



## 3D Packaging and Integration Japan TC Chapter Meeting Summary and Minutes

Japan Standards Winter 2021 Meeting  
Monday, January 18, 2021, 14:00-17:00  
Web conference

### TC Chapter Announcements

*Next TC Chapter Meeting*

Friday, May 28, 2021, 14:00-17:00

SEMI Japan office, Tokyo, Japan/Web

### Table 1 Meeting Attendees

*Italics indicate virtual participants*

**Co-Chairs:** Kazunori Kato (AiT), Masahiro Tsuruya (iNEMI), Haruo Shimamoto (AIST)

**SEMI Staff:** Mami Nakajo

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
<i>AIST</i>	<i>Shimamoto</i>	<i>Haruo</i>	<i>Nidec-Read</i>	<i>Miyasaka</i>	<i>Takashi</i>
<i>AiT</i>	<i>Kato</i>	<i>Kazunori</i>	<i>Nidec-Read</i>	<i>Miyazaki</i>	<i>Yoko</i>
<i>Panasonic</i>	<i>Ichiriyama</i>	<i>Junji</i>	<i>Shin-Etsu Polymer</i>	<i>Fukunaga</i>	<i>Tsukasa</i>
<i>Panasonic</i>	<i>Kato</i>	<i>Takeshi</i>	<i>Shin-Etsu Polymer</i>	<i>Shida</i>	<i>Hiroyuki</i>
<i>retired</i>	<i>Takahashi</i>	<i>Mark</i>	<i>Marubeni Plax</i>	<i>Igeta</i>	<i>Yasuo</i>
<i>Ushio</i>	<i>Takada</i>	<i>Yu</i>	<i>Advantest Corporation</i>	<i>Ichikawa</i>	<i>Masayoshi</i>
<i>Hitachi Power Solutions</i>	<i>Ohno</i>	<i>Shigeru</i>	<i>Showa Denko</i>	<i>Inayoshi</i>	<i>Teruhiko</i>
<i>iNEMI</i>	<i>Tsuruya</i>	<i>Masahiro</i>			
<i>KOKUSAI ELECTRIC</i>	<i>Matsuda</i>	<i>Mitsuhiro</i>	<i>SEMI Japan</i>	<i>Nakajo</i>	<i>Mami</i>

### Table 2 Leadership Changes

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
None		

### Table 3 Committee Structure Changes

<i>Previous WG/TF/SC Name</i>	<i>New WG/TF/SC Name or Status Change</i>
None	

### Table 4 Ballot Results

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
6590	New Standard: Specification for Glass Carrier Characteristics for Panel Level Packaging (PLP) Applications	<b>Passed as balloted</b>



#1 **Passed** ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

#2 **Failed** ballots and line items were returned to the originating task forces for re-work and re-balloting or abandoning.

**Table 5 Activities Approved by the GCS between meetings of the TC Chapter**

#	Type	SC/TF/WG	Details
None			

**Table 6 Authorized Activities**

Listing of all revised or new SNARF(s) approved by the Originating TC Chapter.

#	Type	SC/TF/WG	Details
6703	SNARF	3D Packaging & Integration 5 Year Review TF	SNARF for: Revision to SEMI G63-95 (Reapproved 0811) "Test Method for Measurement of Die Shear Strength"
6706	SNARF	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for CTE and Tg Measurement Methodology for PLP/WLP Encapsulation Materials
6707	SNARF	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for New Standard: Specification for Flowability Measurement Methodology for PLP/WLP Encapsulation materials
6708	SNARF	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Gel Time Measurement Methodology for PLP/WLP Encapsulation materials
6709	SNARF	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Modulus Measurement Methodology for PLP/WLP Encapsulation materials
6710	SNARF	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Shear Strength Measurement Methodology for PLP/WLP Encapsulation Materials
6711	SNARF	Encapsulation Characteristics for Wafer Level Package and Panel Level	SNARF for: New Standard: Specification for Viscosity Measurement Methodology for PLP/WLP Encapsulation materials

**Table 6 Authorized Activities**

Listing of all revised or new SNARF(s) approved by the Originating TC Chapter.

#	Type	SC/TF/WG	Details
		Packaging Panel TF	
6712	SNARF	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Wettability Measurement Methodology for PLP/WLP Encapsulation materials

#1 SNARFs and TFOFs are available for review on the SEMI Web site at:

<http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARE>

**Table 7 Authorized Ballots**

#	When	TF	Details
6703	Cycle 3-2021	3D Packaging & Integration 5 Year Review TF	SNARF for: Revision to SEMI G63-95 (Reapproved 0811) “Test Method for Measurement of Die Shear Strength”
6706	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for CTE and Tg Measurement Methodology for PLP/WLP Encapsulation Materials
6707	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for New Standard: Specification for Flowability Measurement Methodology for PLP/WLP Encapsulation materials
6708	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Gel Time Measurement Methodology for PLP/WLP Encapsulation materials
6709	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Modulus Measurement Methodology for PLP/WLP Encapsulation materials
6710	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Shear Strength Measurement Methodology for PLP/WLP Encapsulation Materials

**Table 7 Authorized Ballots**

#	When	TF	Details
6711	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Viscosity Measurement Methodology for PLP/WLP Encapsulation materials
6712	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Wettability Measurement Methodology for PLP/WLP Encapsulation materials

**Table 8 SNARF(s) Granted a One-Year Extension**

#	TF	Title	Expiration Date
None			

**Table 9 SNARF(s) Abolished**

#	TF	Title
None		

**Table 10 Standard(s) to receive Inactive Status**

Standard Designation	Title
None	

**Table 11 New Action Items**

Item #	Assigned to	Details
20210118-01	Co-Chairs	To review SEMI-G13,G70,and G75 and to propose the next step for the document by the next 3DP&I Japan TC Chapter meeting to held in 2021 spring

**Table 12 Previous Meeting Action Items**

Item #	Assigned to	Details
None		

## 1 Welcome, Reminders, and Introductions

Kazunori Kato (AiT) called the meeting to order at 14:00. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

**Attachment:** 01-02\_SEMI Standards Required Elements\_June2020\_E+J,



## 2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

<b>Motion:</b>	To approve the previous meeting minutes of the 3D Packaging & Integration Japan TC Chapter on March 6, 2020 with an editorial change.
<b>By / 2<sup>nd</sup>:</b>	Masahiro Tsuruya ( iNEMI ) / Hiroyuki Shida (Shin-Etsu Polymer )
<b>Discussion:</b>	None
<b>Vote:</b>	13 in favor and 0 opposed. <b>Motion passed.</b>

**Attachment:** 02-01\_20200710\_3DPI-Japan\_MeetingMinutes\_approved,

## 3 Liaison Reports

### 3.1 3D Packaging & Integration North America TC Chapter

Mami Nakajo (SEMI Japan ) reported the 3D Packaging & Integration North America TC Chapter activity status based on the report as attached.

**Attachment:** 03-01\_NA 3DP&I Liaison Report Jan2021 v1,

### 3.2 3D Packaging & Integration Taiwan TC Chapter

Mami Nakajo (SEMI Japan ) reported the 3D Packaging & Integration Taiwan TC Chapter activity status based on the report as attached.

**Attachment:** 03-02\_3D P&I TW Liaison Report\_202008\_V1,

### 3.3 SEMI Staff Report

Mami Nakajo (SEMI) explained the SEMI Staff Report based on the report as attached.

**Attachment:** 03-03\_StaffReport11302020,

## 4 Ballot Review

NOTE 1: TC Chapter adjudication on ballots reviewed is detailed in the Audits & Review (A&R) Subcommittee Forms for procedural review. The A&R forms are available as attachments to these minutes. The attachment number for each balloted document is provided under each ballot review section below.

### 4.1 Document #6590, New Standard: Specification for Glass Carrier Characteristics for Panel Level Packaging (PLP) Applications

- Passed as balloted

**Attachment:** 04-01\_Ballot report\_6590\_rev1,

## 5 Subcommittee and Task Force Reports

### 5.1 GCS Report

Mami Nakajo (SEMI Japan) reported that there was no GCS voting between the previous TC Chapter meeting on July 10, 2020 and this meeting.



### 5.2 3D Packaging & Integration 5 Year Review Task Force

Masahiro Tsuruya (iNEMI) reported the 3D Packaging & Integration 5 Year Review Task Force status as attached.

**Attachment:** 05-02\_TF Report 1.1 - 5yrs Review TF v202101

### 5.3 3DS IC Bonded Layer Inspection Metrology Task Force

Shigeru Ohno (Hitachi Power Solutions) reported f3DS IC Bonded Layer Inspection Metrology Task Force status as attached.

**Attachment:** 05-03\_210118 3DS IC Bonded Layer Inspection Metrology TF

### 5.4 450mm Assembly and Test Die Preparation Task Force

Mami Nakajo (SEMI Japan) reported on behalf of Sumio Masuchi (DISCO), there is no update.

### 5.5 Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Task Force

Masahiro Tsuruya (iNEMI) reported the status of Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Task Force as attached.

**Attachment:** 05-05\_TF Report 1.4 - PLP Encapsulation Characteristics TF v202101

### 5.6 Panel Level Packaging (PLP) Glass Carrier Task Force

Mark Takahashi (retired) reported the Panel Level Packaging Task Force status as attached.

**Attachment:** 05-06\_PLP Glass Carrier TF Report\_20210118

- 6590: New Standard: Specification for Glass Carrier Characteristics for Panel Level Packaging (PLP) Applications
  - Passed as balloted at Ballot Review section of this meeting

### 5.7 Thin Chip Handling Task Force

Haruo Shimamoto (AIST) reported there is no update.

### 5.8 3D Packaging & Integration Steering Group

Masahiro Tsuruya (iNEMI), the co-leader, reported. Of note:

**Attachment:** 05-08\_TC Report 1.7 - Steering WG v202101,

## 6 Old Business

### 6.1 Project period Review

No update

### 6.2 5-Year Review

The TF team will work on the documents which required for 5 years review in year 2021.

## 7 New Business

### 7.1 New SNARFs Authorization

All the following SNARFs were distributed from December 23,2020 through January6,2021 for the TC Member Review and no substantial feedback.

#### 7.1.1 Proposal for Revision to SEMI G63-95

Haruo Shimamoto (AIST) addressed the TC Chapter on this topic and this SNARF was revied at the meeting.

<b>Motion:</b>	To approve the new SNARF for Revision to SEMI G63-95 (Reapproved 0811) “Test Method for Measurement of Die Shear Strength”
<b>By / 2<sup>nd</sup>:</b>	Haruo Shimamoto (AIST) / Masahiro Tsuruya (iNEMI)
<b>Discussion:</b>	None
<b>Vote:</b>	12 in favor and 0 opposed. <b>Motion passed.</b>

**Attachment:** 07-01\_SNARF\_G63\_MajorRevision\_Draft20201002 島本 final,

#### 7.1.2 Proposal for New Standard: Specification for CTE and Tg Measurement Methodology for PLP/WLP Encapsulation Materials

Masahiro Tsuruya (iNEMI) addressed the TC Chapter on this SNARF.

<b>Motion:</b>	To approve the new SNARF for New Standard: Specification for CTE and Tg Measurement Methodology for PLP/WLP Encapsulation Materials
<b>By / 2<sup>nd</sup>:</b>	Masahiro Tsuruya (iNEMI) / Haruo Shimamoto (AIST)
<b>Discussion:</b>	None
<b>Vote:</b>	11 in favor and 0 opposed. <b>Motion passed.</b>

**Attachment:** 07-02\_SNARF\_PLP Encapsulation Characteristics - CTE\_final rev1,

#### 7.1.3 Proposal for New Standard: Specification for Flowability Measurement Methodology for PLP/WLP Encapsulation materials

Masahiro Tsuruya (iNEMI) addressed the TC Chapter on this SNARF.

<b>Motion:</b>	To approve the new SNARF for New Standard: Specification for Flowability Measurement Methodology for PLP/WLP Encapsulation materials
<b>By / 2<sup>nd</sup>:</b>	Masahiro Tsuruya (iNEMI) / Haruo Shimamoto (AIST)
<b>Discussion:</b>	None
<b>Vote:</b>	12 in favor and 0 opposed. <b>Motion passed.</b>

**Attachment:** 07-03\_SNARF\_PLP Encapsulation Characteristics - Flowability\_final rev1,

#### 7.1.4 Proposal for New Standard: Specification for Modulus Measurement Methodology for PLP/WLP Encapsulation materials

Masahiro Tsuruya (iNEMI) addressed the TC Chapter on this SNARF.

<b>Motion:</b>	To approve the new SNARF for New Standard: Specification for Modulus Measurement Methodology for PLP/WLP Encapsulation materials
<b>By / 2<sup>nd</sup>:</b>	Masahiro Tsuruya (iNEMI) / Haruo Shimamoto (AIST)
<b>Discussion:</b>	None
<b>Vote:</b>	12 in favor and 0 opposed. <b>Motion passed.</b>

**Attachment:** 07-04\_SNARF\_PLP Encapsulation Characteristics - Modulus\_final rev1,

7.1.5 Proposal for New Standard: Specification for Gel Time Measurement Methodology for PLP/WLP Encapsulation materials

Masahiro Tsuruya (iNEMI) addressed the TC Chapter on this SNARF.

<b>Motion:</b>	To approve the new SNARF for New Standard: Specification for Gel Time Measurement Methodology for PLP/WLP Encapsulation materials
<b>By / 2<sup>nd</sup>:</b>	Masahiro Tsuruya (iNEMI) / Haruo Shimamoto (AIST)
<b>Discussion:</b>	None
<b>Vote:</b>	12 in favor and 0 opposed. <b>Motion passed.</b>

**Attachment:** 07-05\_SNARF\_PLP Encapsulation Characteristics - GelTime\_final rev1,

7.1.6 Proposal for New Standard: Specification for Shear Strength Measurement Methodology for PLP/WLP Encapsulation Materials

Masahiro Tsuruya (iNEMI) addressed the TC Chapter on this SNARF.

<b>Motion:</b>	To approve the new SNARF for :New Standard: Specification for Shear Strength Measurement Methodology for PLP/WLP Encapsulation Materials
<b>By / 2<sup>nd</sup>:</b>	Masahiro Tsuruya (iNEMI)/ Mark Takahashi (retired)
<b>Discussion:</b>	None
<b>Vote:</b>	12 in favor and 0 opposed. <b>Motion passed.</b>

**Attachment:** 07-06\_SNARF\_PLP Encapsulation Characteristics - Shear strength\_final rev1,

7.1.7 Proposal for New Standard: Specification for Viscosity Measurement Methodology for PLP/WLP Encapsulation materials

Masahiro Tsuruya (iNEMI) addressed the TC Chapter on this SNARF.

<b>Motion:</b>	To approve the new SNARF for :New Standard: Specification for Viscosity Measurement Methodology for PLP/WLP Encapsulation materials
<b>By / 2<sup>nd</sup>:</b>	Masahiro Tsuruya (iNEMI)/ Mark Takahashi (retired)
<b>Discussion:</b>	None
<b>Vote:</b>	12 in favor and 0 opposed. <b>Motion passed.</b>

**Attachment:** 07-07\_SNARF\_PLP Encapsulation Characteristics - Viscosity\_final rev1,

7.1.8 Proposal for New Standard: Specification for Wettability Measurement Methodology for PLP/WLP Encapsulation materials

Masahiro Tsuruya (iNEMI) addressed the TC Chapter on this SNARF.

<b>Motion:</b>	To approve the new SNARF for :New Standard: Specification for Wettability Measurement Methodology for PLP/WLP Encapsulation materials
<b>By / 2<sup>nd</sup>:</b>	Masahiro Tsuruya (iNEMI)/ Mark Takahashi (retired)
<b>Discussion:</b>	None
<b>Vote:</b>	12 in favor and 0 opposed. <b>Motion passed.</b>





**Attachment:** 07-08\_SNARF\_PLP Encapsulation Characteristics - Wettability\_final rev1,

7.2 New Ballots Authorization

7.2.1 Proposal for Revision to SEMI G63-95

- Document #6703: SNARF for: Revision to SEMI G63-95 (Reapproved 0811) “Test Method for Measurement of Die Shear Strength”
  - Submitted by 3D Packaging & Integration 5 Year Review TF

Haruo Shimamoto (AIST) addressed the TC Chapter on this SNARF.

<b>Motion:</b>	To authorize the document#6703 SNARF for Revision to SEMI G63-95 (Reapproved 0811) “Test Method for Measurement of Die Shear Strength” for Letter Ballot for Cycle 3, 2021
<b>By / 2<sup>nd</sup>:</b>	Haruo Shimamoto (AIST) / Mark Takahashi (retired)
<b>Discussion:</b>	None
<b>Vote:</b>	12 in favor and 0 opposed. <b>Motion passed.</b>

7.2.2 Proposal for New Standard:

Masahiro Tsuriya (iNEMI) address the TC Chapter on below-mentioned items.

- Document #6706: SNARF for: New Standard: Specification for CTE and Tg Measurement Methodology for PLP/WLP Encapsulation Materials
- Document#6707: SNARF for New Standard: Specification for Flowability Measurement Methodology for PLP/WLP Encapsulation materials
- Document#6708: SNARF for: New Standard: Specification for Gel Time Measurement Methodology for PLP/WLP Encapsulation materials
- Document#6709: SNARF for: New Standard: Specification for Modulus Measurement Methodology for PLP/WLP Encapsulation materials
- Document#6710: SNARF for: New Standard: Specification for Shear Strength Measurement Methodology for PLP/WLP Encapsulation Materials
- Document#6711: SNARF for: New Standard: Specification for Viscosity Measurement Methodology for PLP/WLP Encapsulation materials
- Document#6712: SNARF for: New Standard: Specification for Wettability Measurement Methodology for PLP/WLP Encapsulation materials
  - Submitted by Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF

<b>Motion:</b>	To authorize the ballot submission for 2021 for the following documents:#6706,#6707,#6708,#6709,#6710,#6711,#6712
<b>By / 2<sup>nd</sup>:</b>	Masahiro Tsuriya (iNEMI) / Haruo Shimamoto (AIST)
<b>Discussion:</b>	None
<b>Vote:</b>	11 in favor and 0 opposed. <b>Motion passed.</b>

7.3 Review of G13,G70,and G75

Kazunori Kato (AiT) reported the following documents.

These documents are listed for 5 years review in 2020, and these documents were developed by Japan Assembly & Packaging TC Chapter. The document template was obsolete and need to be changed the latest document tempalte according to the A4-1 in SEMI Standards Procedure Manual.



- SEMI G13-88, Standard Test Method for Expansion Characteristics of Molding Compounds
- SEMI G70-0996, Standard for Equipment and Leadframe Fixtures for Measurement of Plastic Package Leadframes
- SEMI G75-0698, Standard Test Method of the Properties of Leadframe Tape

**Action Item 20210118-01:** Co-Chairs to prepare SNARFs for these documents of SEMI-G13,G70,and G75 to re-write these documents using the latest document template. SNARFs will be submitted next 3DP&I Japan TC Chapter meeting to held in 2021 spring.

## 8 Action Item Review

### 8.1 Open Action Items

There is no open action item.

### 8.2 New Action Items

The TC Chapter reviewed the following new action item.

**Action Item 20210118-01:** Co-Chairs to prepare SNARFs for these documents of SEMI-G13,G70,and G75 to re-write these documents using the latest document template. SNARFs will be submitted next 3DP&I Japan TC Chapter meeting to held in 2021 spring.

## 9 Next Meeting and Adjournment

The next meeting is scheduled for Friday, May 28, 2021, 14:00-17:00 at SEMI Japan office, Tokyo, Japan/Web

See <http://www.semi.org/standards-events> for the current list of events.

Having no further business, a motion was made to adjourn. Adjournment was at 17:00.



Respectfully submitted by:

Mami Nakajo

Coordinator

SEMI Japan

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Minutes tentatively approved by:

Kazunori Kato (AiT), Co-chair	February, 03, 2021
Masahiro Tsuruya (iNEMI), Co-chair	February, 03, 2021
Haruo Shimamoto (ASIT), Co-chair	February, 03, 2021

**Table 13 Index of Available Attachments<sup>#1</sup>**

<i>Title</i>	<i>Title</i>
01-02_SEMI Standards Required Elements_June2020_E+J	05-08_TC Report 1.7 - Steering WG v202101
02-01_20200710_3DPI-Japan_MeetingMinutes_approved	07-01_SNARF_G63_MajorRevision_Draft20201002 島本 final
03-01_NA 3DP&I Liaison Report Jan2021 v1	07-02_SNARF_PLP Encapsulation Characteristics - CTE_final rev1
03-02_3D P&I TW Liaison Report_202008_V1	07-03_SNARF_PLP Encapsulation Characteristics - Flowability_final rev1
03-03_StaffReport11302020	07-04_SNARF_PLP Encapsulation Characteristics - Modulus_final rev1
04-01_Ballot report_6590_rev1	07-05_SNARF_PLP Encapsulation Characteristics - GelTime_final rev1
05-02_TF Report 1.1 - 5yrs Review TF v202101	07-06_SNARF_PLP Encapsulation Characteristics - Shear strength_final rev1
05-03_210118 3DS IC Bonded Layer Inspection Metrology TF	07-07_SNARF_PLP Encapsulation Characteristics - Viscosity_final rev1
05-05_TF Report 1.4 - PLP Encapsulation Characteristics TF v202101	07-08_SNARF_PLP Encapsulation Characteristics - Wettability_final rev1
05-06_PLP Glass Carrier TF Report_20210118	

<sup>#1</sup> Due to file size and delivery issues, attachments must be downloaded separately. A .zip file containing all attachments for these minutes is available at [www.semi.org](http://www.semi.org). For additional information or to obtain individual attachments, please contact [SEMI Staff Name] at the contact information above.