

Europe PV Materials Committee Meeting Summary and Minutes

PV Fab Manager Forum
13 March, 2013, 1pm – 3.30pm (CET)
Leonardo Hotel Royal, Berlin, Germany

Next Committee Meeting

20 June 2013, 1 to 4.30pm CET
Intersolar Europe, Munich, Germany

Committee Announcements

Workshop or invited presentations will try to be organized on advanced characterization technics in conjunction with next PV Materials TC meeting in Munich.

Table 1 Meeting Attendees

Co-Chairs: Peter Wagner (self), Hubert Aulich (PV Cristalox)

SEMI Staff: Yann Guillou (Europe) / James Amano (HQ)

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
Self	Wagner	Peter	PV Cristalox	Schley	Michael
CoLa	Fabry	Laszlo	PV Cristalox	Aulich	Hubert
REC group	Osborne	Wayne	FWS Innotec GmbH	Schulze	Friedrich
Hennecke Systems	Dorow	Andre			

Table 2 Ballot Results (or move to Section Ballot Review)

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

Failed ballots and line items were returned to the originating task forces for re-work and re-balloting.

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
5434	New Standard: Test Method for In Line Measurement of Lateral Dimensional Characteristics of Square and Pseudo Square PV Silicon Wafers	Passed as balloted
5530	New Standard: Specification for Orientation Fiducial Marks for PV Silicon Wafers	Passed as balloted
5531	Line Item Revision to SEMI PV40-0912, Test Method for In-Line Measurement of Saw Marks on PV Silicon Wafers by a Light Sectioning Technique Using Multiple Line Segments	Passed as balloted
5502	Line Item Revision to SEMI PV39-0912, Test Method for In-Line Measurement of Cracks in PV Silicon Wafers by Dark Field Infrared Imaging	Passed as balloted

Table 3 Authorized Ballots (or move to Section New Business)

<i>#</i>	<i>When</i>	<i>SC/TF/WG</i>	<i>Details</i>
5565	SNARF	Silicon Materials	Line Item Revision to PV42, Test Method for In-Line Measurement of Waviness on PV Silicon Wafers by a Light Sectioning Technique Using Multiple Line Segments

Table 4 New Action Items (or move to Section Action Item Review)

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
1303-01	Yann Guillou	Correct minutes of meeting in Dresden
1303-02	Peter Wagner	Prepare a short report of the results of the questionnaire

Table 4 New Action Items (or move to Section Action Item Review)

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
1303-03	James Amano	Share results of questionnaire with all regions, including China
1303-04	Peter Wagner & Huber Aulich	Check if a 2 hour workshop or technical presentations on advanced characterization technics would make sense during Intersolar Europa 2013
1303-05	Yann Guillou	Contact EPIA to see if SEMI and EPIA could collaborate on standard activity

Table 5 Previous Meeting Actions Items (or move to Section 8, Action item Review)

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
1009-01	Yann Guillou	Clarify #5382 and PV22. Shall 5382 be included in PV22?
1009-02	Yann Guillou	Inform China about IEC 61646 that may have a very similar scope than #5478
1009-03	Yann Guillou	Check sponsor of SNARF #5429
1009-04	Yann Guillou	Check status of #4833
1009-05	Peter Wagner	Send a mail to Jason Lin to inform Taiwan committee there is an on-going activity on Wafer Measurement Methods

1 Welcome, Reminders, and Introductions

Peter Wagner and Hubert Aulich called the meeting to order at 1.10pm. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

2 Review of Previous Meeting Minutes

The committee reviewed the minutes of the previous meeting.

Motion: Approve the minutes as shown with one correction: 2012 to be written instead of 2013

By / 2nd: Peter Wagner / Lazslo Fabry

Discussion: No

Vote: 5/0 - PASSED

3 Liaison Reports

3.1 Japan PV/ PV Materials Committee

James Amano reported for the Japan PV/PV Materials Committee.

Attachment: 1, JA PVC_PVMC Updates

3.2 Taiwan PV Committee

James Amano reported for the Taiwan PV Committee.

Attachment: 2, Taiwan PV_Liaison_20121221

3.3 China PV Committee

James Amano reported for the China PV Committee.

Attachment: 3, China Photovoltaic Committee Liaison Report20130221

3.4 *NA PV Committee*

James Amano reported for the NA PV Committee.

Attachment: 4, NA Liaison Report PV Materials 20130225

3.5 *SEMI Staff Report*

Yann Guillou gave the SEMI Staff Report. Of note:

- Peter Wagner asked SEMI staff to have the minutes and documents attachments of the TC meetings online as soon as possible and not only a few days before the next TC meeting. SEMI staff agreed with his request.

Attachment: 5, SEMI Staff Report (Spring 2013) rev1

4 Ballot Review

4.1 Document # 5434, New Standard: Test Method for In Line Measurement of Lateral Dimensional Characteristics of Square and Pseudo Square PV Silicon Wafers.

Documents received no reject and no comment.

Motion: Document to be approved as balloted and forwarded to ISC A&R subcommittee for procedural review.

By / 2nd: Peter Wagner / Wayne Osborne

Discussion: No

Vote: 4/0 - PASSED

Document passed technical review and is being forwarded to the ISC A&R Subcommittee for procedural review. See attachment below for details of ballot adjudication

Attachment: 6, 5434ProceduralReview

4.2 Document # 5530, New Standard: Specification for Orientation Fiducial Marks for PV Silicon Wafers

Documents received no reject and no comment.

Motion: Document to be approved as balloted and forwarded to ISC A&R subcommittee for procedural review.

By / 2nd: Peter Wagner / Wayne Osborne

Discussion: No

Vote: 5/0 - PASSED

Document passed technical review and is being forwarded to the ISC A&R Subcommittee for procedural review. See attachment below for details of ballot adjudication

Attachment: 7, 5530ProceduralReview

4.3 Document # 5531, Line Item Revision to SEMI PV40-0912, Test Method for In-Line Measurement of Saw Marks on PV Silicon Wafers by a Light Sectioning Technique Using Multiple Line Segments

Document received 1 reject. TC found this comment not related

Motion: Consider the reject as non-related

By / 2nd: Peter Wagner / Laszlo Fabry

Discussion: No

Vote: 5/0 - PASSED

Motion: Document to be approved as balloted and forwarded to ISC A&R subcommittee for procedural review.

By / 2nd: Peter Wagner / Hubert Aulich

Discussion: No

Vote: 5/0 - PASSED

Document passed technical review and is being forwarded to the ISC A&R Subcommittee for procedural review. See attachment below for details of ballot adjudication

Attachment: 8, 5531ProceduralReview

4.4 Document # 5502, Line Item Revision to SEMI PV39-0912, Test Method for In-Line Measurement of Cracks in PV Silicon Wafers by Dark Field Infrared Imaging

Line item 1 and line item 2 did not receive any reject or comment.

Motion: Approve doc5502 – line item 1 as balloted

By / 2nd: Peter Wagner / Laszlo Fabry

Discussion: No

Vote: 4/0 - PASSED

Motion: Approve doc5502 – line item 2 as balloted

By / 2nd: Peter Wagner / Hubert Aulich

Discussion: No

Vote: 5/0 - PASSED

Document passed technical review and is being forwarded to the ISC A&R Subcommittee for procedural review. See attachment below for details of ballot adjudication

Attachment: 9, 5502ProceduralReview

5 Subcommittee & Task Force Reports

5.1 Silicon Materials TF

Peter Wagner reported for the Silicon Materials Task Force.

He presented the results he just received from SEMI staff regarding reference materials. A short report will be prepared to analyze the results.

5.2 Ribbon TF

Ribbon TF leaders were not attending the PV Materials TC meeting. Ribbon TF did not meet recently. TF leaders were approached by TC co-chairs and they confirmed they do not plan to start any new activity in upcoming months. Action was taken to decide of the future of the Ribbon TF as the next PV Materials TC meeting in Intersolar Europa.

6 New Business

6.1 SNARF

Peter Wagner proposed a SNARF for a Line Item Revision to PV42, Test Method for In-Line Measurement of Waviness on PV Silicon Wafers by a Light Sectioning Technique Using Multiple Line Segments.

- Line item: Exchange yl,n(x) by yu,n(x) and vice versa in §§ 14.3.5.3 and 14.3.5.4 and include D in report section of PV42

Motion: To approve SNARF
By / 2nd: Peter Wagner / Hubert Aulich
Discussion: None
Vote: 5/0 - Passed

Attachment: 10, SNARF Rev PV42 v1.0

7 Action Item Review

7.1 Open Action Items

Yann Guillou (SEMI) reviewed the open action items. All of them are closed.

- 1009-01: Clarify #5382 and PV22. Shall 5382 be included in PV22?
 - The authors have been informed but have a different opinion than EU TC.
- 1009-02: Inform China about IEC 61646 that may have a very similar scope than #5478
 - Authors have been informed
- 1009-03: Check sponsor of SNARF #5429
 - It is 48th Research Institute of China Electronics Technology Group Corporation, the contact is Liangyu Liu, liuly@cs48.com
- 1009-04: Check status of #4833
 - #4833 reference is not correct.
- 1009-05: Send a mail to Jason Lin to inform Taiwan committee there is an on-going activity on Wafer Measurement Methods
 - Done by Peter Wagner

These action items can be found in the Open Action Items table at the beginning of these minutes.

7.2 New Action Items

Yann (SEMI) reviewed the new action items. These can be found in the New Action Items table at the beginning of these minutes.

8 Next Meeting and Adjournment

The next meeting of the EU PV Materials committee is scheduled for June 20, 2013 at INTERSOLAR Europa in Munich. Co-chairs adjourned the meeting at 3pm.

Respectfully submitted by:

Yann Guillou

Business Development and EU Standard Manager

SEMI Europe

Phone: +33 4 38 78 39 71

Email: yguillou@semi.org

Minutes approved by:

Peter Wagner (self), Co-chair	Approved, June 2 nd , 2013
Hubert Aulich (PV Cristalox), Co-chair	Approved, June 2 nd , 2013

#	Title
1	JA PVC_PVMC Updates
2	Taiwan PV_Liaison_20121221
3	China Photovoltaic Committee Liaison Report20130221
4	NA Liaison Report PV Materials 20130225
5	SEMI Staff Report (Spring 2013) rev1
6	5434ProceduralReview
7	5530ProceduralReview
8	5531ProceduralReview
9	5502ProceduralReview
10	SNARF Rev PV42 v1.0

#1 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. For additional information or to obtain individual attachments, please contact Yann Guillou at the contact information above.