

Procedural Review Voting Sheet 2014 Cycle 7

REGION: **China**
 COMMITTEE: **Photovoltaic**
 EVENT: **SEMI China PV Standard TC 2014 Winter Meeting**
 DATE OF MEETING: **Dec. 12, 2014**
 PLACE OF MEETING: **Rongyuan Hotel, #225 Chezhan North Road, Changsha, Huna, China**
 COMMITTEE CO-CHAIRS: **Guangchun Zhang/CSI, Jun Liu/CESI**
 SEMI STAFF: **Kris Shen**

A&R Voter: **Name/Company**
 Date: **200X/MM/DD**

I. Document Number & Title

5724	New Standard: Guide for Specifying Quasi Monocrystalline Silicon Wafers used in Photovoltaic Solar Cells
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II. Tally (Staff to fill in)

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

A minimum of 60% of the voting interests that have voting members within the technical committee must return votes. (Regulations ¶ 9.6.1)

	Return		Distribution		Return Rate	
Yellow	92	÷	153	=	60.1%	>=60%
Lilac & Others	70					
Total Vote	162					
Reject	3					
Accept	42					

A&R		Not approved
		Reason:

III. Rejects

Reject 1 (Valley John, SunEdison)

Negative 1 of Reject 1

Negative	Referenced Section		
	Reason	<i>This is just another PV silicon wafer and should be included in SEMI PV22. If new metrics and new terms are required they should be in the primary PV wafer specification document, PV22. Multiple PV wafer specification documents will lead to market confusion. Multiple PV wafer specification documents will lead to duplication of effort to update and maintain the standards.</i>	
Withdrawal	<input checked="" type="checkbox"/>	No withdrawal made	GO TO "Related" section
	<input type="checkbox"/>	Withdrawal document received by staff on XXXX	GO TO "Final" → (A)
Related	Motion and Reason	<input type="checkbox"/>	"Related" is mutually agreed upon.
		<input type="checkbox"/>	<i>*This motion can be appended to the motion for Persuasive (See Persuasive Section)</i>
		<input type="checkbox"/>	Negative is related (needs over 1/3 votes to pass)
		<input type="checkbox"/>	Negative is not related (needs 2/3 or more votes to pass)
		Reason	XXXX
	Motion by/2nd by	Name (Company)/Name (Company)	
Discussion			
Result of Vote (check ONE)	<input type="checkbox"/>	[Negative is related] > 1/3	GO TO "Persuasive"
	<input type="checkbox"/>	[Negative is not related] < 2/3	
	<input type="checkbox"/>	2/3=< [Negative is not related]	GO TO "Final" → (B)
	<input type="checkbox"/>		
Persuasive	Motion and Reason	<input checked="" type="checkbox"/>	Negative is related and persuasive (needs over 1/3 votes to pass)
		<input type="checkbox"/>	Negative is related and not persuasive (needs 2/3 or more votes to pass)
	Reason		
Motion by/2nd by	Hai Liu (LDK)/Zhixin Li (Linton)		

	Discussion	<p>TF: We did some investigations and the results indicated that people did not think Quasi-monocrystalline silicon wafer was multi neither mono, although it was produced for years as a crystalline silicon wafer . The intention we wrote the document 5382# is to pave the way for the development of quasi-mono, considering the compatibility with PV22 we changed the form as a “Guide”5724# so that it can be used to generate new specifications(PV22 or others) as you suggested in cycle 3/2014.</p> <p>John: The fact is: Table 2 of your document looks like a specification even though you call the document a guide. This is, in my mind, disingenuous. The fact that you assign different row numbers in your document Table 2 than the PV22 entries for the same specifications is bound to lead to trouble in the future and goes completely against the grain of long established traditions within Standards bodies. The entry row numbers should be the same and new row numbers added to include the new parameters.</p> <p>TF: By a concise discussion in our TF, we would like to adapt the row numbers in document 5724# for Standards Bodies and make the effort to present it in the next version.</p> <p>John: I appreciate the efforts of your TF to make this Guide a useful and non-conflicting addition to the body of Standards.</p>															
	Result of Vote (check ONE)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" data-bbox="462 955 1169 997" style="text-align: center;">38-0</td> <td data-bbox="1169 955 1432 997"></td> </tr> <tr> <td data-bbox="462 997 511 1060" style="text-align: center;"><input checked="" type="checkbox"/></td> <td data-bbox="511 997 1169 1060">[Negative is related and persuasive] > 1/3</td> <td data-bbox="1169 997 1432 1060" rowspan="2" style="text-align: center; vertical-align: middle;">GO TO “Final” → (E)</td> </tr> <tr> <td data-bbox="462 1060 511 1123" style="text-align: center;"><input type="checkbox"/></td> <td data-bbox="511 1060 1169 1123">[Negative is related and not persuasive] < 2/3</td> </tr> <tr> <td data-bbox="462 1123 511 1207" style="text-align: center;"><input type="checkbox"/></td> <td data-bbox="511 1123 1169 1207">2/3=<[Negative is related and not persuasive] <90%</td> <td data-bbox="1169 1123 1432 1207" style="text-align: center; vertical-align: middle;">GO TO “Final” → (C)</td> </tr> <tr> <td data-bbox="462 1207 511 1302" style="text-align: center;"><input type="checkbox"/></td> <td data-bbox="511 1207 1169 1302">90% =< [Negative is related and not persuasive]</td> <td data-bbox="1169 1207 1432 1302" style="text-align: center; vertical-align: middle;">GO TO “Not Significant Finding Option”</td> </tr> </table>		38-0			<input checked="" type="checkbox"/>	[Negative is related and persuasive] > 1/3	GO TO “Final” → (E)	<input type="checkbox"/>	[Negative is related and not persuasive] < 2/3	<input type="checkbox"/>	2/3=<[Negative is related and not persuasive] <90%	GO TO “Final” → (C)	<input type="checkbox"/>	90% =< [Negative is related and not persuasive]	GO TO “Not Significant Finding Option”
38-0																	
<input checked="" type="checkbox"/>	[Negative is related and persuasive] > 1/3	GO TO “Final” → (E)															
<input type="checkbox"/>	[Negative is related and not persuasive] < 2/3																
<input type="checkbox"/>	2/3=<[Negative is related and not persuasive] <90%	GO TO “Final” → (C)															
<input type="checkbox"/>	90% =< [Negative is related and not persuasive]	GO TO “Not Significant Finding Option”															
Not Significant Finding Option	<p>This option can only be used “if the committee finds a negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action”. (Regulations ¶ 9.5.3.3.2)</p>																
		It is mutually agreed upon to term the negative “not significant”	GO TO → (D)														
		It is mutually agreed upon to term the negative “significant”	GO TO → (C)														
	Motion	The negative is “not significant”.															
	Motion by/2nd by	Name (Company)/Name (Company)															
	Vote	XX-XX Motion passed with simple majority	GO TO → (D)														
		XX-XX Motion failed with simple majority	GO TO → (C)														
Final	Negative is:																
	<input type="checkbox"/>	(A) withdrawn (counted under h in disposition)															
	<input type="checkbox"/>	(B) not related (counted under i in disposition)															

		(C)	related and not persuasive (significant)
		(D)	not significant (counted under j in disposition)
	X	(E)	related and persuasive DOCUMENT FAILS
		Comment generated. See comment #x	
A&R		Not approved	
		Reason:	

Disposition of Reject 1

	Original number of Negatives	(g)
	# of Negatives withdrawn	(h)
	# of Negatives found not related	(i)
	# of Negatives found not significant	(j)
Final	$g-(h+i+j)=0$	Reject is Not Valid and is not included in the denominator of § VI. Approval Conditions Check
	$g-(h+i+j)>0$	Reject is included in the denominator of § VI. Approval Conditions Check
	Reject without a Negative	Not Valid

Note: If all of the negative material included with a reject vote is withdrawn, determined to be not related, or determined to be not significant, the reject vote is not valid. (Regulations ¶ 9.4.3.3)

A&R		Not approved
		Reason:

Reject 2 (Peter Wagner, Peter Wagner Consulting)

Negative 1 of Reject 2

Negative	Referenced Section	
	Reason	As communicated several times before the content of this document could easily be included in SEMI PV22.
Withdrawal	No withdrawal made	GO TO "Related" section
	Withdrawal document received by staff on XXXX	GO TO "Final" → (A)
Related	Motion and Reason	"Related" is mutually agreed upon.
		*This motion can be appended to the motion for Persuasive (See Persuasive Section)
		Negative is related (needs over 1/3 votes to pass)
		Negative is not related (needs 2/3 or more votes to pass)
	Reason	XXXX

	Motion by/2nd by	Name (Company)/Name (Company)	
	Discussion	<p>TF: We did some investigations and the results indicated that people did not think Quasi-monocrystalline silicon wafer was multi neither mono, although it was produced for years as a crystalline silicon wafer . The intention we wrote the document 5382# is to pave the way for the development of quasi-mono, considering the compatibility with PV22 we changed the form as a “Guide”5724# so that it can be used to generate new specifications(PV22 or others) for the respect of your negative comments in cycle 3/2014.</p> <p>Peter: No response.</p>	
	Result of Vote (check ONE)	XX-XX	
		[Negative is related] > 1/3	GO TO “Persuasive”
[Negative is not related] < 2/3			
2/3=< [Negative is not related]		GO TO “Final” → (B)	
Persuasive	Motion and Reason	Negative is related and persuasive (needs over 1/3 votes to pass)	
		Negative is related and not persuasive (needs 2/3 or more votes to pass)	
		Reason	XXXX
	Motion by/2nd by	Name (Company)/Name (Company)	
Discussion			
Result of Vote (check ONE)	XX-XX		
	[Negative is related and persuasive] > 1/3	GO TO “Final” → (E)	
	[Negative is related and not persuasive] < 2/3		
	2/3=<[Negative is related and not persuasive] <90%	GO TO “Final” → (C)	
90% =< [Negative is related and not persuasive]	GO TO “Not Significant Finding Option”		
Not Significant Finding Option	<p>This option can only be used “if the committee finds a negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action”. (Regulations ¶ 9.5.3.3.2)</p>		
		It is mutually agreed upon to term the negative “not significant”	GO TO → (D)
		It is mutually agreed upon to term the negative “significant”	GO TO → (C)
	Motion	The negative is “not significant”.	
	Motion by/2nd by	Name (Company)/Name (Company)	
	Vote	XX-XX Motion passed with simple majority	GO TO → (D)
XX-XX Motion failed with simple majority		GO TO → (C)	
Final	Negative is:		

	(A)	withdrawn (counted under h in disposition)
	(B)	not related (counted under i in disposition)
	(C)	related and not persuasive (significant)
	(D)	not significant (counted under j in disposition)
	(E)	related and persuasive DOCUMENT FAILS
	Comment generated. See comment #x	
A&R	Not approved	Reason:

Negative 2 of Reject 2

Negative	Referenced Section		
	Reason	The term "quasi-monocrystalline" is misleading. In fact, wafers according to category 1 (Table 1, line 1.3) of doc 5724 would be single crystalline wafers, albeit with a high density of dislocations, and wafers according to categories 2 and 3 would be multicrystalline wafers.	
	Withdrawal	No withdrawal made	GO TO "Related" section
		Withdrawal document received by staff on XXXX	GO TO "Final" → (A)
Related	Motion and Reason	"Related" is mutually agreed upon.	
		*This motion can be appended to the motion for Persuasive (See Persuasive Section)	
		Negative is related (needs over 1/3 votes to pass)	
		Negative is not related (needs 2/3 or more votes to pass)	
	Reason	XXXX	
	Motion by/2nd by	Name (Company)/Name (Company)	

	Discussion	<p>TF: A term such as “large grained multicrystalline” is very precise, and we think the “quasi-monocrystalline” is easy to be understood as well, but anyway it is just a “Term” and we can make a better choice. We found that a wafer according to category 1 is not a single-crystalline wafer as many inclusions(micrometers size) can be found in it; and it will gain more energy if we treated the “wafer according categories 2” as mono wafer thus we suggest to differ it</p> <p>Peter : I fully understand that people that are working with quasi-monocrystalline Si know the meaning of the term. However, SEMI standards are used by many people and in particular by newcomers in the field. For them, and in order to avoid confusion, the term should be defined uniquely and should not require to make assumptions. If a wafer according to category 1 is not really single crystalline then this category should not be called so. As far as I understand the ingot for quasi-monocrystalline Si is in fact multicrystalline. When this ingot is sliced then by chance or by careful selection wafers may be obtained that consist of only one grain. So, such a wafer then would be a single-grain wafer cut from a multicrystalline ingot or block. Maybe a better approach is to attempt a definition of “quasi-monocrystalline Si” based on its method of production: “Si grown by directional solidification on seed wafers”, or similar. You mention that the material contains inclusions. What kinds of inclusions are they? Foreign material or misoriented Si? If the concentration of these inclusions is small then this still could be called single crystalline Si. If the concentration is high and the material contains also a high density of dislocations then the material might be better called “meta-crystalline”, something in between single crystalline and polycrystalline/amorphous.</p> <p>TF:</p>											
	Result of Vote (check ONE)	XX-XX	<table border="1"> <tr> <td><input type="checkbox"/></td> <td>[Negative is related] > 1/3</td> <td rowspan="2">GO TO “Persuasive”</td> </tr> <tr> <td><input type="checkbox"/></td> <td>[Negative is not related] < 2/3</td> </tr> <tr> <td><input type="checkbox"/></td> <td>2/3=< [Negative is not related]</td> <td>GO TO “Final” → (B)</td> </tr> <tr> <td><input type="checkbox"/></td> <td></td> <td></td> </tr> </table>	<input type="checkbox"/>	[Negative is related] > 1/3	GO TO “Persuasive”	<input type="checkbox"/>	[Negative is not related] < 2/3	<input type="checkbox"/>	2/3=< [Negative is not related]	GO TO “Final” → (B)	<input type="checkbox"/>	
<input type="checkbox"/>	[Negative is related] > 1/3	GO TO “Persuasive”											
<input type="checkbox"/>	[Negative is not related] < 2/3												
<input type="checkbox"/>	2/3=< [Negative is not related]	GO TO “Final” → (B)											
<input type="checkbox"/>													
Persuasive	Motion and Reason	<table border="1"> <tr> <td><input type="checkbox"/></td> <td colspan="2">Negative is related and persuasive (needs over 1/3 votes to pass)</td> </tr> <tr> <td><input type="checkbox"/></td> <td colspan="2">Negative is related and not persuasive (needs 2/3 or more votes to pass)</td> </tr> <tr> <td></td> <td>Reason</td> <td>XXXX</td> </tr> </table>		<input type="checkbox"/>	Negative is related and persuasive (needs over 1/3 votes to pass)		<input type="checkbox"/>	Negative is related and not persuasive (needs 2/3 or more votes to pass)			Reason	XXXX	
	<input type="checkbox"/>	Negative is related and persuasive (needs over 1/3 votes to pass)											
	<input type="checkbox"/>	Negative is related and not persuasive (needs 2/3 or more votes to pass)											
		Reason	XXXX										
	Motion by/2nd by	Name (Company)/Name (Company)											
Discussion													
Result of Vote (check ONE)	XX-XX	<table border="1"> <tr> <td><input type="checkbox"/></td> <td>[Negative is related and persuasive] > 1/3</td> <td rowspan="2">GO TO “Final” → (E)</td> </tr> <tr> <td><input type="checkbox"/></td> <td>[Negative is related and not persuasive] < 2/3</td> </tr> </table>	<input type="checkbox"/>	[Negative is related and persuasive] > 1/3	GO TO “Final” → (E)	<input type="checkbox"/>	[Negative is related and not persuasive] < 2/3						
<input type="checkbox"/>	[Negative is related and persuasive] > 1/3	GO TO “Final” → (E)											
<input type="checkbox"/>	[Negative is related and not persuasive] < 2/3												

		2/3=<[Negative is related and not persuasive] <90%	GO TO “Final” → (C)
		90% =< [Negative is related and not persuasive]	GO TO “Not Significant Finding Option”
Not Significant Finding Option	This option can only be used “if the committee finds a negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action”. (Regulations ¶ 9.5.3.3.2)		
		It is mutually agreed upon to term the negative “not significant”	GO TO → (D)
		It is mutually agreed upon to term the negative “significant”	GO TO → (C)
	Motion	The negative is “not significant”.	
	Motion by/2nd by	Name (Company)/Name (Company)	
	Vote	XX-XX Motion passed with simple majority	GO TO → (D)
XX-XX Motion failed with simple majority		GO TO → (C)	
Final	Negative is:		
	(A)	withdrawn (counted under h in disposition)	
	(B)	not related (counted under i in disposition)	
	(C)	related and not persuasive (significant)	
	(D)	not significant (counted under j in disposition)	
	(E)	related and persuasive	DOCUMENT FAILS
	Comment generated. See comment #x		
A&R	Not approved		
	Reason:		

Negative 3 of Reject 2

Negative	Referenced Section		
	Reason	Doc 5724 has to include a specification for dislocation density.	
Withdrawal		No withdrawal made	GO TO “Related” section
		Withdrawal document received by staff on XXXX	GO TO “Final” → (A)
Related	Motion and Reason	“Related” is mutually agreed upon.	
		*This motion can be appended to the motion for Persuasive (See Persuasive Section)	
		Negative is related (needs over 1/3 votes to pass)	
		Negative is not related (needs 2/3 or more votes to pass)	
	Reason	XXXX	

	Motion by/2nd by	Name (Company)/Name (Company)		
	Discussion	<p>TF: For the dislocation density, we discussed it a lot in the summer meeting of 2014 China PV committee in Baoding on June 13, most of the committee members think dislocation density does not influence the cell efficiency for wafer produced by DSS but the area percentage of very dislocated region does. And as it is another complex problem(not so closely interrelated to the percentage of the largest grain) and document 5724# is a weaker Guide, we made the choice not to include it.</p> <p>Peter: If the percentage area of highly dislocated regions is more important than grain size then this should be specified and not the area of the largest grain.</p> <p>TF:</p>		
	Result of Vote (check ONE)	XX-XX		
		<input type="checkbox"/>	[Negative is related] > 1/3	GO TO "Persuasive"
<input type="checkbox"/>		[Negative is not related] < 2/3		
<input type="checkbox"/>		2/3=< [Negative is not related]	GO TO "Final" → (B)	
<input type="checkbox"/>				
Persuasive	Motion and Reason	<input type="checkbox"/>	Negative is related and persuasive (needs over 1/3 votes to pass)	
		<input type="checkbox"/>	Negative is related and not persuasive (needs 2/3 or more votes to pass)	
		<input type="checkbox"/>	Reason XXXX	
	Motion by/2nd by	Name (Company)/Name (Company)		
	Discussion			
	Result of Vote (check ONE)	XX-XX		
		<input type="checkbox"/>	[Negative is related and persuasive] > 1/3	GO TO "Final" → (E)
		<input type="checkbox"/>	[Negative is related and not persuasive] < 2/3	
		<input type="checkbox"/>	2/3=<[Negative is related and not persuasive] <90%	GO TO "Final" → (C)
		<input type="checkbox"/>	90% =< [Negative is related and not persuasive]	GO TO "Not Significant Finding Option"
Not Significant Finding Option	<p>This option can only be used "if the committee finds a negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (Regulations ¶ 9.5.3.3.2)</p>			
	<input type="checkbox"/>	It is mutually agreed upon to term the negative "not significant"	GO TO → (D)	
	<input type="checkbox"/>	It is mutually agreed upon to term the negative "significant"	GO TO → (C)	
	Motion	The negative is "not significant".		

	Motion by/2nd by	Name (Company)/Name (Company)	
	Vote	XX-XX Motion passed with simple majority	GO TO → (D)
		XX-XX Motion failed with simple majority	GO TO → (C)
	Final	Negative is:	
		(A)	withdrawn (counted under h in disposition)
		(B)	not related (counted under i in disposition)
		(C)	related and not persuasive (significant)
		(D)	not significant (counted under j in disposition)
		(E)	related and persuasive
		Comment generated. See comment #x	
A&R		Not approved	
		Reason:	

Negative 4 of Reject 2

Negative	Referenced Section		
	Reason	According to the definition of the term “quasi-monocrystalline wafer” in doc 5724 any multicrystalline wafer would be a quasi-monocrystalline wafer, because any multicrystalline wafer has a largest grain, which has a defined orientation. Again according to this definition any single crystalline Cz-Si wafer also would be a quasi-monocrystalline wafer, because it is single crystalline and again has a defined crystallographic orientation. Therefore, this definition is completely useless. Therefore the definition has to be improved or the term “quasi-2/2 monocrystalline” cannot be introduced and used. Probably the authors wanted to say “specified crystallographic orientation” instead of “defined orientation”.	
	Withdrawal	No withdrawal made	GO TO “Related” section
		Withdrawal document received by staff on XXXX	GO TO “Final” → (A)
Related	Motion and Reason	“Related” is mutually agreed upon.	
		*This motion can be appended to the motion for Persuasive (See Persuasive Section)	
		Negative is related (needs over 1/3 votes to pass)	
		Negative is not related (needs 2/3 or more votes to pass)	
		Reason	XXXX
	Motion by/2nd by	Name (Company)/Name (Company)	
	Discussion	TF : The “ defined orientation” means “specified crystallographic orientation be defined”. Peter: That is what I assumed.	
	Result of Vote (check ONE)	XX-XX	
		[Negative is related] > 1/3	GO TO “Persuasive”
	[Negative is not related] < 2/3		

		2/3=< [Negative is not related]	GO TO “Final” → (B)	
Persuasive	Motion and Reason	Negative is related and persuasive (needs over 1/3 votes to pass)		
		Negative is related and not persuasive (needs 2/3 or more votes to pass)		
		Reason	XXXX	
	Motion by/2nd by	Name (Company)/Name (Company)		
	Discussion			
	Result of Vote (check ONE)	XX-XX		
		[Negative is related and persuasive] > 1/3	GO TO “Final” → (E)	
		[Negative is related and not persuasive] < 2/3		
		2/3=<[Negative is related and not persuasive] <90%	GO TO “Final” → (C)	
		90% =< [Negative is related and not persuasive]	GO TO “Not Significant Finding Option”	
Not Significant Finding Option	This option can only be used “if the committee finds a negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action”. (Regulations ¶ 9.5.3.3.2)			
		It is mutually agreed upon to term the negative “not significant”	GO TO → (D)	
		It is mutually agreed upon to term the negative “significant”	GO TO → (C)	
	Motion	The negative is “not significant”.		
	Motion by/2nd by	Name (Company)/Name (Company)		
	Vote	XX-XX Motion passed with simple majority	GO TO → (D)	
		XX-XX Motion failed with simple majority	GO TO → (C)	
Final	Negative is:			
	(A)	withdrawn (counted under h in disposition)		
	(B)	not related (counted under i in disposition)		
	(C)	related and not persuasive (significant)		
	(D)	not significant (counted under j in disposition)		
	(E)	related and persuasive	DOCUMENT FAILS	
	Comment generated. See comment #x			
A&R	Not approved			
	Reason:			

Disposition of Reject 2

Original number of Negatives	(g)
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	# of Negatives withdrawn	(h)
	# of Negatives found not related	(i)
	# of Negatives found not significant	(j)
Final	$g-(h+i+j)=0$	Reject is Not Valid and is not included in the denominator of § VI. Approval Conditions Check
	$g-(h+i+j)>0$	Reject is included in the denominator of § VI. Approval Conditions Check
	Reject without a Negative	Not Valid

Note: If all of the negative material included with a reject vote is withdrawn, determined to be not related, or determined to be not significant, the reject vote is not valid. (Regulations ¶ 9.4.3.3)

A&R	Not approved
	Reason:

Reject 3 (Larry Hartsough, U.A.Associates)

Negative 1 of Reject 3

Negative	Referenced Section	
	Reason	The Location for TC Chapter adjudication is not listed in the background statement of the Letter Ballot and it must be. See Regulations 9.5. Because of this, even if the document is approved during adjudication, it will fail procedural review. The venue, such as Hotel or Conference Center name, is sufficient to list in the Location box.
Withdrawal	No withdrawal made	GO TO "Related" section
	Withdrawal document received by staff on XXXX	GO TO "Final" → (A)
Related	Motion and Reason	"Related" is mutually agreed upon.
		*This motion can be appended to the motion for Persuasive (See Persuasive Section)
		Negative is related (needs over 1/3 votes to pass)
		Negative is not related (needs 2/3 or more votes to pass)
	Reason	XXXX
Motion by/2nd by	Name (Company)/Name (Company)	
Discussion	TF: The Location information missed for some reasons and we will add it in the next version. Hartsough:	
Result of Vote (check ONE)	[Negative is related] > 1/3	GO TO "Persuasive"
	[Negative is not related] < 2/3	

		2/3=< [Negative is not related]	GO TO “Final” → (B)	
Persuasive	Motion and Reason	Negative is related and persuasive (needs over 1/3 votes to pass)		
		Negative is related and not persuasive (needs 2/3 or more votes to pass)		
		Reason	XXXX	
	Motion by/2nd by	Name (Company)/Name (Company)		
	Discussion			
	Result of Vote (check ONE)	XX-XX		
		[Negative is related and persuasive] > 1/3	GO TO “Final” → (E)	
		[Negative is related and not persuasive] < 2/3		
		2/3=<[Negative is related and not persuasive] <90%	GO TO “Final” → (C)	
		90% =< [Negative is related and not persuasive]	GO TO “Not Significant Finding Option”	
Not Significant Finding Option	This option can only be used “if the committee finds a negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action”. (Regulations ¶ 9.5.3.3.2)			
		It is mutually agreed upon to term the negative “not significant”	GO TO → (D)	
		It is mutually agreed upon to term the negative “significant”	GO TO → (C)	
	Motion	The negative is “not significant”.		
	Motion by/2nd by	Name (Company)/Name (Company)		
	Vote	XX-XX Motion passed with simple majority	GO TO → (D)	
XX-XX Motion failed with simple majority		GO TO → (C)		
Final	Negative is:			
	(A)	withdrawn (counted under h in disposition)		
	(B)	not related (counted under i in disposition)		
	(C)	related and not persuasive (significant)		
	(D)	not significant (counted under j in disposition)		
	(E)	related and persuasive	DOCUMENT FAILS	
	Comment generated. See comment #x			
A&R	Not approved			
	Reason:			

Negative 2 of Reject 3

gat	Referenced Section	Qmc-Si wafer was classified by this guide, of which the largest grain orientation needs
		to be defined to <100> with certain tolerance of degree.

	Reason	The ¶3.2 has two problems. First, it appears to require that the largest grain orientation be <100>. A Guide cannot have requirements. Second, other wafer orientations appear to be classified by the Guide, as indicated in Table 2, row 1.4. Delete this paragraph.	
	Withdrawal	No withdrawal made	GO TO "Related" section
		Withdrawal document received by staff on XXXX	GO TO "Final" → (A)
	Motion and Reason		"Related" is mutually agreed upon.
			*This motion can be appended to the motion for Persuasive (See Persuasive Section)
			Negative is related (needs over 1/3 votes to pass)
			Negative is not related (needs 2/3 or more votes to pass)
		Reason	XXXX
	Motion by/2nd by	Name (Company)/Name (Company)	
Related	Discussion	<p>TF: The ¶ 3.2:"..... wafer was classified by this guide, of which the largest grain orientation needs to be defined to <100>with certain tolerance of degree. " We are considering to change the description as : " wafer classified method in this guide was not suitable for the ones of which the largest grain orientation deviated from <100>with certain tolerance of degree." And for the second, we will delete row 1.4 in Table 2.</p> <p>Hartsough: Please provide some clarification:</p> <ol style="list-style-type: none"> 1. What is meant by "not suitable"? Is it that the recommended etching does not apply for wafers that do not have <100>? 2. Can you quantify the maximum deviation from <100> within which the classification still applies? Is it the +/- 5 degrees listed in line 1.5 of Table 2? 3. Is the <100> largest grain orientation for qmc-Si strongly preferred for optimum cell performance reasons or for some other reason? The reason, or reasons, could be part of the Discussion section. <p>It is OK to have a Limitation paragraph 3.2 that states that: This Guide only applies to qmc-Si wafers with a largest grain orientation within ± 5 degrees of <100>. [If that is what you really mean to say]</p> <p>TF: Deleting paragraph 3.2 is a better choice.</p> <p>Hartsough:</p>	

	Result of Vote (check ONE)	XX-XX		
		[Negative is related] > 1/3	GO TO "Persuasive"	
		[Negative is not related] < 2/3		
		2/3=< [Negative is not related]	GO TO "Final" → (B)	
Persuasive	Motion and Reason	Negative is related and persuasive (needs over 1/3 votes to pass)		
		Negative is related and not persuasive (needs 2/3 or more votes to pass)		
	Reason	XXXX		
	Motion by/2nd by	Name (Company)/Name (Company)		
	Discussion			
	Result of Vote (check ONE)	XX-XX		
		[Negative is related and persuasive] > 1/3	GO TO "Final" → (E)	
		[Negative is related and not persuasive] < 2/3		
		2/3=<[Negative is related and not persuasive] <90%	GO TO "Final" → (C)	
	90% =< [Negative is related and not persuasive]	GO TO "Not Significant Finding Option"		
Not Significant Finding Option	This option can only be used "if the committee finds a negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (Regulations ¶ 9.5.3.3.2)			
		It is mutually agreed upon to term the negative "not significant"	GO TO → (D)	
		It is mutually agreed upon to term the negative "significant"	GO TO → (C)	
	Motion	The negative is "not significant".		
	Motion by/2nd by	Name (Company)/Name (Company)		
	Vote	XX-XX Motion passed with simple majority	GO TO → (D)	
XX-XX Motion failed with simple majority		GO TO → (C)		
Final	Negative is:			
	(A)	withdrawn (counted under h in disposition)		
	(B)	not related (counted under i in disposition)		
	(C)	related and not persuasive (significant)		
	(D)	not significant (counted under j in disposition)		
	(E)	related and persuasive	DOCUMENT FAILS	
	Comment generated. See comment #x			
A&R	Not approved	Reason:		

Disposition of Reject 1

	Original number of Negatives	(g)
	# of Negatives withdrawn	(h)
	# of Negatives found not related	(i)
	# of Negatives found not significant	(j)
Final	$g-(h+i+j)=0$	Reject is Not Valid and is not included in the denominator of § VI. Approval Conditions Check
	$g-(h+i+j)>0$	Reject is included in the denominator of § VI. Approval Conditions Check
	Reject without a Negative	Not Valid

Note: If all of the negative material included with a reject vote is withdrawn, determined to be not related, or determined to be not significant, the reject vote is not valid. (Regulations ¶ 9.4.3.3)

A&R	Not approved
	Reason:

IV. Comments

Comment 1

Comment	Referenced Section	*TF/Committee to fill in if necessary
	From	Larry Hartsough, UA Associates
	Comment	I suggest that the China PV TC Chapter cooperate with the NA TC Chapter to arrange technical editing <u>before</u> going to Letter Ballot.
	Discussion	
Action proposed	The committee agreed to do one of the following actions.	
	*No motion is required in this step.	
		No further action was taken by the committee.
		Refer to the task force for more consideration.
		New Business
		Other
	Editorial Change	
	Case 1: No vote in this section :	To be included and voted on in § 5. Summary of Editorial Changes.
	Case 2: Voted in this section :	

		Original section number and at least one full sentence are required in "FROM" and "TO" fields.
1		FROM: Section xxx
		To: Section xxx
		Justification (If necessary)
2		FROM: Section xxx
		To: Section xxx
		Justification (If necessary)
Motion by/2nd	Name (Company)/Name (Company)	
Vote	XX-XX Motion passed (or failed)	
A&R		Not approved
		Reason:

Comment 2

Comment	Referenced Section	*TF/Committee to fill in if necessary
	From	Larry Hartsough, UA Associates
	Comment	The convention for different types of wafer should be followed: monocrystalline silicon (m-Si) and crystalline silicon (c-Si) are already in common use. Therefore use quasi-monocrystalline silicon (qmc-Si). Do not use the terms single crystalline silicon or multi-crystalline silicon. The term multicrystalline (no hyphen) is used in the COT as an adjective for the material you describe. However, is it possible that mc-Si might be confused with m-Si? Is it possible that the term polycrystalline silicon (p-Si) could be used? The distinction, according to the COT, is made on the basis of grain size and how it is formed.
	Discussion	
Action required		The committee agreed to do one of the following actions.
		*No motion is required in this step.
		No further action was taken by the committee.
		Refer to the task force for more consideration.
		New Business
	Other	

Editorial Change		
		Case 1: No vote in this section :
		To be included and voted on in <u>§ 5. Summary of Editorial Changes</u> .
		Case 2: Voted in this section :
		Original section number and at least one full sentence are required in “FROM” and “TO” fields.
	1	FROM: Section xxx
		To: Section xxx
		Justification (If necessary)
	2	FROM: Section xxx
		To: Section xxx
Justification (If necessary)		
Motion by/2nd	Name (Company)/Name (Company)	
Vote	XX-XX Motion passed (or failed)	
A&R		Not approved
		Reason:

Comment 3

Comment	Referenced Section	*TF/Committee to fill in if necessary
	From	Larry Hartsough, UA Associates
	Comment	There is a problem with the definition of “large” as used throughout this document, as it is not quantifiable. I am unfamiliar with the grain size distributions in a ‘typical’ qmc-Si wafer. If it is typically a bipolar distribution, then a definition referencing that may be appropriate. Another suggestion is that the ‘largest single grain’ [area] is defined as the orientation of the grains that have the largest sum of the areas of the n (5?) largest grains having the same orientation.
	Discussion	
		The committee agreed to do one of the following actions.

		*No motion is required in this step.
		No further action was taken by the committee.
		Refer to the task force for more consideration.
		New Business
		Other
Action proposed	Editorial Change	
		Case 1: No vote in this section :
		To be included and voted on in <u>§ 5. Summary of Editorial Changes.</u>
		Case 2: Voted in this section :
		Original section number and at least one full sentence are required in "FROM" and "TO" fields.
	1	FROM: Section xxx
		To: Section xxx
		Justification (If necessary)
	2	FROM: Section xxx
		To: Section xxx
	Justification (If necessary)	
Motion by/2nd	Name (Company)/Name (Company)	
Vote	XX-XX Motion passed (or failed)	
A&R	<input type="checkbox"/>	Not approved
	Reason:	

Comment 4

Comments	Referenced Section	*TF/Committee to fill in if necessary
	From	Larry Hartsough, UA Associates

	Comment	§ 6 Terminology , needs to follow the format defined in PG and SM. Not all terms relating (¶ 6.1) are found in SEMI M59. For instance, the COT list ‘brick’ as being defined in PV9. ¶6.3 should be <i>Abbreviations and Acronyms</i> and should contain the sc-Si, m-Si, qmc-Si, etc. The <i>Definitions</i> could include brick [PV9].
	Discussion	
Action proposed		The committee agreed to do one of the following actions.
		*No motion is required in this step.
		No further action was taken by the committee.
		Refer to the task force for more consideration.
		New Business
		Other
	Editorial Change	
		Case 1: No vote in this section :
		To be included and voted on in § 5. Summary of Editorial Changes.
		Case 2: Voted in this section :
		Original section number and at least one full sentence are required in “FROM” and “TO” fields.
	1	FROM: Section xxx
		To: Section xxx
		Justification (If necessary)
2	FROM: Section xxx	
	To: Section xxx	
	Justification (If necessary)	
Motion by/2nd	Name (Company)/Name (Company)	
Vote	XX-XX Motion passed (or failed)	
A&R	<input type="checkbox"/>	Not approved
	Reason:	

Comment 5

Comment	Referenced Section	*TF/Committee to fill in if necessary
	From	Larry Hartsough, UA Associates
	Comment	Edition comments.
	Discussion	
Action proposed		The committee agreed to do one of the following actions.
		*No motion is required in this step.
		No further action was taken by the committee.
		Refer to the task force for more consideration.
		New Business
		Other
	Editorial Change	
		Case 1: No vote in this section :
		To be included and voted on in <u>§ 5. Summary of Editorial Changes.</u>
		Case 2: Voted in this section :
		Original section number and at least one full sentence are required in “FROM” and “TO” fields.
	1	FROM: Section xxx
		To: Section xxx
		Justification (If necessary)
2	FROM: Section xxx	
	To: Section xxx	

		Justification (If necessary)
Motion by/2nd	Name (Company)/Name (Company)	
Vote	XX-XX Motion passed (or failed)	
A&R		Not approved
	Reason:	

V. Summary of Editorial Changes

Note: Original section number and at least one full sentence are required in “FROM” and “TO” fields.

1	FROM: Section XXX
	TO: Section XXX
	Justification: (If necessary)
2	FROM: Section XXX
	TO: Section XXX
	Justification: (If necessary)
Motion To approve the above editorial changes	
Motion by/2nd by	Name (Company)/Name (Company)
Discussion	XXXX
Vote	XX-XX Motion passed (or failed)
A&R	Not approved
	Reason:

VI. Approval Conditions Check

APPROVAL CONDITION 1: All negatives have been discussed and were withdrawn, found not related, or not persuasive. (Regulations ¶ 9.6.2)

APPROVAL CONDITION 2: At least 90% of the sum of the valid accept and reject votes must be accept. (Regulations ¶ 9.6.3)

Note: if both approval conditions are not satisfied, the document fails.

	Accepts	/	(Accepts + Valid Rejects)	=	#DIV/0!	>=90%
Approval Rate	= <input style="width: 50px; height: 20px;" type="text"/>	/	<input style="width: 50px; height: 20px;" type="text"/>	=	<input style="width: 50px; height: 20px;" type="text"/>	

A&R		Not approved
		Reason:

VII. Safety Check

See § 14 of the Regulations for further information

Motion:		This is not a Safety Document: when all safety-related information is removed, the document is still technically sound and complete.
		This is a Safety Document: when all safety-related information is removed, the document is not technically sound and complete.
Motion by/2nd by		Name (Company)/Name (Company)
Discussion		XXXX
Vote		XX-XX Motion passed or failed
A&R		Not approved
		Reason:

VIII. Intellectual Property Check

Note: This ballot may be all or part of a Standard or Safety Guideline. This IP check applies to the entire Standard or Safety Guideline. See § 15 of the Regulations for further information

		The meeting chair asked those present in person or by electronic link, if they were aware of any potentially material patented technology or copyrighted items* in the Standard or Guideline.	
		No potentially material patented technology or copyrighted items are known	GO TO SECTION IX
		Potentially material patented technology or copyrighted items are known but a Letter of Assurance (LOA) or copyright release for such material has been obtained or presented to the committee.	GO TO SECTION IX
		Potentially material patented technology or copyrighted items are known but an LOA or copyright release for some of the material(s) has NOT been obtained or presented to the committee	
MOTION		Ask ISC for special permission to publish	
		Quit activity	
		Wait for LOA for patented technology or release of copyrighted items.	
Motion by/2nd by		Name (Company)/Name (Company)	
Discussion		XXXX	
Vote		XX-XX	
Final Action		<input type="checkbox"/>	Motion Passed
		<input type="checkbox"/>	Motion Failed
A&R		Not approved	
		Reason:	

* Note: Such potentially material patented technology or copyrighted items might have become known since the Standard or Safety Guideline was last reviewed, or might become relevant due to this ballot.

IX. Action for this document

Motion	<input type="checkbox"/>	This document passed committee review as balloted and will be forwarded to the A&R for procedural review.	
	<input type="checkbox"/>	This document passed committee review with editorial changes and will be forwarded to the A&R for procedural review.	
	<input type="checkbox"/>	This document failed committee review and will be returned to the task force for rework.	
	<input type="checkbox"/>	This document failed committee review and work will be discontinued.	
Motion by/2nd by		Name (Company)/Name (Company)	
Discussion		XXXX	
Vote		XX-XX	
Final Action		<input type="checkbox"/>	Motion passed
		<input type="checkbox"/>	Motion failed
A&R		Approved	

	Not approved
	Reason: