

SEMI Panel Level Packaging (PLP) Panel Task Force

April 27/28

Task Force Leaders: Cristina Chu (SEMI Pathfinders), Richard Allen (NIST), Timothy Kryman (Rudolph Technology)

SEMI Staff: Laura Nguyen

v1

Agenda

- Welcome / SEMI Required Elements
- Agenda Review / Introductions
- Review outcome of Ballot 6591A
- Expected future modifications to SEMI 3D20
- Open Discussion
- Action Items (if any)
- Next Meeting (if any) and Adjournment

SEMI® Standards Required Meeting Elements

Nov. 2020

Rev 1

Outline

- Program Membership Requirement
- SEMI Antitrust Reminder
- Intellectual Property Reminder
- International Meeting Guidelines

SEMI Standards Program Membership Requirement

- To participate in a SEMI Standards meeting, a person must be a SEMI Standards Program Member
(*Regulations* ¶ 1.5.2)
- This ensures that all meeting attendees have agreed to abide by the Regulations.
- If you are not a Program Member, please proceed to the Standards Information Desk and complete a SEMI Standards Program Membership application.
 - Also available at: www.semi.org/standardsmembership

SEMI Standards Antitrust Reminder

- SEMI Standards activities are a coordinated effort among competitors in the semiconductor, FPD, PV and other related industries. Accordingly, every effort must be made to avoid even the appearance of impropriety.
- Do **NOT** discuss or participate in topical areas such as:
 - Pricing, purchasing, or marketing of either a company or of specific products
 - Industry or customer allocation, production, or capacity
 - Topics that might result in undue bias for or against one or more companies or products

If any participant has a question as to the legality of a proposed course of action, the matter should be immediately referred to SEMI Staff.

Intellectual Property Reminder [1/2]

- When possible, SEMI Standards and Safety Guidelines should be written in such a way that patented technology, copyrighted items, or trademarks is not necessary to use, comply with, or implement the Standard or Safety Guideline.
- All Program Members are responsible to make known any
 - patented technology,
 - published patent applications,
 - copyrighted items, and
 - trademarks
 - which may be required to use, comply with, or implement the Standard or Safety Guideline being developed.

Contact SEMI Staff if you are unable to publicly announce or discuss known intellectual property.

Intellectual Property Reminder [2/2]

- Intentional concealment of any intellectual property, *while knowing it could have an effect on the document under development*, may render the intellectual property rights unenforceable in the future.
- See Section 16 of the *Regulations* for more information.

Contact SEMI Staff if you are unable to publicly announce or discuss known intellectual property.

International Effective Meeting Guidelines



- Leader or meeting facilitator should formally welcome any international guests
 - Invite participants to take part in the discussions
- Raise one's hand (or otherwise indicate, especially if participating via Virtual Meeting) and wait to be named to express an opinion;
- Avoid words unique to a Locale;
- If an interpreter is used, make appropriate pauses;
- Treat each other with respect (no interrupting, talking over another, etc.)
- Speak slowly, clearly, and address entire audience to allow all participants to hear and understand
- State your ideas concisely
- Summarize your comments with a result or request
- Virtual Meeting participants should **mute** their audio lines when not speaking

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Attendee List (EU/NA/Asia)

LN	Laura N... (Host, me)	Mute	More >
CC	Cristina Chu	+	🔊 📺
M	mgobrien	🔊	📺
RA	Rich Allen	🔊	📺
TB	Tanja Braun	🔊	📺
DF	Denny Fritz	🔊 📺	📺
P	Patrick.Donovan	🔊 📺	📺
SM	Steve Martell	🔊 📺	📺

Participants (8)		— □ ×	
🔍 Find a participant			
LN	Laura Nguyen, SEMI Staff (Ln... (Host, me)	+	🔊 📺
RA	Rich Allen	🔊	📺
CC	Cristina Chu	🔊	📺
S	shimamoto	🔊	📺
	14802311831		📞
HS	Hiroyuki Shida	🔊 📺	📺
JG	Jan Gaudestad	🔊 📺	📺
SK	Shoji Komatsu/Acteon	🔊 📺	📺

- Ron – AMAT
- Shimamoto-san – AIST
- Jon W

Ballot Results for #6591A

Passed, with Editorial Changes

6591A - Std-3D Packaging and Integration

6591A - Std-3D Packaging and Integration Revision to SEMI 3D20-0719, Specification for Panel Characteristics for Panel Level Packaging (PLP) Applications

Reject

AFF_SEC

490364 - FUKUNAGA, Tsukasa

Editorial Changes made

- In 4.1, isn't it necessary to add SEMI 3D12, which is referred in Table A1-1?
- Table A2-1 has wrong figure numbers, e.g., GBIR is not shown in Figure A2-6 but in A2-4, etc.

AbstainComments

AFF_CMPUG

261872 - Kong, Lai-Cheng

No further action

Not very knowledgeable with PLP process, need to study more about PLP to be familiar.

AcceptComments

AFF_Nidec-Sankyo

501453 - Tsunobuchi, Hirokazu

No further action

Comment for 6591a Hirokazu Tsunobuchi hirokazu.tsunobuchi@nidec-sankyo.co.jp There are several T7 descriptions. The scope of T7 is for silicon wafers. PLP Glass Carrier is not a silicon wafer. When a new standard is developed, you should refer to that standard. We are currently developing the following related standard. Document Number: 6674 SNARF for: New Standard: Specification of ID Marking for Glass Carrier Characteristics of Panel Level Packaging (PLP) Applications

Total Voting Interests/Votes: 126/152

Voting Interest Accepts: 64 (98.46%)

Voting Interest Rejects: 1

Voting Interest Returns: 71

Return Percentage: 63.39%

Voting Interest Distribution: 112

Expected future modifications to SEMI 3D20



Updated Specification

- Panel minimum and maximum thickness
- Panel minimum and maximum warp
- Panel maximum mass

Table 1 Specification for Thickness, Warp, and Mass

<i>Panel Metric</i>	<i>510 mm × 515 mm panel</i>	<i>600 mm × 600 mm panel</i>
Thickness	Minimum 200 µm Maximum 3 mm	Minimum 200 µm Maximum 3 mm
Warp	Maximum 6 mm	Maximum 7.2 mm
Mass	Maximum 4 kg	Maximum 4 kg

Discussion

- Panel ID marking
- Panel Orientation

Open Discussion

- Survey for ID Marking and Orientation of panel
 - Keep an eye out on SEMI Japan Traceability Panel Level Packaging (PLP) Glass Carrier ID Marking Task Force activity
- Look at Appendix 1 for potential options to be changed to Requirements
 - Can we make them more specific?

Action Items/Next TF Meeting

- Action Items
 - Look at Appendix 1 prior to next meeting
- Next TF Meeting
 - Target timing 6-9 months
- Next 3DP&I TC Chapter Meeting
 - Tuesday, June 8, 2021, at 11:00-13:30 Pacific

Thank you!

- Any questions?
- Contact Information

Name	Email
Cristina Chu	cristinalchu@gmail.com
Richard Allen (NIST)	richard.allen@nist.gov
Tim Kryman (Rudolph Technology)	Timothy.Kryman@RudolphTech.com
Laura Nguyen (SEMI Staff)	Inguyen@semi.org