. The selection of the fluids to be used depends on the requirements of the operational system.

MIL-PRF-83282: Listed in fluid property Table II, as miscible with MIL-PRF-5606 and MILPRF-87257 from  $-40^{\circ}\text{C}$  to  $+135^{\circ}\text{C}$ .

We may want to look into these fluids for the connector side.

- Carl Fritz reported that he received this e-mail from Bobby Crumb on 14 February 2007.

The SAE AE-8C1 aerospace connector technical committee met on Oct 26, 2006. We discussed an issue with the fluid immersion test defined in EIA 364.10, test fluid letter K. MIL-C-47220 silicate ester based coolant specification was cancelled in Jan 1995 and replaced with a totally different coolant, MIL-C-87252 which is PAO based. We are unaware of a military or industry replacement spec for Coolanol or MIL-C-47220. We are under the assumption that silicate ester based coolants are being phased out due to hazardous material management plans. If Coolanol or other silicate ester based coolants are still being used, then a specification for the fluid is required and a new test letter should be added to EIA 364.10 for the PAO coolant in accordance with MIL-C-87252. Please confirm that you are in agreement with our findings and update the EIA 364.10 specification at your earliest convenience. Also please note that although the EIA specification states that fluid K is MIL-PRF-47220 (Coolanol 25) or equivalent, there is no record of MIL-C-47220 being changed to MIL-PRF-47220.

## Attachment No. 1

Thanks you for your consideration,

Bobby Crumb  
IPT Technical Lead, Components Engineering  
Phone 770-793-0755  
Fax 770-793-0584

- Carl Fritz reported that he sent the following e-mail reply to Bobby Crumb on 14 February 2007.

Mr. Crumb, I acknowledge receipt of your e-mail dated 14 February 2007. EIA-364-10 (TP-10) is already on the agenda for the April 2007 EIA CE-2.0 meeting as a result of other issues. I will see that your concern for Test condition K will be discussed at that time. I will also see do some research into the history of Test condition K. Regards Carl Fritz

- Carl Fritz reported that he received this e-mail reply from Ralph Antonelli on 14 February 2007

Anyway let me do some digging on this, I believe Abdo Abdouni from my office attends the SAE meetings. I'll talk to him and possibly our HAZMAT guy. As for 47220 Bobby Crumb is correct about it still being MIL-C-47220 it was never converted to a PRF document.

- Carl Fritz reported that he received this e-mail reply from Ralph Antonelli on 14 February 2007

Also, I'm still working on the Fluids issue. What I have so far is that Air Force cancelled MIL-C-47220 (coolanol 25R) back in 1995, they have been phasing it out and replacing it with the PAO (MIL-C-87252). Navy Lakehurst website also indicates that the Navy is phasing out 47220 in favor of the PAO fluid. However it is still being used in a few systems and though Air Force Research Laboratory Wright-Patterson Air Force Base Ohio recommended replacing 47220 with 87252, Air Force 11 indicated that they should maybe still test to both (I'll discuss more with them). As for the coolanol 25R, it is manufactured exclusively by Exxon-Mobil. I've been looking for an industry standard but have found none as yet. I'll keep digging.

- Carl Fritz reported that he received this e-mail following e-mail from Al Davis on 28 March 2007. I forwarded a copy to Ralph Antonelli DSCC Columbus.

## Attachment No. 1

Gentlemen,

Background:

Many connector specifications under the “custody” of either the Navy or DSCC specify fluid immersion testing per EIA-364-10. One of the fluids required to be tested is MIL-S-8423, Defrosting Fluid. The specification MIL-S-8423, Defrosting Fluid has been cancelled and superseded by SAE-AMS1424. The SAE document lists the flash point of the material as 100 degrees Celsius (100C). EIA-364-10 requires the fluid to be heated to 100C as part of the test sequence. My safety people will not allow me to perform the test at the specified temperature of 100C due to the concern with it flashing over and possibly harming the operator. Needless to say the operator who brought this to my attention isn’t too excited about performing the test.

I have not yet been able to find definitively what the flash point of the MIL-S-8423 was – but have to believe that it was greater than 100C if we have been able to perform the fluid immersion testing at 100C without incidence over the years. My supply of MIL-S-8423 fluid was compromised by the Great Flood of 2006 so as we look for replacement material – which is no easy task to buy but 1 gallon of this stuff – we are only finding the SAE material.

**Secretary’s NOTE:** The specification reference should be MIL-A-8243

Action Needed:

The long-term solution is to update EIA-364-10 to change the temperature to something less than 100C. However, I need a short-term position, primarily from the Navy for 85049 testing, as to what temperature to use if I am using the SAE-AMS1424 material.

The committee reviewed all the comments submitted by Max Peel, Bobby Crumb and Alan Davis and recommended that Ralph Antonelli serve as project leader to address the issues that were raised. It moved by Ralph Antonelli and seconded by Dave Bouzek that Ralph Antonelli obtain a project number to revise the standard and make any changes deemed necessary and send out on SP ballot. The motion was unanimously approved.

B. Standards Due for 5-Year Review, SP-XXXX, EIA-364, TP-19, 47, 68, 71 and 104 (Carl Fritz)

It was moved by Bob Druckenmiller and seconded by Bill Peverill to obtain a project number to reaffirm the subject standards as part of the 5-year review and send out on SP ballot. The motion was unanimously approved.

## Attachment No. 1

C. TP-67, 72 and 76 cancelled for the record.

- Carl Fritz reported that he sent an the following e-mail to Cecelia on 11 January 2007. Would you please check if TP-67 (PN-2143), 72 and 76 were cancelled. My records indicate that I sent a memo to you in 2000. I still have some old drafts in my book.  
Regards Carl

Received the following e-mail from Cecelia on 12 January 2007. I don't know about 2143 because when I got the PN records it starts at 4103. What is the PN# for 72 and 76

- Sent follow up e-mail to Cecelia on 12 January 2007. PN-2143 is shown on the draft copy of TP-67 that I have that is dated 9/29/94. The draft copy of TP-72 that I have is dated 6/8/92, and the draft copy of TP-76 that I have is dated 6/8/92 as well. My records indicate that I sent you a note in October and November 2000 to cancel the projects. There should be something in the minutes of the meeting that Fall.

Received the following e-mail from Cecelia on 12 January 2007. Carl -- since I don't have those records nor know where to go to find them as far as I am concerned they are cancelled.

- Sent 2 letters to Cecelia (mccwil129 and mccwil290) together with copy of the CE-2.1 Cheyenne June 2000 meeting minutes on 13 January 2007 by e-mail.
- Received the following e-mail from Cecelia on 17 January 2007.

Done as far as I am concerned. I only found a record of 76 and I cancelled it. 67 and 72 is nowhere to be found (at least in the records I got) so it never existed or somebody forgot to record, so consider it gone. I will keep the paperwork in the file so that when I'm gone they got a record.

D. Should the committee address Cable Assemblies?

The committee was receptive to the idea. The only concern was that we do not tread on someone else's toes. The members will also survey the on company on the benefits of such standards. Ed Mikoski indicated that he is not aware that there would anything currently at EIA that would prevent the creation of standards directly related to cable assemblies.

E. TP-38, Cable Pull-Out Test Procedures for Electrical Connectors (Carl Fritz)

- Carl Fritz reported that he received the following note from Max Peel on 16 October 2006:

The conversion numbers in 364D and the test conditions in the TP do not agree with 1344. What are we doing about that issue? If People use the TP as written they will probably use the wrong requirement

## Attachment No. 1

- The following was my reply to Max on 26 October 2006:

Max, I have reviewed the conversion table in EIA-364D as well as having 2 other individuals do the same and the conversion table listed in EIA-364D is correct and no changes are required. What I see is the following:

<b>Tensile force</b>	<b>EIA-364-38B, Test condition</b>	<b>MIL-STD-1344, Method 2009.1, Test condition</b>
25	E	A
50	A	B
75	B	C
100	C	D
125	D	E

It was moved by Frank Ruffino and seconded by Bob Druckenmiller to obtain and project number and send out on SP ballot to add note to table 1 and add annex. It was also moved and approved that if there are sufficient ballots received, and there are no rejections or negative comments received by the ballot expiration date, that the standard be sent to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously moved and approved

### F. TP-32

It was moved by Bill Peverill and seconded by Bob Druckenmiller to obtain and project number and send out on SP ballot to add note to table 1 and add annex. It was also moved and approved that if there are sufficient ballots received, and there are no rejections or negative comments received by the ballot expiration date, that the standard be sent to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously moved and approved

### G. TP-41

It was moved by Frank Ruffino and seconded by Bob Druckenmiller to obtain and project number and send out on SP ballot to add a note under paragraph 4 and add annex. It was also moved and approved that if there are sufficient ballots received, and there are no rejections or negative comments received by the ballot expiration date, that the standard be sent to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously moved and approved

Respectfully submitted,

Carl Fritz, Chairman CE-2.1