

# Record of Letter Ballot Review by TC Chapter for Procedural Review

Region/Locale: **North America**

Global Technical Committee: **3D Packaging & Integration**

TC Chapter Cochairs: **Bill Kerr (Evergreen Enhancement), Chris Moore (Covalent Metrology), Sesh Ramaswami (Applied Materials)**

Standards Staff: **Laura Nguyen**

	Scheduled in Background Statement	Actual
Date	07/11/2019	07/11/2019
Location	Moscone Center, San Francisco, CA	Moscone Center, San Francisco, CA
Reason for Change of Date and/or Location (if changed)		

Note: See *Regulations* ¶ 9.5 Exceptions for allowable reason to change.

## I. Document Number and Title

Document Number	Document Title
6175B	New Standard: Guide on Measurements of Openings and Vias in Glass

## II. Tally

Standards staff to fill in.

Voting Tally: **As-cast tally after close of voting period**

Note: A minimum of 60% of the Voting Interests that have TC Members within the global technical committee that issued the Letter Ballot must return Votes. (*Regulations* ¶ 9.6.2.1.1)

Voting Tally (with example values):

Voting Interest:	Returned Votes	Distribution	Return Rate	
Letter Ballot	72	÷ 111	= 64.9%	≥60%
Intercommittee Ballot	14			
Voting Interest Reject(s)	0	Total Voters with Rejects		0
Voting Interest Accept(s)	42			

Note: See *Regulations* § 3.2.1 for definition of Voting Interest.

### III. Rejects None

### IV. Other Technical Issues

Note: TC Chapter may choose to address a technical issue that is not part of a Negative received on a Letter Ballot (i.e., a Comment or a reason not addressed by a Vote response) by handling it as a Negative and finding it related and technically persuasive. The TC Chapter may then fail the Document or address such technical issue by using the procedure defined in Regulations § 9.6.1.4.3 to make a technical change to the Document. (Regulations ¶ 9.6.1.4.2.5)

### V. Comments

#### V- (i) Voters' Comments

##### Commenter 1 (Li-Heng Lee/ITRI) - Comment 1

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.	
	<ol style="list-style-type: none"> <li>1. Recommend to merge Figure 3 and 4 to give a unified and comprehensive description of the profile of a via.</li> <li>2. What is the taper angle if, e.g. A side = B side &gt; waist?</li> <li>3. '6.6.2.1 Figure 4,' should be '6.6.2.1 Figure 5,'</li> </ol>	
Action	<p><b>The TC Chapter agreed to do one of the following actions.</b>          The Task Force rejects Comments 1 &amp; 2 and accepts Comment 3.          (1) the figures are two different configurations with two different requirements so merging the two figures is not recommended          (2) Figure 3 includes taper angle and Figure 4 does not, but does reference the waist          (3) correct, this is a typo and will be done editorially.</p>	
	*No motion is required in this step.	
	<input type="checkbox"/>	Already addressed by Commenter #, Comment #
	<input type="checkbox"/>	No further action was taken by the TC Chapter.
	<input type="checkbox"/>	Refer to the TF for more consideration.
	<input type="checkbox"/>	New Business
	<input checked="" type="checkbox"/>	Editorial Change
	Options for editorial change (check one)	<p><b>Case 1: No vote in this section:</b>          To be included and voted on as a group in § VI. <i>Editorial Changes Other than Those Voted on in § V.</i></p>
		<p><b>Case 2: Voted in this section:</b>          Original section number and at least one full sentence are required in "FROM" and "TO" fields.</p>
	<input checked="" type="checkbox"/>	
Editorial	1	<p><b>FROM: Section/Paragraph 6.6.2.1</b>          6.6.2.1 In Figure 4, two coordinate systems are illustrated: one based on the staging area (MCS) and one on the panel (PCS).</p>
		<p><b>TO: Section/Paragraph 6.6.2.1</b>          6.6.2.1 In Figure 54, two coordinate systems are illustrated: one based on the staging area (MCS) and one on the panel (PCS).</p>
<b>Motion</b>		To approve above editorial change(s)
<b>Motion by/2<sup>nd</sup> by</b>		Ilona Schmidt (Corning) / Len Perroots (Micro Sense KLA)

Discussion	None.
Vote	10 Y-0 N; Motion passed.

**Commenter 2 (Rafael Vargas-Bernal/ITSdl) - Comment 1**

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.	
	<ol style="list-style-type: none"> <li>1. In subsection 6.4.2, 'Figure 2' must be changed by 'Figure 3'.</li> <li>2. In subsection 6.5.1, 'Figure 3' must be changed by 'Figure 4'.</li> </ol>	
Action	The TC Chapter agreed to do one of the following actions. The Task Force agrees with comment. This is a typo and can be fixed editorially.	
	*No motion is required in this step.	
	<input type="checkbox"/>	Already addressed by Commenter #, Comment #
	<input type="checkbox"/>	No further action was taken by the TC Chapter.
	<input type="checkbox"/>	Refer to the TF for more consideration.
	<input type="checkbox"/>	New Business
	<input checked="" type="checkbox"/>	Editorial Change
	Options for editorial change (check one)	<input type="checkbox"/> <b>Case 1: No vote in this section:</b> <i>To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.</i>
		<input checked="" type="checkbox"/> <b>Case 2: Voted in this section:</b> <i>Original section number and at least one full sentence are required in "FROM" and "TO" fields.</i>
Editorial Changes	1	<b>FROM: Section/Paragraph 6.4.2</b> 6.4.2 Or, if there is a straight tapered shape as shown Figure 2, the taper angle $\theta$ can be calculated using
		<b>TO: Section/Paragraph 6.4.2</b> 6.4.2 Or, if there is a straight tapered shape as shown Figure <del>3</del> 2, the taper angle $\theta$ can be calculated using
	2	<b>FROM: Section/Paragraph 6.5.1</b> 6.5.1 For waist measurements, the TGV is illuminated from the side opposite of the wafer or panel to the microscope. Focus is set to the approximate center of the wafer or panel's thickness. The intent is to measure the narrowest cross-section of the TGV which is referred to as its waist (see Figure 3).
		<b>TO: Section/Paragraph 6.5.1</b> 6.5.1 For waist measurements, the TGV is illuminated from the side opposite of the wafer or panel to the microscope. Focus is set to the approximate center of the wafer or panel's thickness. The intent is to measure the narrowest cross-section of the TGV which is referred to as its waist (see Figure <del>3</del> 3).
Motion	To approve above editorial change(s)	
Motion by/2 <sup>nd</sup> by	Ilona Schmidt (Corning) / Bevan Wu (BW & Associates)	
Discussion	None.	
Vote	10 Y-0 N; Motion passed.	

**V-(ii) Comments Created by Handling Negative  
None**

**VI. Editorial Changes Other than Those Voted on in § V  
None other than listed in previous section.**

**VII. Approval Conditions Check**

**VII. - (i). Approval Rate**

**APPROVAL CONDITION 1:** All Negatives have been discussed and were withdrawn, found not related, found not persuasive, or addressed by a technical change. (*Regulations ¶ 9.6.2.1.2*)

**APPROVAL CONDITION 2:** At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (*Regulations ¶ 9.6.2.1.3*)

**Note:** If both approval conditions are not satisfied, the Document fails.

		Accepts		(Accepts + Valid Rejects)				
Approval Rate	=	42	/	42	=	100.0%		≥90%

**VII. – (ii) Approval Level (check one)**

**Note:** See *Regulations § 9.6.2* for further information.

**Globally Approved (No Ratification Ballot needed):**

The Letter Ballot meets the Letter Ballot approval conditions for the global technical committee.

**Need a Ratification Ballot:**

The Letter Ballot meets the Letter Ballot approval conditions for the TC Chapter and a Ratification Ballot will be issued to validate technical changes.

## VIII. Safety Check

Note: See *Regulations § 15* for further information.

Motion	<b>X</b>	This is not a <b>Safety Document</b> , when all safety-related information is removed, the Document is still technically sound and complete. ( <i>Regulations ¶ 8.7.1</i> )
	<input type="checkbox"/>	This is a <b>Safety Document</b> , when all safety-related information is removed, the Document is not technically sound and complete. ( <i>Regulations ¶ 8.7.2</i> )
	<input type="checkbox"/>	Safety Checklist ( <i>Regulations ¶ 15.3</i> ) is complete and has been included with the Document throughout the balloting process. ( <i>Regulations ¶ 15.1.2</i> )
<b>Motion by/2<sup>nd</sup> by</b>		Len Perroots (Micro Sense KLA) / Ilona Schmidt (Corning)
<b>Discussion</b>		None.
<b>Vote</b>		9 Y-0 N; Motion passed.

## IX. Intellectual Property (IP) Check

Note: This Letter Ballot may cover all or part of a Standard or Safety Guideline. Regardless of the coverage, this IP check applies to the entire Standard or Safety Guideline\*. See *Regulations § 16* for further information.

<b>X</b>	The TC Chapter meeting chair asked those participating, if they were aware of any patented technology that might be relevant (see <i>Regulations ¶ 16.3.1.1</i> ) to the Standard or Safety Guideline; or, any copyrighted items or trademarks that are used/reproduced (see <i>Regulations ¶ 16.4.1.2</i> ) in the Standard or Safety Guideline. (Also see, <i>Regulations § 8.8</i> )			
<b>X</b>	The question is NOT answered in affirmative (No potentially material patented technology or use/reproduction of copyrighted items/trademarks is known.)	<b>GO TO SECTION X.</b>		
	The question is answered in affirmative	Is any of the known IPs a patented technology?	<b>Yes, at least one of them is a patented technology</b>	<b>GO TO IX (a) "Patented Technology" subsection</b>
			<b>No</b>	<b>GO TO IX (b) "Copyright items" subsection</b>

## X. Action for This Document

<b>X</b>	This Document passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.	
<b>Motion by/ 2<sup>nd</sup> by</b>		Bevan Wu (BW & Associates) / Steve Martell (Nordson SONOSCAN)
<b>Discussion</b>		Does all of the accept comments need to be dealt with? No, accept comments do not require justification like rejects do.
<b>Vote</b>		9 Y-0 N
<b>Final Action</b>		<b>X</b> Motion passed
		<input type="checkbox"/> Motion failed

Note: If the use of PMPT or copyrighted item is justified by the TC Chapter, LOA or release form must be received before publication can proceed.