

**Minutes of the CE-2.1 Subcommittee on Test Procedures
13 – 14 October 2009
Savannah, GA**

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

1. Approval of the 28 – 29 April 2009 Minutes

The minutes of the 28 –29 April 2009 meeting in New Orleans, LA were approved. Moved by Don Chambers and seconded by Ed Wypasek. The motion was unanimously moved and approved.

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

2. TEST PROCEDURE PROJECTS (BY PROJECT NUMBER)

A. SP-5194 (was PN-4943), TP-65B, MFG (Max Peel)

Carl Fritz reported, for the record, that a Letter ballot was issued 10 July 2003. Confirmation with ECA indicated the project number is still good and can be used for the SP ballot. Carl Fritz presented a revised draft of the subject standard to the committee.

The committee reviewed the revised draft prepared by Max Peel. Frank Ruffino indicated that he had several other comments to be considered for clarification. He will provide those comment to Max Peel. It was also discussed to consider replacing the existing cleaning process with a specific ASTM procedure. The project leader will consider incorporating comments provided by Frank Ruffino as well as considering the ASTM cleaning process.

It was moved by John Healey and seconded by Don Chambers to send the standard to EIA for a SP ballot. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

Frank to provide Max with his comments on the most recent copy. Carl provided Frank with the latest marked copy of the file dated 6oct08.

Carl reported that he sent Max an e-mail on 1 June 2009 recommending that we go with what is in the document dated 6oct08 after reviewing the suggesting to us the ASTM cleaning procedure.

See EIA-364-65 Cleaning Procedure Comparison dated 5 June 2009.

Sent the standard, cover memo (mccwil383) and Background Data Sheet to EIA for SP ballot on 16 July 2009.

Project number changed from PN-4943 to SP-5194 at the request of EIA.

SP Ballot issued 21 July 2009 with a ballot expiration date of 21 September 2009.

- The following approved ballot with comments was received from John Healey on 21 August 2009:

Section 4.3.1. The inserted comment should be removed so it reads, "The test duration shall be as specified in the referencing document beginning from the point at which all the parameters have been stabilized"

It was noted that the period after document should be deleted.

Section 4.4.1.3 These coupons shall be placed in the chamber ~~between approximately at the mid point of the first half of the test duration and the mid point of the second half~~ at the start of the test. The coupons shall be removed after exposure times of 48 hours, unless otherwise specified. A new set of coupons prepared in accordance with 3.1.1 shall be used during each exposure period. Location of the coupons shall be noted on the data sheet.

This comment was noted and is considered a technical change. It will be considered at the next revision of the standard.

- The following approved ballot with comments was received from Bob Druckenmiller on 26 August 2009:

Comments:

Section 2.2.2 Materials: Sulfur Dioxide is not listed. This is a critical correction

To be add to material and considered an omission and not a technical change.

Section 4.1.2: spelling error in paragraph "NOTE"
"When the chamber is initially constructed or modified spacial uniformity....."
spacial should be spelled spatial

Noted spelling error.

- The committee also compared the ASTM cleaning procedures with those contain in this standard and concluded that they were identical, except to change the 2 parts to 3 parts in clause 3.1.1.1.3 indicated below to agree with the ASTM procedure. That change was considered a typo.

3.1.1.1.3 Transfer coupon immediately into a solution of 1 part concentrated hydrochloric acid and 3 parts deionized or distilled water; suspend coupon vertically for 120 seconds \pm 10 seconds in this solution.

- Confirmation with EIA on 30 September 2009 verified that there were 5 approved ballots received and two approved ballots with comments from John Healey and Bob Druckenmiller by the 21 September 2009 ballot expiration date. There were no rejections or abstentions.

The committee unanimously approved these actions during the meeting, and noted that the standard should be sent to EIA for EDEC ballot and for publication as an American National Standard as previously approved.

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

Carl Fritz reported that TP-44 was published on 20 May 2009 and received by US mail on 17 June 2009. Therefore the project is complete.

C. SP-5174-1 (previous designation PN-3787), EIA-364-1004, Environmental Test Methodology for Verifying the Current Rating of Free-Standing Power Contacts or Electrical Connectors and Sockets (Max Peel)

Confirmation with EIA following the meeting confirmed that there were 6 approved ballots and 3 rejections received by the ballot expiration date. The rejections were received from John Healey, Frank Ruffino and Vince Pascucci.

- The following e-mail was received from John Healey on 6 October 2008.

In a message dated 10/6/2008 6:02:31 P.M. Eastern Daylight Time, hjhealey@us.ibm.com writes:

Cecelia, Here's my negative ballot. The major reasons for my disapproval are 1) I still do not agree with the sample sizes selected; 2) para. 3.1.7 and Table 1 cause confusion over which test sequences are appropriate; and 3) there is no means for determining the test parameters that should be used for a particular application.

- The following e-mail reply was sent by Max Peel to John Healey on 15 October 2008 on his negative ballot.

John,

This is to acknowledge receipt of your negative ballot. I have reviewed your comments and the following is the disposition of same.

1) Sample size: Not accepted. No alternative was indicated. The document allows the sample size to be whatever the user agency desires. All they have to do is to specify what they want. The numbers in the document are simply default levels

2) I will clarify the statements in 3.1.7 and Table 1. If changes are required they will be classified as clarification.

3) Test Parameters: Not accepted. The intent of this document is not to set test parameters or create a performance document. . It was initiated to establish a test sequence that would be common. The test parameters has to come from the user agencies. The reason for this is that there are no dominate set of parameters or requirement that is in use. It appears that the severity levels , durations and requirements are based on the desires of each individual company and their own preferences based on specific applications. In other words, they are all different.

Regards,

- The following was received by e-mail with the rejected ballot on 6 October 2008 from Vince Pascucci:

Comments

Tyco Electronics agree that testing should be conducted at different loading configurations (1 position, 50%, 100%). However, unless there is a description of the use of the additional information, it adds no value. Therefore, before publication, the specification must include an informative annex describing the use of the additional test information. In fact, there should be included a description of the general procedure(s) for using the test data to establish a current rating or, at a minimum, a requirement that the basis for determining a current rating, if one is created, be included in the test report.

Tyco Electronics disagree with the requirement of both MFG and Temp-hum cycling exposure for both noble and non-noble plating systems. We understand the rationale for this, i.e. under certain circumstances, such as thin gold or tin after wear, the plating system becomes vulnerable to degradation mechanisms of both environments. However, we disagree that 30 microinch gold is necessarily the transition to thin gold. There are many parts of 15 microinch gold which are capable in the temp/hum exposure environment. Further, in our experience with the basic procedure outlined, we have not noted any instance of a field failure which would have been prevented through the additional testing proposed.

Tyco Electronics also has concern that the stated requirement for determining the point of temperature stability is not in agreement with existing standards.

Carl reported that Max Peel discussed the comments submitted by Vince Pascucci on his reject ballot. As a result of the discussion Max Peel has agreed to revise the standard and send out on a second short 30-day SP ballot. Max has indicated that he will also address the issues submitted on the rejected ballots from John Healey and Frank Ruffino at the same time. It was moved by Frank Ruffino and seconded by Dave Bouzek that Max go out a second short 30-day SP ballot. The committee also agreed with Max Peel's reply to John Healey. The motion was unanimously approved.

D. SP- 5179, TP-112, Effective Resistance of Parallel Circuits Test Procedure for Electrical Connectors and Sockets (Frank Ruffino)

Carl reported that he sent standard, cover memo (mccwil369), and Background Data Sheet to EIA for a SP ballot on 5 March 2009 on behalf of Frank Ruffino.

SP Ballot issued 10 March 2009 with a ballot expiration date of 11 May 2009.

During the meeting paragraph 1.3 and 3.2 were revised for clarification. See revised standard dated 28apr09.

- The following rejected ballot was received from Max Peel on 7 May 2009:

Ms. Cecelia Yates
ECA Engineering


RE: SP5179, Proposed TP 112

Cecelia,

Please find attached my disapproval of referenced document.
The reasons for the disapproval are as follows:

1. I do not object to the basic scope of the document. However, in reviewing said document it does not appear to be formatted to satisfy the intent of a test procedure by definition. A test procedure is a "how to do" type document which describes the steps required, equipment to be used, special sample preparation required, etc.
2. A procedure is a document that a technician can use to generate data to satisfy performance requirements of a given connector. The document as written does not satisfy the intent. It describes and concentrates on using and performing a series of calculations to establish a requirement.
3. Hence, the document is more of normative information, which should be an annex or addendum to a procedure. This would then have to have a series of statement requiring how to perform tests as required to be performed by a technician.
4. Within the body of the technical dissertation, there is a table showing a test sequence but no consideration on what or how it is to be performed. This falls more in line with the 'TS' series of documents rather than a TP. And I would have no objection in pursuing that approach although I also have several questions relating to the content of several areas involved.
5. In essence, my basic objection is "where is the procedure?" It doesn't exist except by calculation (which is not a TP).

Regards,

A handwritten signature in black ink, appearing to be 'M. Yates', written in a cursive style.

- The following e-mail was received from Max Peel on 11 September 2009. This e-mail was sent to Cecelia Yates at EIA:

Cecelia,

I have recently met with Frank Ruffino and have discussed with him my negative ballot for SP 5179. Based on that discussion, I would like to change my vote from disapproval to approved w/o comment.

Regards,

- The following rejected ballot was received from Bob Druckenmiller on 23 April 2009:

Comments:

My main reason for rejecting this document as issued is that this document is not a "test procedure" and should not be published as a TP. This document is a statistical data treatment procedure. My suggestions would be to add it to the base 364 document or to add it as an appendix to both of the contact resistance measurement TP's 06 and 23.

I also do not believe we should have the current rating listed in the title with nothing in the document. I believe the current rating portion should be it's own procedure and then can put as an appendix to TP70. It may awhile before this portion is developed.

Regards
Bob Druckenmiller

- Confirmation with EIA on 30 September 2009 verified that there were 4 approved ballots received, and 1 rejected ballot from Bob Druckenmiller by the 11 May 2009 ballot expiration date.
- The following e-mail was received from Bob Druckenmiller on 7 October 2009. This e-mail was sent to Cecelia Yates at EIA:

Cecelia

After discussions with Frank Ruffino I would like to rescind my negative ballot on SP-5179 and have my vote changed to approved.

Regards

In addition to Bob Druckenmiller changing his ballot to approved there were 5 approved ballots received by the ballot expiration date.

It was moved by Don Chambers and seconded by Dave Bouzek to send the standard to EIA for a EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard. In the event that insufficient approved ballots were received the committee unanimously approved this action.

E. SP-5180, TP-41E, Cable Flexing (Max Peel)

Sent Max marked copy of draft form Don Chambers to review on 22 February 2009.

- The following is my reply to Max's e-mail of 24 February 2009:

Max, I will not do anything until I hear from you. I have looked over the standard and offer the following from my recollection of discussions at the meeting.

Regarding the 360 degrees. Paragraph 2.1.1.1 is addressing 2 issues. The first issue is indication that the cyclic rate is 12 - 14 cycles per minutes. The second issue dealing with the 360 degrees is defining what 1 cycle constitutes. It constitutes going for example from left horizontal to vertical 90 degrees then to right horizontal, and finally returning through the vertical to left horizontal. The total excursion is 4 time 90 degrees or 360 degrees.

Regarding the weight. Paragraph 3.2.1.3. This paragraph is attempting to address very large cables having multiple conductors. These assemblies normally contain very large metal shell connectors. The intent here was to establish a weight as a function of a given length of length. Hanging a weight of 1 pound on this would have no effect.

Both issues may require some wordsmithing. I hope this is of some help.

Regards, Carl

- The following is Max's reply to my e-mail of 24 February 2009:

In a message dated 2/23/2009 4:32:32 PM Eastern Standard Time, MaxConRes writes:

Carl,

I have reviewed the revision and cannot agree at this time to submit it for a vote. Looks like some changed have been made which changes the objective of the document beyond my intention, For example, the total angle of bend should be 180 not 360 degrees The second one deals with the weight determination which I have no idea where that comes from. The intent of the 1 pound weight is simply is to take the slack out of the cable not to put stress on the cable. So I will have to review the proposal and straighten it out. Please do not submit this document for a vote until I accomplish this. Should be able to do this within a week.

Regards,

Carl notified the committee that he will submit revised draft as is for SP ballot. Don Chambers agreed to comment on SP ballot .

Carl reported that he sent the standard, cover memo (mccwil373) and Background Data Sheet to EIA for SP ballot on 29 May 2009.

SP Ballot issued 3 June 2009 with a ballot expiration date of 11 August 2009.

- Dave Bouzek forwarded the following e-mail and marked copy on behalf of Richard Misiaszek at Raytheon Co. on 5 June 2009. These comments do not represent an official EIA ballot:

From: Richard R Misiaszek [mailto:Richard_R_Misiaszek@raytheon.com]

Sent: Friday, June 05, 2009 7:54 AM

To: David Bouzek

Subject: comments on SP-5180.

Hi David.

My suggested comments are in blue. The test seemed to imply that only plug connectors use molded boots or strain reliefs. Users may have cables with receptacles also.

Regards,

Rich

Rich Misiaszek
Advanced Interconnection Technology
Mechanical Engineering Directorate
Integrated Defense Systems

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- Confirmation with EIA on 11 September 2009 confirmed that there were 8 approved ballots received by the ballot expiration date and no comments or rejections, other than the one unofficial set of comments received from Richard Misiaszek via Dave Bouzek.
- Sent Max Peel an e-mail on 15 September 2009 requesting him to review the comments from Richard Misiaszek. See marked ballot.
- The following is the reply from Max Peel to my e-mail of 15 September 2009:

Carl,

I have no objection to the clarification as requested. Please incorporate the recommended changes.

Regards,

- Note: Carl reported that editorial comments were received from Bernie Aronson.

The committee reviewed the comments from Bernie Aronson and rejected them, in favor of using the abbreviation policy established by the committee. The committee several years ago decided to use abbreviations in standards to define units of measure only when space was a limiting factor to avoid confusion: i.e. tables.

The committee reviewed the comments submitted by Richard Misiaszek via Dave Bouzek and the majority of the unofficial comments were accepted.

It was moved by Bob Druckenmiller and seconded by Dave Bouzek to send the standard to EIA for an EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard. The actions were unanimously approved.

F. SP-5181, TP-87A, Nanosecond Event Detection (Max Peel)

Carl reported that the standard was published on 20 May 2009 and received by US Mail on 17 June 2009.

G. SP-5184, TP-37C, Contact Engaging and Separating Force (Carl Fritz)

Carl reported that he sent the standard and cover memo (mccwil374) to EIA for EDEC ballot on 1 June 2009, and sent letter of acknowledgement to David Bouzek (mbouzek6) on the unofficial comments he submitted on behalf of Alan Miklos / Pat Oakes of Glenair.

Standard was published on 11 June 2009 and received by US Mail on 27 June 2009.

H. SP-5186, Standards Due for 5-Year Review, EIA-364, TP-51, 58, 96 and 109 (Carl Fritz)

Carl reported that he sent cover memo (mccwil375 and PINS form to EIA requesting a project number on 2 June 2009.

Received project number 2 June 2009.

Sent letter (mccwil378) and prepared ballot to EIA for SP ballot to reaffirm on 3 June 2009.

Ballot issued 3 June 2009 with a ballot expiration date of 3 August 2009.

Confirmation with EIA on 13 August 2009 verified that there were 8 approved ballots received and one abstention by the 3 August 2009 ballot expiration date.

Sent letter (mccwil387) to EIA for EDEC ballot to reaffirm all listed standards on 18 August 2009.

I. SP-5187, EIA-364-88A, Residual Magnetism Test Procedure for Electrical Connectors (Carl Fritz)

Carl reported that he sent cover memo (mccwil376 and PINS form to EIA requesting a project number on 2 June 2009.

Received project number 2 June 2009.

Sent the standard, cover memo (mccwil379) and Background Data Sheet to EIA for SP ballot on 3 June 2009.

Ballot issued 24 June 2009 with a ballot expiration date of 24 August 2009.

Confirmation with EIA on 15 September 2009 confirmed that there were 8 approved ballots received by the ballot expiration date and no comments or rejections.

Sent the standard and cover memo (mccwil388) to EIA for EDEC ballot on 16 September 2009.

J. SP-5188, EIA-364-80, Low Frequency Shielding Effectiveness Test Procedure for Electrical Connectors and Sockets (Kevin Rickard)

Kevin Rickard has requested to revise the subject standard to address the 1 ohm resistance as part of the reference measurement. It was moved by Kevin Rickard and seconded by Don Chambers to obtain a project number, and send the standard to EIA for a SP ballot. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

Carl reported that he sent cover memo (mccwil377 and PINS form to EIA requesting a project number on 3 June 2009.

Received project number 3 June 2009 and notified Kevin Rickard.

Kevin reported that work on revising the standard was in progress.

K. SP-5189, EIA-364-45A Firewall Flame Test Procedures for Electrical Connectors

Carl reported that he sent cover memo (mccwil380 and PINS form to EIA requesting a project number on 4 June 2009 on behalf of Don Chambers.

Received project number 4 June 2009 and notified Don Chambers.

Don reported that work on revising the standard was in progress.

L. SP-5195, TP-82B, Corrosivity of Plastic Test Procedure for Electrical Connectors and Sockets Housings (Max Peel)

The following e-mail and memorandum was sent to the distribution list on 12 June 2009:

Gentlemen, I have prepared the attached memorandum to revise the subject standard. Please read and reply as soon as possible. This is been done to be responsive to the requested revision and not wait until the fall meeting. Your prompt reply is appreciated. Kind regards, Carl Fritz, chair EIA CE-2.1

MEMORANDUM TO CE-2.0 NATIONAL CONNECTOR STANDARDS COMMITTEE

Re:Revision of EIA-364-82A " Corrosivity of Plastics Test Procedure for Electrical Connector and Socket Housings".

The Chairman of the CE-2.1 subcommittee has received a request to revise the subject standard to include a second test method. The existing method will be identified as Method A, and will also be considered the default method for legacy products. Normally formal committee approval to progress the document would occur during a stated committee meeting. To expedite this requested revision I have prepared this memorandum and not wait until the next scheduled meeting in October 2009.

So that we can proceed without further delay, we ask that you vote to approve the issuance of a project number and to proceed directly to letter or SP ballot at the discretion of the project leader. Approval of this action does not constitute approval of the change.

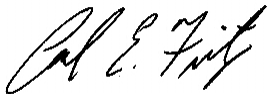
Once we receive sufficient approvals to proceed, you will receive a copy of the ballot and proposed changes for your comment/vote.

Please take the time right now, but not more that 10 days, to return this memorandum stating your preferred action to Cecelia M. Yates and Carl Fritz at cyates@ecaus.org and lumby73@aol.com respectively.

[] I approve of this action : (Name: _____).

[] I disapprove of this action: (Name: _____).

Thank you for your assistance in this matter.



APPROVED: Carl E. Fritz, Chairman CE-2.1 Subcommittee

DATE: 12 June 2009

Distribution:

Ralph Antonelli (Approved 13 June 2009)

David Bouzek (Approved 24 June 2009)

Greg Brown (On the second notice I received a note that Greg was out of the office until 2 July 2009.

No reply was ever received from Greg Brown.)

Don Chambers (Approved 13 June 2009)

Bob Druckenmiller (Approved 13 June 2009)
Carl Fritz (Approved 13 June 2009)
H. John Healey (Approved 13 June 2009)
Max Peel (Approved 30 June 2009)
Kevin Rickard (Approved 24 June 2009)
Frank Ruffino (Approved 26 June 2009)

cc: Cecelia Yates (ECA)

Request for approval EIA-364-82A

Sent cover memo (mccwil384 and PINS form to EIA requesting a project number on 21 July 2009 on behalf of Max Peel.

Received project number 22 July 2009 and notified Max Peel.

Sent the standard, cover memo (mccwil386) and Background Data Sheet to EIA for SP ballot on 14 August 2009.

Ballot issued 20 August 2009 with a ballot expiration date of 20 October 2009.

- Received the following rejected ballot from Bob Druckenmiller on 26 August 2009:

Comments:

The reason for rejecting this revision of EIA 82 is that the new method added for "contacts" does not follow the exposure procedure currently in this test method. It is an entirely different exposure and actually follows EIA 31 Method II. It does not make sense to add a duplicate procedure to this test method. EIA 82 was written with a specific method in mind which is much different than EIA 31.

The contacts can be tested as per EIA-31 method II.

- Received the following comments (not ballot) from Bernie Aronson on 6 September 2009:

Sorry about that confusion, I meant to send my concerns but other issues arose and I forgot. Please forgive my tardiness. Here are my comments on SP5195.

A. I was wondering what is meant by "3.2.1.2 The substrate shall then be cleaned by rinsing in AR grade isopropyl alcohol and blow drying with clean air or dry nitrogen."

Is the subclause 3.2.1.2 referring to dry nitrogen as (1) commercially available tank dry nitrogen grade, which is a contradiction since it is loaded with water or (2) is this tank nitrogen that has been sent through molecular sieve or some other drying agent, or the driest versions (3) nitrogen gas off the liquid, or prepurified nitrogen grade? Is a filter used to remove particulates from the gas tank that is loaded with them?

B. I still have some qualms about your committee's exclusive use of written-out dimensional units since the use of abbreviations solve problems of space usage and are commonly used internationally, e.g., preferably $1\text{ }^{\circ}\text{C}\cdot\text{min}^{-1}$ ($1.8\text{ }^{\circ}\text{F}\cdot\text{min}^{-1}$) or $1\text{ }^{\circ}\text{C}/\text{min}$ ($1.8\text{ }^{\circ}\text{F}/\text{min}$) instead of a mixture of full and abbreviated units in subclause 4.2.2, e.g., $1\text{ }^{\circ}\text{C}$ per minute ($1.8\text{ }^{\circ}\text{F}$ per

minute) since to be consistent with your rules, you should write it as 1 degree Celsius per minute (1.8 degree Fahrenheit per minute).

C. First names in titles are capped but not those that follow, e.g., Table 1—Test criteria; 3.2.2.5 Optional (connector assemblies).

D. In subclause 1.1.1, "NOTE—This procedure is not intended to be used for qualitative analysis of corrosion products." should be changed to: "NOTE— This procedure should not be used for qualitative analysis of corrosion products."

E. In subclause 1.1.2, change "underplate" to "underplating."

F. In 4.2.4, use "Table 1" not "table 1."

G. In 3.2.1.6, "2.0" not "2. 0."

H. Specification of sample sizes should be described consistently, e.g., "five specimens, ten control samples," etc (preferred), or "5 specimens, 10 control samples, etc." not "five specimens, 10 control samples, etc."

The committee reviewed the rejection submitted by Bob Druckenmiller. It was moved by Don Chambers and seconded by Kevin Rickard to support Bob Druckenmiller's rejected ballot. The motion was approved by a 6 to 1 vote.

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

A. EIA-364-31D, Humidity Test Procedure for Electrical Connectors and Sockets (Max Peel)

Carl Fritz reported that sent Max Peel draft working copies that split this standard into 2 standards on 11 December 2008.

Revision under development.

B. TP-79, Insert Bond Strength (Kevin Rickard)

Kevin Rickard has agreed to take this on as a new project. It was moved by Don Chambers and seconded by Kevin Rickard to obtain a project number and send to EIA for a SP ballot. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

- The following is my reply to the e-mail from Don Chambers on 7 May 2009:

Don, I hit the send button before I was done. I was just thinking you may also want to consider eliminating other holes in the mating surface such as alignment pins in large connectors, and jack screw holes. There may be other openings in addition to just cavities. Regards Carl

In a message dated 5/7/2009 5:48:51 PM Eastern Daylight Time, Don.Chambers4@ngc.com writes:

I am not sure how we handle this, but to address Lisa Hoffer's (DSCC-VAI) concern I would propose to alter TP-79 para 4.1 as follows:

Using suitable equipment, an axial tensile load shall be applied to the test specimen. Unless otherwise specified, the load shall be sufficient to cause a stress of 689 kPa \pm 35 kPa (100 psi \pm 5 psi) to the insert assembly bond. The actual axial load required is determined by multiplying the available bond surface area of the test joint by the required stress. **The available bond surface area is the total surface area less the area of any cavities.** Unless otherwise specified, for a bonded connector insert assembly, the load shall be increased at a minimum rate of 0.45 kilogram per second (1 pound per second) until the required load is reached. Unless otherwise specified, the required load shall be maintained for a minimum of 30 seconds.

The text in blue is my addition for clarification.

Your thoughts?

Don Chambers

Kevin Rickard reported that he would send Carl Fritz a revised copy for SP ballot.

4. OTHER BUSINESS

A. Current overload

There is a need for this procedure. Max has requested that a project leader be established. In new mil dwg 89065? And a series of contacts the NAC was involved in and referenced in the blade and tuning fork spec.

The committee has agreed to consider this in the future.

B. Check 38999 that are not covered by a test procedure. 26482? See what tests are not unique to a specific specification. Consider developing a TP only if it has multiple applications.

This includes adding a vibration sweep method to the vibration TP-28. This is for residence surge. Spelled out in 38999 clause 4.5.23.2.3.

Electrolytic erosion, spelled out in 38999 clause 4.5.35.

Ralph Antonelli has agreed to provide Carl with a list of tests contained in 38999 that are not covered by a test procedure. Carl has agreed to prepare a draft for the next meeting.

Carl reported that he received a comparison prepared by Ralph Antonelli.
(See Attachment No. 12 for MIL comparison).

C. TP-66, Shielding Effectiveness (Ralph Antonelli)

- The following was received from Ralph Antonelli on 8 May 2009:

Review of MIL-STD1344, method 3008 and EIA-364-66 Harmonization

Objective:

The objective of this report was to review of the minutes from the harmonization effort of MIL-STD-1344 method 3008 and test procedure EIA-364-66 to:

- a. determine if the minutes from the harmonization effort resolve the questions that differences exist between the two test procedures.
- b. determine if EIA-364-66 requires an update as a result of these differences.

History:

August 1988 – International Symposium on Electromagnetic Compatibility, Report by M. L. Crawford and J. M. Ladbury Titled: "Mode-Stirred Chamber for Measuring Shielding Effectiveness of Cables and Connectors"

TP-66 – was developed based on this report

June 12, 1990 – ANSI approved EIA-364-66 (EMI Shielding Effectiveness Test Procedure for Electrical Connectors)

November 4, 1999 – EIA Special Meeting #9 364/1344 Comparison, Chris Hayes of Naval Air System Command (Navy-AS) "reported that the Navy will adopt EIA-364-66 in lieu of MIL-STD-1344, method 3008 **as is.**"

Only other changes made during the harmonization were either editorial, typographical or for clarification.

May 5 2000 – ANSI approved EIA-364-66A.

October 22, 2004 – Navy-AS Adopts EIA-364-66A.

Report Overview:

Review of M.L. Crawford and J.M. Ladbury report identifies and resolves inadequacies of MIL-STD-1344, method 3008. Some of the inadequacies and resolutions identified are as follows:

1. Design of the mode chamber - Increases Shielding Effectiveness from 60 dB to 100 dB.
2. Design of the tuner - Should be as large as possible. Minimum of 2 wavelengths.
3. Selection and placement of the Antennas - Broadband Ridge Horn antennas (placed in the corners of the chamber) have a lower VSWR and are more efficient in exciting and receiving test fields inside the chamber.
4. Measurement approaches - At frequencies below a few gigahertz the impedance of the antenna and the Equipment Under Test (EUT) become tuner position dependent which affects the measurement accordingly. Mode tuned measurement can be used due to variations in VSWR of the antenna and EUT.

Review of MIL-STD1344, method 3008 and EIA-364-66 Harmonization - Continued

At frequencies above approximately 4 gigahertz the impedance of the antenna become less dependent on tuner position and the mode stirred continuous sample measurement can be used.

Report Overview - Continued:

The report also states that either a spectrum analyzer or the procedure detailed in section 3.2.2.2 of MIL-STD-1344, method can be used to obtain SE of the EUT. However, in EIA-364-66 only the spectrum analyzer method is detailed.

Of course these issues are discussed in far more detail in the 7 page report and require someone with more expertise than this writer.

Conclusion

TP-66 was developed prior to the harmonization effort and in accordance with the M.L. Crawford, J.M. Ladbury report. Based on this report the Naval Air System Command made the decision to accept and adopt EIA-364-66 **as is**. The committee might consider evaluating the procedure detailed in section 3.2.2.2 and figure 2 of MIL-STD-1344, method 3008 to determine if it should be included in EIA-364-66. This report may not resolve the questions that prompted this review; this would require someone with expertise in shielding effectiveness testing, however, EIA did provide the test procedure as directed by the Naval Air System Command.

- The following was received from Don Chambers on 29 May 2009:

Ralph,

Sorry this took so long. I ran the changes to TP-66 that were made after the conversion from 1344A 3008 past one of the foremost EMI experts (Mr. C. Kent Jackson of Aerospace Corp) and he concurs that they are not only correct, but also make a better test procedure as a result.

I hope this is all that is needed. If you need anything else on this issue, please let me know.

Until specific issues arise the committee see no reason for further action. The project is deemed closed.

D. EIA-364-10E, Fluid Immersion

Carl Fritz reported that he received an e-mail from Trevor William (UK) via Don Chambers on 15 December 2008 regarding the addition of a new test fluid for deicing aircraft runways.

Don Chambers and Dave Bouzek will discuss this with Trevor Williams at the SAE meeting in May.

- Carl Fritz sent the following e-mail to Trevor Williams following the meeting.

Trevor Williams, I presented your request to add a new test fluid for deicing aircraft runways at the EIA CE-2.0 meeting on 26 April 2008. Don Chambers and David Bouzek have agreed to discuss this with you at the May 2009 SAE meeting. The committee will act on their recommendation at the October 2009 EIA CE-2.0 meeting. Kind regards, Carl Fritz

- The following reply was received from Trevor Williams on 1 May 2009.

Hi Carl

Thank you for your response.

I look forward to meeting with Don and Dave (I know both of them well) and I am sure that we will have meaningful discussions.

For interest, the same fluid is causing concern to the cable committees because it is reported to be aggravating arc tracking of cable looms.

Best regards

- The following is Trevor's reply to David Bouzek on 28 May 2009.

Hi Dave

Thanks for the info.

The objective of me raising this issue was to make sure it was in the public domain and being debated somewhere. It is a difficult subject and one to which we will have problems finding answers so I anticipate a slow response

See you in Portland

cheers

Trevor Williams

- The following is my reply to David Bouzek's reply to Trevor Williams on 28 May 2009:

David, Thank you for the followup with Trevor at the SAE meeting. I will await any further action until a decision has been made by SAE regarding the addition of any additional fluids. I will then proceed with any recommendation offered by SAE to revise TP-10. Kind regards, Carl

In a message dated 5/27/2009 6:49:10 PM Eastern Daylight Time, David.Bouzek@tri-starelectronics.com writes:

Trevor,

It was good to see you last week in Florida. I just wanted to copy Carl on this e-mail and let him know that the SAE group was going to work on the fluids a bit more and at this point EIA will hold off until further definition / fluids are presented.

Let me know if you have any other suggested course of action for the EIA folks.

Don – Sorry we missed you in Florida!

Regards,

Dave

No action required at this time. Dave Bouzek will keep the committee apprised of any future actions required. The request for an additional de-icing fluid is being reviewed by SAE.

D. J-STD-075 (Requested by Frank Ruffino)

Discuss the merits of developing a TS standard to outline tests necessary to evaluate connectors and determine the PSL (Process Sensitivity Limits) Level in J-STD-075.

J-STD-075 has PSL levels for Wave and Reflow compatible connectors, however there is no evaluation method or criteria specifically for connectors.

The unanimously agreed to take this on as a new project to develop a document to determine the PSL (Process Sensitivity Limits) of connectors as related to J-STD-075. Frank Ruffino has agreed to accept the review as project leader. It was moved by Frank Ruffino and seconded by Kevin Rickard to obtain a project number, and send the standard to EIA for a SP ballot. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

Awaiting further information from Paul Krystek (IBM) on the work that is being done. Further discussion will take place at the next meeting. Members are requested to review J-STD-075 to see if their products can meet the current requirements and determine if they can be classified.

E. TP-78A, Cavity – to – Cavity Leakage Bonding Integrity Test Procedure for Electrical Connectors (Don Chambers)

- Received this e-mail from Don Chambers on 17 March 2009:

In a message dated 3/16/2009 6:04:18 PM Eastern Daylight Time, Don.Chambers4@ngc.com writes:

Carl,

I was looking at TP-78 and noticed something curious. Are the connector end seal plugs supposed to be the same as MS27488?

- My reply to Don on 17 March 2009:

Good morning Don, I am glad to see that you are reading these things. It beats reading the dictionary or phone book. I checked in the original release of TP-78 dated September 1991 and found indeed that in clause 2 it stated that "The appropriate electrical connector end seal plugs similar to MS27488 are suitable for this purpose." I think the reasoning at the time was to include what was in MS27488 in the standard and not chase someone to another document. Also by having the information directly in the standard we would have control of the content, in the event that the military changed MS27488. We did not want to get into the "chicken and egg" situation as to which takes precedence. I think the intent was also to verify that the compliance to the MS is there when this standard is revised. I guess it would not hurt if we indicated the association in the TP as reference information. Worthy of consideration. Hope this answers your question. Carl

The unanimously agreed to take this on as a new project to revise the standard. Don Chambers has agreed to be project leader. It was moved by Don Chambers and seconded by Kevin Rickard to obtain a project number, and send the standard to EIA for a SP ballot. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

Don reported that work is on going.

F. EIA-364-91 Dust Test

There appear to be a problem obtaining the dust specified in this standard.

Contact: Jeff Fredericks, (952) 894-8737, Jeff@powdertechologyinc.com

This company is considering making the dust.

POWDER TECHNOLOGY, INC.

14331 Ewing Avenue, South
Burnsville, MN 55306
PH: (952) 894-8737
Fax: (952) 894-0734
Toll Free: (800) 718-8737

Other supplier: Sun Belt has not replied to numerous calls.

The committee has agreed to take this under advisement if the supplier agrees to make the dust.

Sunbelt Industries, Inc.
540 East Mill Street
Little Falls, NY 13365-2027
Phone: (315) 823-2943
FAX: (315) 823-4458
e-mail: sunbelt@ntcnet.com
Contact: Mr. Earl Mannion

ECA (Ed Mikoski) will look into establishing a source page for suppliers on the ECA web page and report at the next meeting.

G. TP-83, Shell - to - Shell Conductivity (Kevin Rickard)

The unanimously agreed to take this on as a new project to revise the standard. Kevin Rickard has agreed to be project leader. It was moved by Kevin Rickard and seconded by Don Chambers to obtain a project number for the purpose revising the standard and send out on letter ballot or SP as determined by the project leader. The motion was unanimously approved. Kevin will present a draft revision at the next meeting.

Kevin gave a presentation on the work done at Amphenol. Kevin requested Word file copy of the standard.

(See Attachment No. 13 for Conductivity report).

H. New TP for Ultra Violet Radiation (Don Chambers)

The unanimously agreed to take this on as a project to create a new TP. Don Chambers has agreed to be project leader. It was moved by Don Chambers and seconded by Kevin Rickard to obtain a project number and send out on letter ballot or SP as determined by the project leader.

Don reported that work is on going.

5. NEW BUSINESS

A. TP-25C, Probe Damage Test Procedure for Electrical Connectors (Dave Bouzek)

The unanimously agreed to take this on as a new project to revise the standard. Dave Bouzek has agreed to be project leader. It was moved by Kevin Rickard and seconded by Don Chambers to obtain a project number for the purpose revising the standard and send out on letter ballot or SP as determined by the project leader. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections or unresolved technical comments received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

See revised copy dated 14oct09. Dave to provide revised figures to Carl

B. TP-65C, MFG (New project to revise TP-65B) (Frank Ruffino).

This project will be addressed following the release of TP-65B.

The unanimously agreed to take this on as a new project to revise the standard. Frank Ruffino has agreed to be project leader. It was moved by Bob Druckenmiller and seconded by Don Chambers to obtain a project number for the purpose revising the standard and send out on letter ballot or SP as determined by the project leader. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

The following comment was noted and is considered a technical change. It will be considered at the next revision of the standard.

Section 4.4.1.3 These coupons shall be placed in the chamber ~~between approximately at the mid point of the first half of the test duration and the mid point of the second half~~ at the start of the test. The coupons shall be removed after exposure times of 48 hours, unless otherwise specified. A new set of coupons prepared in accordance with 3.1.1 shall be used during each exposure period. Location of the coupons shall be noted on the data sheet.

C. Fretting Corrosion (Max Peel and Vince Pascucci)

The unanimously agreed to take this on as a new project to create a TS specification. Max Peel and Vince Pascucci) have agreed to be project leaders. It was moved by Don Chambers and seconded by Ed Wypasek to obtain a project number for the purpose creating a standard and send out on letter ballot. It was also recommended that a task group be created to contribute during the development stage. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections or unresolved technical comments received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

Bob Druckenmiller reviewed the presentation on the fretting corrosion evaluation prepared by Trevor William (UK).

(See Attachment No. 14 for Williams report).

Respectfully submitted,

Carl Fritz, Chairman CE-2.1