Formation of IPC E-Textiles Standards Groups in Europe

Thursday, Dec 13, 2018
Meeting begins at 3:00 PM CET
PLEASE MUTE YOUR PHONE
About IPC

Formed in 1957, IPC is a global trade association with more than 4,800 member sites worldwide, dedicated to furthering the competitive excellence and financial success of its members, who are participants in the electronics industry.

IPC supports the global electronics industry under four primary activity areas

- International Standards
- Education
- Advocacy
- Solutions

More than 600 IPC member sites in Europe
About IPC International Standards

- More than 300 international standards in the IPC collection
- Specifications, Test Methods, handbooks, guidelines and white papers
- Represent collective knowledge and best practices for the electronics industry
- Used worldwide for designing and manufacturing electrical and electronic products and procuring materials
- Basis for IPC training and certification programs
- Available in multiple languages
How IPC International Standards Are Developed

- Written, revised and maintained by working groups of volunteers from all corners of the globe
  - OEMs, EMS companies, materials suppliers, academia, test laboratories, designers
  - More than 570 volunteers in Europe
- Limited prerequisites to develop an IPC international standard
  - Five people/company sites to initiate effort
  - Demonstrate a need by industry
  - Avoid duplication with other SDOs
    - IPC develops joint standards with many other SDOs
IPC’s ANSI-Approved Standards Development Process

- Ensures:
  - Openness and fairness
  - Anti-trust protection
  - User/Supplier-balanced, consensus approval
Benefits of Developing IPC International Standards

- No cost or obligation to participate on IPC working groups
- No roadblocks for someone to submit comments
- Time line to develop a standard is one to three years
- Can develop market-specific addenda international standards
- Collaborate and network with others from e-textiles and electronics supply chains
- There is no work requirement – volunteer at your convenience and based on your interest
- IPC offers free training on the IPC standardization process and how to chair a working group
- Staff liaisons support chairs and volunteers
There are Challenges Working With a Global Volunteer Base

- IPC working group members are located all over the globe
- Difficult for working groups to schedule web meetings at times that work for people from multiple global regions
- Many volunteers like to meet in face-to-face meetings
- Can be language barriers during meetings
- Need a way for anyone from any part of the globe to be able to participate in a way that is most convenient to them

*IPC has responded to this need by developing and supporting regional working groups*
  - Four so far in Europe
How Regional IPC Standards Working Groups Operate

- Regional groups operate the same as other IPC working groups
  - *Adhere to the IPC standards development process*
  - *Entirely volunteer-driven*

- Enable industry from specific regions to develop international standards that may be specific to their geopolitical region

- Meetings take place on local time and can be held at locations in the region

- Opportunities for networking

- E-textiles industry will gain access to IPC constituents in the European electronics supply chain
What IPC E-Textiles Europe Working Groups Will Do

- Create new IPC international standards and test methods for e-textiles
- Respond to comments on IPC international standards developed by the e-textiles European working groups
- Advise the IPC D-70 E-Textiles Committee leadership and IPC staff on needs of the European e-textiles market which IPC could help through technical and technology solutions
- Working groups can also submit regional consensus comments and opinions
  - *This does not replace individual comments on documents*
IPC Committee Structure

IPC D-70 E-Textiles Committee

D-71 Joining and Interconnection
IPC-8941 Connectors guideline

D-72 Materials
IPC-8921 Woven and knitted characteristics

D-73 Test Methods Validation/Development

D-73aGE

All people interested in the Europe group would be housed here

Committee structure set up for nine subcommittees based on topic area

Example: Working group in Germany forming to develop a test method for washability of printed silver ink on textiles
How Europe Groups Will Form Under IPC D-70

- Full Europe group will be maintained under D-70 General Committee as D-70 E-Textiles Committee Europe Interest Group
  - This will be a group of all people from Europe interested in IPC e-textiles international standards activities in Europe
- Working groups will be formed under the D-70 structure based on technical/technology topic areas
  - Example: Group in Germany forms the D-73aGE Washability for Printed Silver Ink E-Textiles Test Methods Task Group in Germany
- Anyone from other parts of the globe can join and participate on these regional working groups
IPC E-Textiles International Standards Topic Areas

- IPC-8910 – Conductive/Functional Fibers, Yarns and Other Materials (Inks, Platings, etc.)
- IPC-8920 – E-Textiles
- IPC-8930 – Nonconductive Coatings and Chemical Treatment Materials
- IPC-8940 – Joining and Interconnection Techniques
- IPC-8970 – Test and Measurement
- IPC-8980 – Quality, Reliability and Inspection
- IPC-8990 – Devices and Systems (includes mechanical processes, rework and repair)
Example Family Under This Standards Framework

- IPC-8920 – E-Textiles
  - *IPC-8921 – Requirements for Woven and Knitted E-Textiles, Conductive Fibers and Conductive Yarns*

- Examples of other possible topics in this family:
  - *IPC-8922 – Nonwoven E-Textiles*
  - *IPC-8923 – Laminated E-Textiles*
  - *IPC-8924 – Braided E-Textiles*
  - *IPC-8925 – Embroidered E-Textiles*
Summary of Current Activities of the IPC D-70 E-Textiles Committee

Committee formed in spring 2017

All activities are open to participation from European volunteers

Groups primarily meet via web meetings and work virtually
IPC-8921, Requirements for Woven and Knitted Electronic Textiles (E-Textiles) Integrated With, Conductive Fibers, Conductive Yarns and/or Wires

- D-72 E-Textiles Materials Subcommittee
- Co-chairs: Stephanie Rodgers, Apex Mills, and Diana Wyman, AATCC
- 131 participants
- Group began work in summer 2017
- A-Team (smaller group) developing working draft for D-72 review and comment
- Planned publication by Q4 2019
What the IPC-8921 A-Team Has Been Doing

- Group has met regularly for one-hour web meetings to develop working draft
- Developed draft classification system for woven and knitted e- textiles, conductive fiber, conductive yarns and wires
- Composed list of key functional characteristics and durability characteristics for testing to user requirements
  - *This list is a combination of topics provided by D-72 members and those added by the A-team*
- Working draft will be distributed to full D-72 roster for comment in Q1 2019
IPC-8941, *Guideline on Connections for E-Textiles*

- D-71 - Textiles Joining and Interconnection Techniques Subcommittee
- Co-chairs: Connie Huffa, Fabdesigns, Inc., and MaryAlice Gill, Jabil
- 72 participants
- Group approved in fall to begin work
- A-team has developed initial table of contents
- Plan is to break into A-Teams to cultivate content in 2019
What IPC-8941 Will Cover

- Provide key considerations and best practices for connecting e-textiles to components
- Help users and manufacturers work together to make best decisions for selecting connector types, materials and processes
- Connections include data (USB), power and heat transfer or a combination
- Connection methods to include stitching, soldering, etc.
- Guidance on test strategies based on essential factors for the product
- Goal – reduce time to market, lower costs and accelerate innovation
Formation of Test Methods Validation Subcommittee

- As the development of IPC-8921 continues, and as other international standards are developed, the D-70 committee needs a team to review, validate and develop test methods.
- Team will provide reports on test methods development activities of other SDOs (AATCC, ASTM, IEC, etc.).
- As test methods gaps are identified, the team will advise on which SDO should take the lead on developing a new test method.
  - *For example, form a new IPC E-Textiles Committee working group to develop an IPC-TM-650 Test Method.*
- Team will also generate white papers, webinars, etc., on test methods topics.
- Official approval for this group expected in January.
Expanding European Activities in IPC
International Standards for E-Textiles

There are many ways to participate

Volunteers can join existing working groups and/or form new working groups
Benefits of Forming Europe E-Textiles Working Groups

- Volunteers will be able to participate on local time and in native language
- Working groups can hold meetings at events in Europe, with IPC staff support
- Working group participants will be able to bring unique perspective to IPC international standards for e-textiles
- There is no cost or membership requirement to participate
- No barriers to participation or having your voice heard
- Groups will gain access to other IPC members and volunteers from the European e-textiles and electronics manufacture community
How the E-Textiles Industry in Europe Can Participate Today

- Comment on IPC-8921 (woven and knitted e-textiles requirements)
- Volunteer to join the effort to cultivate content for IPC-8941 (connectors)
- Propose topics and develop working groups for new standards under the IPC E-Textiles Standards topic groups
- Propose and develop IPC Test Methods for e-textiles
- Submit white papers on all areas of e-textiles development and testing
- Recommend topics of importance to Europe for webinars or conferences
Open Discussion

To volunteer to join the IPC working group in Europe, email your contact information to:

ChrisJorgensen@ipc.org