

Workshop on Modeling and Data Needs for Lead-Free Solders

Sponsored by NEMI, NIST, NSF, and TMS
New Orleans Convention Center, Room: Riverside R02
February 15, 2001 - New Orleans, LA
8:30am - 4:30pm

- 8:30 **Welcome** - Review of workshop objectives. Preview of strawman test methods - Carol Handwerker - NIST
- 8:45 **NEMI Task Force Overview** - Ron Gedney -NEMI- and Jasbir Bath - Solectron
- 9:15 **NSF Assessment of Environmental Issues in Electronics Manufacturing** - Cynthia Murphy - University of Texas, Austin
- 9:45 **NIST Advanced Technology Program** - Carol Handwerker - NIST
- 10:00 Ahmer Syed - Amkor
Overview of Reliability Models and Data Needs
What are the various types of reliability models for lead-free solders?
What is common in all of the reliability models available for lead-free solders?
Are these models sufficient to describe the properties?
What data are needed for these models, for the modeling community?
If we collect the data that the modelers request, will it be enough to make accurate predictions of reliability?
- 10:40 Leon Keer - Northwestern University
Constitutive and Damage Accumulation Modeling
What data are needed for these models, for the modeling community?
If we collect the data that the modelers using request, will it be enough to make accurate predictions of reliability?
- 11:20 Chris Bailey - University of Greenwich
Manufacturing and Reliability Modeling
Interaction between manufacturing models and reliability models
Sensitivity of reliability to solder joint shape and complex stress states
- 12:00 Lunch - (not provided)
- 1:00 Darrel Frear - Motorola
Experiments needed to characterize solder joint behavior
What is the set of experiments needed to completely characterize solder joint behavior as input into reliability modeling ?
Strengths and weaknesses in existing techniques
What improvements are necessary?
- 1:40 Alek Zublewicz - Motorola
Experiments needed to characterize solder joint behavior
What is the set of experiments needed to completely characterize solder joint behavior as input into reliability modeling ?
Strengths and weaknesses in existing techniques
What improvements are necessary?
Alek will emphasize microstructural information needed.
- 2:20 **Discussion of Modeling and Data/Database Needs**
2 breakout sessions - Ahmer Syed/Jasbir Bath and Darrel Frear/Carol Handwerker)
- 3:00 Break

- 3:15 Continued: **Discussion of modeling and data/database needs**
- 4:00 Reports from breakout sessions - define needs and opportunities; action items
- 4:30 Adjourn