

Attachment No. 1

Minutes of the CE-2.1 Subcommittee on Test Procedures 24 – 25 September 2007 San Antonio, TX

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

1. Approval of the 16 – 17 April 2007 Minutes

The minutes of the 16 – 17 April 2007 meeting in San Diego, CA 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. SP-3787, EIA-364-1000.02, (EIA-364-1001 new designation) Current Rating Verification Procedure (Max Peel)

Sent standard and cover memo (mccwil302) to EIA for letter ballot on 28 May 2007. Consider changing number to EIA-364-1004. Reason number is too close to EIA-364-1000.01 that we have eliminated to avoid confusion. Number changed to EIA-364-1004 is approved at September 2007 meeting. Letter ballot issued 4 June 2007 with a ballot expiration date of 5 July 2007.

Carl Fritz reported that comments were received from Bob Druckenmiller, John Healey, Jeff Toran and Bill Peverill. The committee reviewed all received comments and the reply from Max Peel. The draft standard was modified accordingly during the meeting. It was moved by John Healey and seconded by Dave Bouzek to incorporate the comments and send the standard to EIA for SP ballot. The motion was unanimously approved.

B. SP-4942-B, EIA-364-60A, General Methods for Porosity Testing (John Healey)

Carl Fritz reported that the standard and cover memo (mccwil303) were sent to EIA for EDEC ballot on 28 May 2007. Letter acknowledging the favorable editorial comments was sent to Bob Druckenmiller (mdruckenmiller12).

Resent standard on 25 June 2007 to replace the file that Cecelia said was corrupted.

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

Carl Fritz reported that work is on going.

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D. SP-4981-A, EIA-364-70B, Temperature Rise Versus Current (Max Peel)

Carl Fritz reported that the standard and cover memo (mccwil304) to EIA for EDEC ballot on 28 May 2007. The published standard was received 21 June 2007 by US mail.

E. 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.

Carl Fritz reported that he notified EIA that there was no need to reaffirm TP-07 since it has been revised and published 19 July 2007.

F. SP-5089-A, TP-55, Current Cycling (Max Peel)**

Carl Fritz reported that Max Peel reviewed the comments recommended at the last meeting. It will be sent to EIA for a previously approved short 30-day SP ballot.

G. SP-5107-A-1 and -2, EIA-364-1002, Test Methodology for Assessing the Performance of Compliant Contact Terminations Used as Free Standing Contacts or in Electrical Connectors and Sockets (Max Peel)

Sent standard and cover memo (mccwil305) to EIA for a short 30-day SP ballot on 31 May 2007. Short 30-day SP ballot issued 12 June 2007 with a ballot expiration date of 12 July 2007.

Carl Fritz reported that the project leader rejected the ballot based on new information related to maximum/minimum hole size requirements. A second Short 30-day SP ballot was issued on 21 August 2007 with a ballot expiration date of 21 September 2007.

Carl Fritz reported that there were 3 approved ballots received, one rejection from John Healey, and 1 abstention from Dave Bouzek by the ballot expiration date of 21 September 2007. The project leader rejected the rejection he received from John Healey. The committee discussed the rejection submitted by John Healey and the reply from the project leader. It was moved by Bob Druckenmiller and seconded by Ralph Antonelli to approve the standard and send to EIA for EDEC ballot and publication as an ANSI standard. The motion was approved with John Healey opposing.

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

Sent letter (mccwil231) to EIA for EDEC ballot to reaffirm all listed standards on 13 January 2006.

- TP-13 published as **revised** (see SP-5157) 2 July 2007. No need to reaffirm. Received US Mail 23 July 2007.

The open standards remain to be reaffirmed.

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

Carl Fritz reported that he sent letter (mccwil306) to EIA for EDEC ballot to reaffirm on 31 May 2007.

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

Carl Fritz reported that he sent letter (mccwil306) to EIA for EDEC ballot to reaffirm on 31 May 2007.

K. 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)

Sent letter (mccwil277) to EIA for EDEC ballot to reaffirm all listed standards on 29 October 2006.

The open standards remain to be reaffirmed.

L. SP-5143-1, EIA-364-1000, Environmental Test Methodology for Assessing the Performance of Electrical Connectors and Sockets Used in Controlled Environment Applications (John Healey)

Carl Fritz reported that he sent John Healey a revised copy containing the revised tables 8 and 9 on 19 June 2007 to review.

Sent standard and cover memo (mccwil317) to EIA for a short 30-day SP ballot on 19 June 2007.

- Frank Ruffino requested that the standard be placed on HOLD on 21 June 2007.

Carl Fritz sent revised standard and new cover memo (mccwil321) to EIA for a short 30-day SP ballot on 4 September 2007.

- The committee reviewed the revised copy presented by John Healey during the meeting. Additional changes were made to the revised standard. Since the standard has not yet gone out on the Short 30-day SP ballot, it was requested that the copy reviewed at the meeting be sent to EIA as a replacement.

It was moved by Frank Ruffino and seconded by John Healey to send the revised standard out on a short 30-day SP ballot. It was also moved that if there are no rejections or negative comments received that the standard be sent to EIA for EDEC ballot after the ballot expiration date and publication as an ANSI standard. The motion was unanimously approved.

- For future consideration John Healey presented concerns raised by Max Peel. The committee feels that that some of the issues are valid and should be addressed under new business after the release of the EIA-364-1000 standard. The committee also feels that if there are specific concerns that anyone has relative to the integrity of the standard they should present their concerns and justifications to the committee.

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

Carl Fritz reported that he sent the standard and cover memo (mccwil313) to EIA for EDEC ballot on 7 June 2007 on behalf of Bob Druckenmiller. Sent letter acknowledging the favorable editorial comments to Max Peel (mpeel28).

N. 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.

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

Carl Fritz reported that he sent the standard and cover memo (mccwil307) to EIA for EDEC ballot on 4 June 2007. Sent letters acknowledging the favorable editorial comments to Bob Druckenmiller (mdruckenmiller10) and H. John Healey (mhealey16) .

The standard was published 2 July 2007 and received by US Mail on 23 July 2007.

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

Carl Fritz reported that he sent the standard and cover memo (mccwil307) to EIA for EDEC ballot on 4 June 2007. Sent letters acknowledging the favorable editorial comments to Bob Druckenmiller (mdruckenmiller10) and H. John Healey (mhealey16)

The standard was published 2 July 2007 and received by US Mail on 23 July 2007.

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

Carl Fritz reported that he sent the standard and cover memo (mccwil308) to EIA for EDEC ballot on 4 June 2007. Sent letter acknowledging the favorable editorial comment to Max Peel (mpeel27) .

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

Carl Fritz reported that he sent the standard and cover memo (mccwil309) to EIA for EDEC ballot on 4 June 2007. Sent letter acknowledging the favorable editorial comments to Bill Peverill (mpeverill).

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

Carl Fritz reported that he sent the standard and cover memo (mccwil310) to EIA for EDEC ballot on 4 June 2007. Sent letter acknowledging the favorable editorial comments to Bill Peverill (mpeverill).

T. SP-5162, TP-07C, Contact Axial Concentricity (Max Peel)

Carl Fritz reported that he sent the standard and cover memo (mccwil311) to EIA for EDEC ballot on 5 June 2007. Sent letter acknowledging the favorable editorial comments to Bob Druckenmiller (mdruckenmiller 11).

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

Carl Fritz reported that the ballot was issued on 8 August 2007 and that there were 5 approved ballots received to date. It was moved by Ralph Antonelli and seconded by John Healey that if there are insufficient ballots received by the ballot expiration date of 8 October 2007, and there are no rejections or negative comments, that the standard be sent to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously approved.

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

Carl Fritz to send out on Letter Ballot ASAP, as approved at the last meeting.

W. SP-5166, TP-10E, Fluid Immersion Test Procedure for Electrical Connectors and Sockets (Ralph Antonelli)

Carl Fritz reported that he sent PINS form and letter (mccwil300) requesting a project number to EIA on 14 May 2007 on behalf of Ralph Antonelli.

- Project number assigned by EIA on 31 May 2007 and notified Ralph Antonelli.
- Received this e-mail from Ralph Antonelli 1 August 2007.

The committee reviewed the revised standard with the recommended changes. It was moved by Bob Druckenmiller and seconded by Frank Ruffino to send the revised standard out on a SP ballot. It was also moved that if there are no rejections or negative comments received that the standard be sent to EIA for EDEC ballot after the ballot expiration date and publication as an ANSI standard. The motion was unanimously approved.

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X. SP-5167, Standards Due for 5-Year Review, EIA-364 (separate project), TP-19, 47, 68, 71 (separate project) and 104 (Carl Fritz)

Carl Fritz reported that he sent PINS form and letter (mccwil314) requesting a project number to EIA on 7 June 2007.

- Project number assigned by EIA on 8 June 2007.
- Sent cover letter (mccwil315) and prepared ballot (SP-5167 ballot for reaffirmation 15jun07) to EIA on 15 June 2007.

Carl Fritz reported that the SP ballot was issued on 6 August 2007 and that there were 8 approved ballots received. It was moved by Kevin Rickard and seconded by Dave Bouzek that if there are sufficient ballots received by the ballot expiration date of 6 October 2007, and there are no rejections or negative comments, that the standard be sent to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously approved.

Y. SP-5168, TP-32E, Thermal Shock (Temperature Cycling) Test Procedures for Electrical Connectors and Sockets (Carl Fritz)

Carl Fritz reported that he sent PINS form and letter (mccwil316) requesting a project number to EIA on 18 June 2007.

- Project number assigned by EIA on 18 June 2007.
- Sent standard and cover memo (mccwil318) to EIA for SP ballot on 20 June 2007.

Carl Fritz reported that the SP ballot was issued on 17 July 2007 and that there were 8 approved ballots received by the 17 September 2007 ballot expiration date. It was moved by Bob Druckenmiller and seconded by Dave Bouzek to send to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously approved.

Z. SP-5169, TP-38C, Cable Pull-Out Test Procedures for Electrical Connectors (Carl Fritz)

Carl Fritz reported that he sent PINS form and letter (mccwil316) requesting a project number to EIA on 18 June 2007.

- Project number assigned by EIA on 18 June 2007.
- Sent standard and cover memo (mccwil318) to EIA for SP ballot on 20 June 2007.

Carl Fritz reported that the ballot was issued on 18 July 2007 and that there were 8 approved ballots received by the 18 September 2007 ballot expiration date. It was moved by Ralph Antonelli and seconded by John Healey to send to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously approved.

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AA. SP-5170, TP-41D, Cable Flexing Test Procedure for Electrical Connectors (Carl Fritz)

Carl Fritz reported that he sent PINS form and letter (mccwil316) requesting a project number to EIA on 18 June 2007.

- Project number assigned by EIA on 18 June 2007.
- Sent standard and cover memo (mccwil318) to EIA for SP ballot on 20 June 2007.

Carl Fritz reported that the ballot was issued on 19 July 2007 and that there were 7 approved ballots received by the 19 September 2007 ballot expiration date. It was moved by Ralph Antonelli and seconded by Bob Druckenmiller to send to EIA for EDEC ballot and publication as an ANSI standard. The motion was unanimously approved.

AB. SP-5171, EIA-364E, Electrical Connector / Socket Test Procedures Including Environmental Classifications (Carl Fritz)

Carl Fritz reported that he sent PINS form and letter (mccwil312) requesting a project number to EIA on 6 June 2007.

- Received project number 21 June 2007.
- Sent standard and cover memo (mccwil319) to EIA for SP ballot on 18 July 2007.
- Ballot issued 1 August 2007 with a ballot expiration date of 1 October 2007.

It was reported that the ballot was issued on 1 August 2007 and that there were 2 approved ballots received, and 2 approved ballots with comments. The committee reviewed the comments and determined that the comment from Bob Druckenmiller regarding change in sample sizes to agree with TP-20 and TP-21 should be included. It was moved by Ralph Antonelli and seconded by Bob Druckenmiller to send to EIA for a short 30-day SP ballot to make the technical change, if there are no rejections or negative ballots received by the ballot expiration date of 1 October 2007. It was also moved that if there are no rejections or negative ballots received on the Short 30-day SP ballot, 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.

** Past due for 5-year review

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

None.

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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.

Carl Fritz reported that Max Peel recommends superseding TP-52 by the J standard when released.

6. NEW BUSINESS

A. TP-41, Cable Flexing (Max Peel)

To be opened as new project after release of SP-5170. There appears to be some issues with Figure 1. See letter from Max Peel at the end of these minutes.

Carl Fritz presented this new project based on comments received from Max Peel. It was moved by Bob Druckenmiller and seconded by Kevin Rickard to obtain a project number and send to EIA for SP ballot. The motion was unanimously approved.

B. New TP-XXX, Effective Resistance of Parallel Circuits Test Procedure for Electrical Connectors and Sockets (Frank Ruffino)

Frank Ruffino requested that a new project be initiated on determining the effective resistance of parallel circuits in a connector. This request is being initiated on behalf of the JEDEC JC-11 committee. Frank Ruffino has agreed to serve as project leader. It was moved by Bob Druckenmiller and seconded by Kevin Rickard to obtain a project number and send to EIA for SP ballot. The motion was unanimously approved.

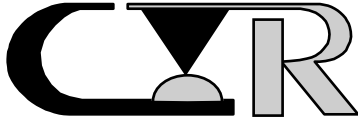
C. TP-14, Ozone Test Procedure for Electrical Connectors and Sockets

Kevin Rickard indicated that he has determined that there is a conflict between the exposure concentration expressed in TP-14 and the ASTM procedure. The concentration in TP-14 is expressed in ppm (parts per million) and in the ASTM procedure as pphm (parts per hundred million). Members are requested to check within their respective organization to see if they can determine the justification for the differences. It was moved by Kevin Rickard and seconded by Frank Ruffino that a project be initiated if it is determined that action is justified. The motion was unanimously approved.

Respectfully submitted,

Carl Fritz, Chairman CE-2.1

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Contech Research, Inc. 67 Mechanic Street, Attleboro, MA 02703
Telephone 508-226-4800 Fax 508-226-6869

September 17, 2007

Ms Cecelia Yates
ECA

Re: SP5170 - Revision of TP-41C

Dear Cecelia,

The following are my comments and/or recommendations to referenced document.

2.1.1.1 Apparatus cable of applying forces to a molded plug assembly, so as to cause such assembly to be flexed in a plane, through 180° arc, alternately from a position 90° from the vertical on one side to a position 90° from the vertical on the other side, at an adjustable frequency that includes a frequency of 12 to 14 complete cycles (of 360° total traverse) per minute; see figure 1.

- 1) Par 2.1.1.1 : Add at the end of the change to read "...at an adjustable frequency of 12 to 14 complete cycles per minute or unless otherwise specified in the referencing document".

Change to:

2.1.1.1 Apparatus cable of applying forces to a molded plug assembly, so as to cause such assembly to be flexed in a plane, through 180° arc, alternately from a position 90° from the vertical on one side to a position 90° from the vertical on the other side, at an adjustable frequency of 12 to 14 complete cycles (of 360° total traverse) per minute; see figure 1, unless otherwise specified in the referencing document.

Reason: To all flexibility in specifying rates, which may match specific applications, and establishing a default level to exist.

- 2) Par 2.1.2.1 : Add to the end of the sentence "unless otherwise specified in the referencing document".

Reason: See item 1.

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- 3) Par 3.2.1.2 : This paragraph is incomplete at best and totally confusing at worst. A better definition is required to establish where dimension X is established so that the position of the rollers can be specifically located.

Reason: Dimension X as currently indicated is "floating" with no visible indication of the locations of the datum plane. Needs clarification.

- 4) Par 3.2.1.3 : Unacceptable statement. Using the holding fixture to apply pressure to the cable core, will or can, cause failure contingent on conductor size, particularly on small stranded conductors. Testing in this manner can cause excessive stress to be applied. Also, what is the purpose of the weight at the free end of the conductor if the holding fixture prevents movement? The holding fixture should allow movement of the cable up and down to avoid premature failures.

A default of a 1.0 lb. weight should also be established to take the slack off of the cable.

- 5) Par 4.1.3 : Add to the beginning of the statement "unless otherwise specified in the referencing document...".

Reason: See item 1, Many cable assemblies now have requirements up to 10,000 cycles and are being tested in that manner, using, by the way, an alignment holding fixture rather than a fixed holding fixture.

- 6) Change figure 1 accordingly if the above comments are accepted.
- 7) The "Details to be specified should be reviewed to remove redundant and conflicting statements relative to the procedure statements included in Paragraph 4.

Best Regards,
Max Peel
Senior Fellow
Contech Research, Inc.
67 Mechanic Street
Attleboro, MA 02703

MP:gb