Record of Letter Ballot Review by TC Chapter for Procedural Review

Region/Locale: North America
Global Technical Committee: Gases
TC Chapter Cochairs: Mohamed Saleem/Brooks Instrument
Standards Staff: Laura Nguyen

	Scheduled in Background Statement	Actual
Date	03/29/2022	03/29/2022
Location	SEMI HQ, Milpitas, CA/USA	SEMI HQ, Milpitas, CA/USA
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
6875	Reapproval of SEMI F105-0914, Guide for Metallic Material Compatibility in Gas Distribution Systems

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	40	÷	64	=	62.5%	≥60%
Intercommittee Ballot	39					
Voting Interest Reject(s)	0		Total Voters with Rejects			0
Voting Interest Accept(s)	29					

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

III. Rejects
None

IV. Other Technical Issues
None

V. Comments
V- (i) Voters' Comments
Commenter 1 (Yutaka Yoshida / Daido Steel) - Comment 1

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.		
	In Table 1 and its NOTE 3, as well as in Table 3 and Table R1-1, the alloy names from Tohoku Steel are written as, 'KM38' and 'KM45'. I checked with Tohoku Steel and confirmed that the correct names are, 'K-M38' and 'K-M45'.		
Action	**The TC Chapter agreed to do one of the following actions.**		
	*No motion is required in this step.		
		Already addressed by Commenter #, Comment #	
		No further action was taken by the TC Chapter.	
		Refer to the TF for more consideration.	
		New Business	
	X	Editorial Change	
	Options for editorial change (check one)		Case 1: No vote in this section:
			To be included and voted on as a group in § VI. *Editorial Changes Other than Those Voted on in § V*.
		X	Case 2: Voted in this section:
			Original section number and at least one full sentence are required in "FROM" and "TO" fields.

Editorial Changes

1

FROM: Section/Paragraph

Table 1 Alternative Metallic Materials

Metal Alloy	Alloy Class
S31603 UHP	Austenitic Stainless Steel (SEMI F19/SEMI F20 Ultra High Purity Grade)
S31603 HP	Austenitic Stainless Steel (SEMI F19/SEMI F20 High Purity Grade)
S31603 GP	Austenitic Stainless Steel (SEMI F19/SEMI F20 General Purpose Grade)
S31603	Austenitic Stainless Steel
S31600	Austenitic Stainless Steel
N06625	Nickel Based Alloy
N06600	Nickel Based Alloy
N07750	Nickel Based Alloy
N08825	Nickel Based Alloy
R30003	Cobalt Based Alloy
R30004	Cobalt Based Alloy
N06022	Nickel Based Alloy
N10276	Nickel Based Alloy
Spron® 100	Cobalt Based Alloy
Spron® 510	Cobalt Based Alloy
N02200	Non-Ferrous Alloy
S31703	Austenitic Stainless Steel
S31726	Austenitic Stainless Steel
S32100	Austenitic Stainless Steel
S31254	Super Austenitic Stainless Steel
N08367	Super Austenitic Stainless Steel
N08020	Super Austenitic Stainless Steel
S32205	Duplex Stainless Steel
S32750	Super Duplex Stainless Steel
N07718	Nickel Based Alloy
S31277	Super Austenitic Stainless Steel

S30200	Austenitic Stainless Steel
S30400	Austenitic Stainless Steel
N04400	Non-Ferrous Alloy
ASTM F2063	Shape Memory Alloy
KM38®	Ferritic Stainless Steel
KM45®	Ferritic Stainless Steel

NOTE 1: The UNS number is derived from the SAE International/ASTM book “Metals and Alloys in the Unified Numbering System”.

NOTE 2: The Spron® materials do not have UNS numbers. For detailed information of the chemical composition of these alloys, contact Seiko Instruments Incorporated.

NOTE 3: The KM38 and KM45 materials do not have a UNS number. For detailed information of the chemical composition of these alloys, contact Tohoku Steel Company Ltd.

Table 1 Compatibility Matrix

Metal Alloys	Inerts	Hydrocarbons and Halogenated Hydrocarbons	Halogens and Halides	Hydrogen and Hydrides	Oxygen and Oxides
S31603 UHP	+	+	+	+	+
S31603 HP	+	+	**X**	+	+
S31603 GP	+	+	**X**	+	+
S31603	+	+	**X**	+	+
S31600	+	+	**X**	+	+
N06625	+	+	+	+	+
N06600	+	+	**X**	+	+
N07750	+	+	**X**	+	+
N08825	+	+	+	+	+
R30003	+	+	+	+	+
R30004	+	+	+	+	+
N06022	+	+	+	+	+
N10276	+	+	+	+	+
Spron® 100	+	+	+	+	+
Spron® 510	+	+	+	+	+

N02200	+	+	+	+	+[#3]
S31703	+	+	+	+	+
S31726	+	+	+	+	+
S32100	+	+	**X**	+	+
S31254	+	+	+	+	+
N08367	+	+	+	+	+
N08020	+	+	+	+	+
S32205	+	+	+	+	+
S32750	+	+	+	+	+
N07718	+	+	+	+	+
S31277	+	+	+	+	+
S30200	+	+	**X**	+	+
S30400	+	+	**X**	+	+
N04400	+	+	**X**	**X**	**X**
ASTM F2063	+	+	+	+	+
KM38®	+	+	**X**	+	+
KM45®	+	+	**X**	+	+

Table R1-1 Common and/or Example Designations and Typical Applications

Metal Alloy	Common and/or Example Designations	Typical Application
S31603 UHP	SEMI F19/SEMI F20 Ultra High Purity Grade	Valve bodies, tubing, fittings, seals
S31603 HP	SEMI F19/SEMI F20 High Purity Grade	Tubing, fittings
S31603 GP	SEMI F19/SEMI F20 General Purpose Grade	Tubing, fittings
S31603	316L Stainless Steel	Filter media
S31600	316 Stainless Steel	Springs
N06625	Inconel® 625	Valve bodies, tubing, fittings

N06600	Inconel® 600	Valve, regulator, and transducer diaphragms
N07750	Inconel® X750	Valve, regulator, and transducer diaphragms
N08825	Incoloy® 825	Bellows
R30003	Elgiloy®	Valve, regulator, and transducer diaphragms
R30004	Havar®	Valve, regulator, and transducer diaphragms
N06022	Hastelloy® C22	Valve bodies, tubing, fittings, diaphragms
N10276	Hastelloy® C276	Valve bodies, tubing, fittings
Spron® 100	Spron® 100	Valve, regulator, and transducer diaphragms
Spron® 510	Spron® 510	Valve, regulator, and transducer diaphragms
N02200	Nickel 200	Filter media, face seal gaskets
S31703	317L Stainless Steel	Valve bodies, tubing, fittings
S31726	317LN Stainless Steel	Valve bodies, tubing, fittings
S32100	321 Stainless Steel	Bellows
S31254	254SMO®	Valve bodies, tubing, fittings
N08367	AL-6XN®	Valve bodies, tubing, fittings
N08020	20Cb3®	Valve bodies, tubing, fittings
S32205	Duplex Stainless Steel	Valve bodies, tubing, fittings

S32750	Super Duplex Stainless Steel	Valve bodies, tubing, fittings
N07718	Inconel® 718	Valve, regulator, and transducer diaphragms
S31277	Incoloy® 27-7MO	Solenoid valve housing and seat
S30200	302 Stainless Steel	Springs
S30400	304 Stainless Steel	Springs
N04400	Monel® 400	Seals
ASTM F2063	Shape Memory Alloy	Seals
KM38®	KM38®	Valve stems
KM45®	KM45®	Valve stems

TO: Section/Paragraph

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N04400	Non-Ferrous Alloy
ASTM F2063	Shape Memory Alloy
K-M38®	Ferritic Stainless Steel
K-M45®	Ferritic Stainless Steel

NOTE 1: The UNS number is derived from the SAE International/ASTM book “Metals and Alloys in the Unified Numbering System”.

NOTE 2: The Spron® materials do not have UNS numbers. For detailed information of the chemical composition of these alloys, contact Seiko Instruments Incorporated.

NOTE 3: The K-M38 and K-M45 materials do not have a UNS number. For detailed information of the chemical composition of these alloys, contact Tohoku Steel Company Ltd.

Table 1 Compatibility Matrix

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S31603	+	+	**X**	+	+
S31600	+	+	**X**	+	+
N06625	+	+	+	+	+
N06600	+	+	**X**	+	+
N07750	+	+	**X**	+	+
N08825	+	+	+	+	+
R30003	+	+	+	+	+
R30004	+	+	+	+	+
N06022	+	+	+	+	+
N10276	+	+	+	+	+
Spron® 100	+	+	+	+	+

Spron® 510	+	+	+	+	+
N02200	+	+	+	+	+[#3]
S31703	+	+	+	+	+
S31726	+	+	+	+	+
S32100	+	+	**X**	+	+
S31254	+	+	+	+	+
N08367	+	+	+	+	+
N08020	+	+	+	+	+
S32205	+	+	+	+	+
S32750	+	+	+	+	+
N07718	+	+	+	+	+
S31277	+	+	+	+	+
S30200	+	+	**X**	+	+
S30400	+	+	**X**	+	+
N04400	+	+	**X**	**X**	**X**
ASTM F2063	+	+	+	+	+
K-M38®	+	+	**X**	+	+
K-M45®	+	+	**X**	+	+

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S31603 GP	SEMI F19/SEMI F20 General Purpose Grade	Tubing, fittings
S31603	316L Stainless Steel	Filter media
S31600	316 Stainless Steel	Springs
N06625	Inconel® 625	Valve bodies, tubing, fittings

N06600	Inconel® 600	Valve, regulator, and transducer diaphragms
N07750	Inconel® X750	Valve, regulator, and transducer diaphragms
N08825	Incoloy® 825	Bellows
R30003	Elgiloy®	Valve, regulator, and transducer diaphragms
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N06022	Hastelloy® C22	Valve bodies, tubing, fittings, diaphragms
N10276	Hastelloy® C276	Valve bodies, tubing, fittings
Spron® 100	Spron® 100	Valve, regulator, and transducer diaphragms
Spron® 510	Spron® 510	Valve, regulator, and transducer diaphragms
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S31254	254SMO®	Valve bodies, tubing, fittings
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N08020	20Cb3®	Valve bodies, tubing, fittings
S32205	Duplex Stainless Steel	Valve bodies, tubing, fittings
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S30400	304 Stainless Steel	Springs
N04400	Monel® 400	Seals
ASTM F2063	Shape Memory Alloy	Seals
K-M38®	K-M38®	Valve stems
K-M45®	K-M45®	Valve stems

Justification (If necessary)
Editorial in nature.

Motion	To approve above editorial change(s)
Motion by/2nd by	By: Matt Milburn / Ham-let Second: Kevin Findleton / Ichor Systems
Discussion	None
Vote	11 **Y**- 0 **N**; Motion passed.

V-(ii) Comments Created by Handling Negative

None

VI. Editorial Changes Other than Those Voted on in § V

None

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	=	**29**	/	**29**	=	**100.0%**		**≥90%**

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

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

X	**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	X	**This is not a Safety Document**, when all safety-related information is removed, the Document is still technically sound and complete. (*Regulations* ¶ 8.7.1)
		This is a Safety Document, when all safety-related information is removed, the Document is not technically sound and complete. (*Regulations* ¶ 8.7.2)
		Safety Checklist (*Regulations* ¶ 15.3) is complete and has been included with the Document throughout the balloting process. (*Regulations* ¶ 15.1.2)
Motion by/2nd by		By: Matt Milburn / Ham-let Second: Carolyn Sutton / Nikon Precision Inc.
Discussion		None
Vote		11 **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.

X	The TC Chapter meeting chair asked those participating, if they were aware of any patented technology that might be relevant (see *Regulations* ¶ 16.3.1.1) to the Standard or Safety Guideline; or, any copyrighted items or trademarks that are used/reproduced (see *Regulations* ¶ 16.4.1.2) in the Standard or Safety Guideline. (Also see, *Regulations* § 8.8)		
	X	The question is NOT answered in affirmative (No potentially material patented technology or use/reproduction of copyrighted items/trademarks is known.)	**GO TO SECTION X.**

X. Action for This Document

Motion	X	This Document passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.
Motion by/ 2nd by		By: Thomas Fritz / WIKA Instrument Corporation Second: Yanli Chen / Applied Materials, Inc.
Discussion		Supika M.: Is editorial change, ok? Mohamed S.: Yes, it is a spelling error.
Vote		7 **Y**-0 **N**
Final Action	X	Motion passed
		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.