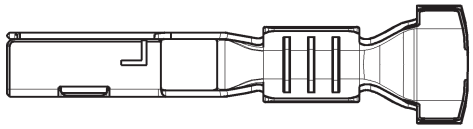
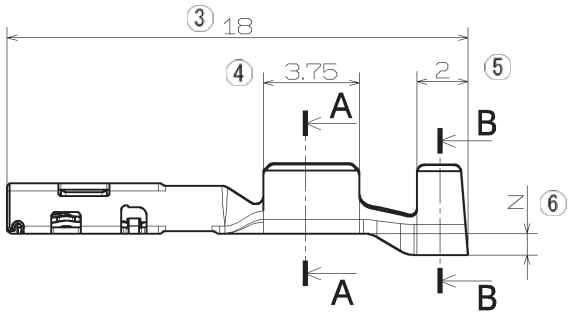
圧着部寸法
DIMENTION OF CRIMPING WING

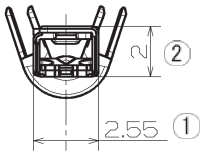
符号 ISS.	サイズ SIZE	H1	H2	W1	W2	N
①	S	(2.2)	(3.4)	2.6	4.3	0.75
②	M	(2.8)	(4.0)	3.0	4.95	0.85
③	S2	(2.2)	(3.8)	2.6	4.7	0.85

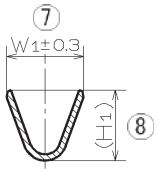
適用電線表
APPLICABLE WIRE SIZE

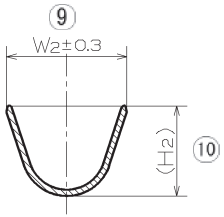
符号 ISS.	サイズ SIZE	電線種 WIRE TYPE	電線サイズ WIRE SIZE
①	S	TXL (AWG)	22~20
		CHFUS (ISO)	0.35~0.5mm²
②	M	TXL (AWG)	18~16
		CHFUS (ISO)	0.75~1.0mm²
		AESSX (JASO)	1.25mm²
③	S2	TXL (AWG)	22~20
		CHFUS (ISO)	0.35~0.5mm²











SECTION A-A

SECTION B-B

ISS.	DESCRIPTION	QTY	MATERIAL	COLOR	PART No.	PART NAME
③	1.2 SEALED 2PIECES FEMALE TERMINAL S2 SIZE (Ag)				8240-0686	TER-WUS120FSAG2
②	1.2 SEALED 2PIECES FEMALE TERMINAL M SIZE (Ag)				8240-0512	TER-WUS120FMAG
①	1.2 SEALED 2PIECES FEMALE TERMINAL S SIZE (Ag)				8240-0511	TER-WUS120FSAG

一般公差表 GENERAL TOLERANCES		
以上 OR OVER	未満 LESS THAN	
	10	±0.2
10	50	±0.3
角度 ANGLE		

材質 MATERIAL	BODY : C2600R-H SPRING : C7035-EH
板厚 THICKNESS	BODY : 0.25 SPRING : 0.2
仕上 FINISH	Ag PLATING
尺度 SCALE	5:1
色相 COLOR	
質量 MASS	

承認 APPROVED	検図 CHECKED	設計 DESIGNED	製図 DRAWN
'20.02.04 K.Yamashita	'20.02.04 S.Kida	2020/02/04 Y.MAMIYA	2020/02/04 Y.MAMIYA

三角法 THIRD ANGLE PROJECTION

登録名称 PART NAME	上記参照 SEE ABOVE TABLE
管理番号 REFERENCE NO.	S-107034 A7
部品番号 PART No.	SEE ABOVE TABLE
名称 DESCRIPTION	1.2mm防水メス端子(Ag) 1.2 SEALED 2PIECES FEMALE TERMINAL(Ag)

Sumitomo Wiring Systems, Ltd. A3

開企 008C-9

'21/02/02 出図 RELEASE

部品・品保部 / 顧客データ管理グループ / 鈴鹿 CP Quality Assurance Department / PPAP&SOC Management Section

UFL167N01

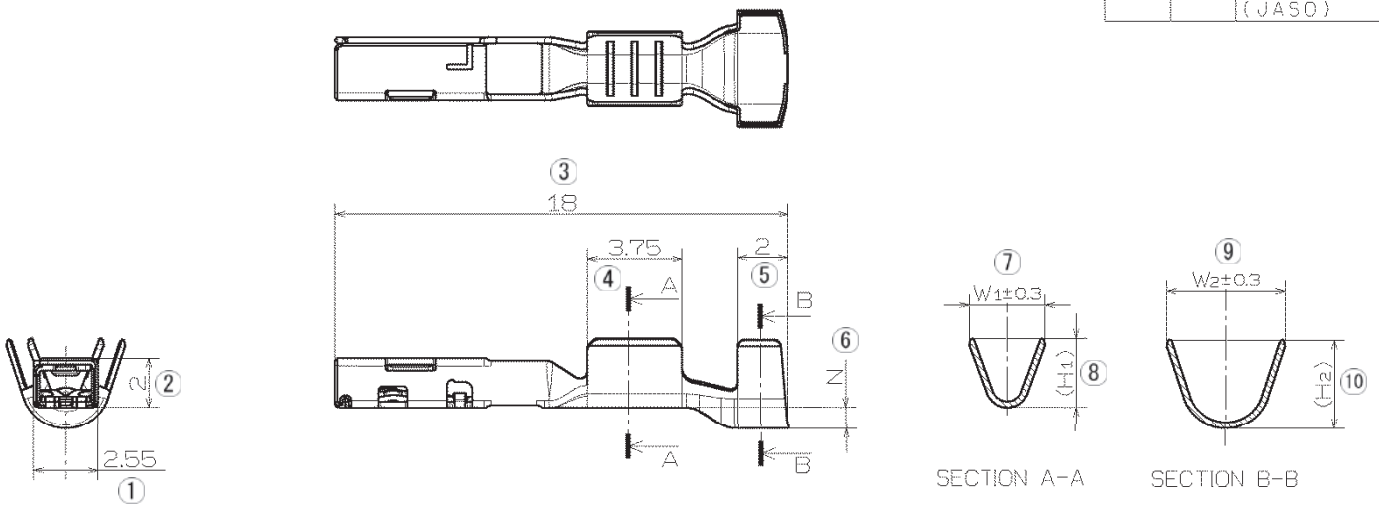
20200204-104028 V5

圧着部寸法
DIMENTION OF CRIMPING WING

符号 ISS.	サイズ SIZE	H1	H2	W1	W2	N
①	S	(2.2)	(3.4)	2.6	4.3	0.75
②	M	(2.8)	(4.0)	3.0	4.95	0.85

適用電線表
APPLICABLE WIRE SIZE

符号 ISS.	サイズ SIZE	電線種 WIRE TYPE	電線サイズ WIRE SIZE
①	S	TXL (AWG)	22~20
		CHFUS (ISO)	0.35~0.5mm²
②	M	TXL (AWG)	18~16
		CHFUS (ISO)	0.75~1.0mm²
		AESSX (JASO)	1.25mm²



SECTION A-A　　SECTION B-B

符号 ISS.	名称 DESCRIPTION	数量 QTY	材質 MATERIAL	色相 COLOR	部品番号 PART NO.	登録名称 PART NAME
②	1.2 SEALED 2PIECES FEMALE TERMINAL M SIZE (Ag)				8240-0512	TER-WUS120FMAG
①	1.2 SEALED 2PIECES FEMALE TERMINAL S SIZE (Ag)				8240-0511	TER-WUS120FSAG

一般公差表 GENERAL TOLERANCES		
以上 OR OVER	未満 LESS THAN	
	10	±0.2
10	50	±0.3
角度 ANGLE		

材質 MATERIAL	板厚 THICKNESS
BODY : C2600R-H SPRING : C7035-EH	BODY : 0.25 SPRING : 0.2
仕上 FINISH	尺度 SCALE
Ag PLATING	5:1
色相 COLOR	質量 MASS

承認 APPROVED	検図 CHECKED	設計 DESIGNED	製図 DRAWN
'16.01.09 K.Yamashita	'16.01.09 K.Uezono	2016/01/08 Y.KITAGAWA	2016/01/08 H.KANGYU

三角法 THIRD ANGLE PROJECTION

登録名称 PART NAME	上記参照 SEE ABOVE TABLE
管理番号 REFERENCE No.	S 1 0 7 0 3 4 A3
部品番号 PART No.	SEE ABOVE TABLE
名称 DESCRIPTION	1.2mm防水メス端子(Ag) 1.2 SEALED 2PIECES FEMALE TERMINAL(Ag)

Sumitomo Wiring Systems, Ltd.　A3

UFL167N01　V5

Supplier

Sumitomo Wiring Systems Ltd.

Part Certification

PROCESS FLOW DIAGRAM

Family name	Date (Orig.) 31.Jul.'11	Prepared by Sumitomo Wiring System,Ltd.
Part Number 8240-0512	Date (Rev.) 6.Aug.'20	Title N/A
Part Name TER-WUS120FMAG	Page 1 of 1	Phone Number 81-593-40-0397

Cross Functional Team Members

Engineer Section S. Kitagawa K.Muneyasu
QA Section T.Okazaki Y.Hattori

Step	Prod	Move	Store	Insp	Operation description	Item #	Product Characteristics	Item #	Control Characteristics
	◆	●	▲	■					
1	◆		▲	■	Receipt of material and receiving inspection	1	appearance	1	N/A
						2	material name, code, size,weight	2	N/A
						3	Material characteristics	3	N/A
2	◆				machine set-up	1	N/A	1	machine inspection
						2	N/A	2	stamping condition
3				■	inspection	1	dimension	1	N/A
						2	function	2	N/A
						3	Appearance	3	N/A
4	◆				Stamping	1	N/A	1	quantity
5				■	Annual inspection	1	Dimension	1	N/A
6	◆			■	Packing	1	appearance	1	N/A
						2	Quantity	2	N/A
7			▲		Shipment	1	Label (product name and code)	1	N/A
						2	Quantity	2	N/A

Date 01.Apr.'21
Sumitomo Wiring Systems,Ltd.

Tomonori Okazaki

Gage Repeatability and Reproduciility Data Sheet (Calipers)

Appraiser / Trial #		1	2	3	4	5	6	7	8	9	10	AVERAGE	
1	A 1	11.89	12.21	12.01	12.15	11.95	12.02	12.24	12.11	11.98	12.07		12.0630
2	2	11.88	12.21	12.01	12.16	11.96	12.02	12.23	12.10	11.98	12.07		12.0620
3	3	11.88	12.21	12.01	12.16	11.96	12.02	12.23	12.10	11.98	12.07		12.0620
4	Avarage	11.883	12.210	12.010	12.157	11.957	12.020	12.233	12.103	11.980	12.070	Xbar A	12.0623
5	Range	0.010	0.000	0.000	0.010	0.010	0.000	0.010	0.010	0.000	0.000	Rbar A	0.0050
6	B 1	11.88	12.22	12.01	12.15	11.97	12.01	12.24	12.10	12.00	12.07		12.0650
7	2	11.88	12.22	12.01	12.15	11.96	12.02	12.24	12.10	11.99	12.07		12.0640
8	3	11.88	12.22	12.01	12.15	11.96	12.02	12.24	12.10	11.99	12.07		12.0640
9	Avarage	11.880	12.220	12.010	12.150	11.963	12.017	12.240	12.100	11.993	12.070	Xbar B	12.0643
10	Range	0.000	0.000	0.000	0.000	0.010	0.010	0.000	0.000	0.010	0.000	Rbar B	0.0030
11	C 1	11.88	12.23	11.99	12.15	11.96	12.01	12.24	12.11	11.99	12.07		12.0630
12	2	11.88	12.22	12.00	12.15	11.97	12.02	12.24	12.10	11.99	12.06		12.0630
13	3	11.88	12.22	12.00	12.15	11.97	12.02	12.24	12.10	11.99	12.06		12.0630
14	Avarage	11.880	12.223	11.997	12.150	11.967	12.017	12.240	12.103	11.990	12.063	Xbar C	12.0630
15	Range	0.000	0.010	0.010	0.000	0.010	0.010	0.000	0.010	0.000	0.010	Rbar C	0.0060
16	Part Avarage (X p)	11.881	12.218	12.006	12.152	11.962	12.018	12.238	12.102	11.988	12.068	Xbar-bar R p	12.0632 0.3567
17	(Rbar A + Rbar B + Rbar C)/(# of Appraisers = 3)											Rbar-bar	0.0047
18	(Max Xbar)-(Min Xbar) = Xbar DIFF												0.0020
19	(R bar-bar)*(D4=2.58)=UCL R												0.01
20	(R bar-bar)*(D3=0.00)=LCL R												0.00

Gage Repeatability and Reproducibility Report

Date 01.Apr.'21

Part No,and Name	Measurement sample for Gage R&R use	Gage Name	Calipers		Performed by Taniguchi
Characteristics	Dimension	Gage No,	YA1C0817、YA1C0896、YA1C0897、YA1C1004		Kato
Tolerance	0.3 Units mm	Gage Type	Calipers		Abe
Tolerance (T)	T= 0.6				
From data sheet	Rbar-bar= 0.00467	Xbar DIFF=	0.00200	R p= 0.3567	

Measurement Unit Analysis

Based on the TOLERANCE Method

Repeatability - Equipment Variation (EV)

EV = Rbar-bar * K1
= 0.0028

Trials	K1
2	0.8862
3	0.5908

% EV= (EV*6/T) * 100
= 2.76 %

Reproducibility - Appraiser Variation (AV)

AV= SQRT((Xbar DIFF * K2)^2 - (EV^2/nr))
= 0.000917

Appraisers	2	3
K2	0.7071	0.5231

% AV= (AV*6/T) * 100
= 0.92 %

n = number of parts
r = number of trials

Repeatability & Reproducibility (R&R)

R&R= SQRT(EV^2 + AV^2)
= 0.00291

% R&R= (R&R*6/T) * 100
= 2.91 %
Gage system OK

Part Variation (PV)

PV= R p * K3
= 0.1122

Parts	K3
2	0.7071
3	0.5231
4	0.4467
5	0.4030
6	0.3742
7	0.3534
8	0.3375
9	0.3249
10	0.3146

% PV= (PV*6/T) * 100
= 112.21 %

Total Variation (TV)

TV= SQRT(R&R^2 + PV^2)
= 0.1122

ndc= 1.41(PV/GRR)
= 54

Gage discrimination acceptable

Date 01.Apr.'21
Sumitomo Wiring Systems,Ltd.

Tomonori Okazaki

Gage Repeatability and Reproduciility Data Sheet (Projector)

Appraiser / Trial #		1	2	3	4	5	6	7	8	9	10	AVERAGE	
1	A 1	15.89	16.11	16.09	15.95	16.19	16.07	15.83	16.19	16.15	15.91		16.0380
2	2	15.90	16.11	16.09	15.94	16.19	16.06	15.82	16.19	16.14	15.91		16.0350
3	3	15.90	16.11	16.09	15.94	16.19	16.06	15.82	16.19	16.14	15.91		16.0350
4	Avarage	15.897	16.110	16.090	15.943	16.190	16.063	15.823	16.190	16.143	15.910	Xbar A	16.0360
5	Range	0.010	0.000	0.000	0.010	0.000	0.010	0.010	0.000	0.010	0.000	Rbar A	0.0050
6	B 1	15.89	16.10	16.10	15.94	16.19	16.06	15.82	16.18	16.14	15.91		16.0330
7	2	15.90	16.11	16.08	15.94	16.19	16.06	15.82	16.18	16.15	15.90		16.0330
8	3	15.90	16.11	16.08	15.94	16.19	16.06	15.82	16.18	16.15	15.90		16.0330
9	Avarage	15.897	16.107	16.087	15.940	16.190	16.060	15.820	16.180	16.147	15.903	Xbar B	16.0330
10	Range	0.010	0.010	0.020	0.000	0.000	0.000	0.000	0.000	0.010	0.010	Rbar B	0.0060
11	C 1	15.90	16.10	16.10	15.94	16.20	16.06	15.83	16.17	16.14	15.92		16.0360
12	2	15.90	16.11	16.10	15.95	16.19	16.07	15.83	16.18	16.15	15.92		16.0400
13	3	15.90	16.11	16.10	15.95	16.19	16.07	15.83	16.18	16.15	15.92		16.0400
14	Avarage	15.900	16.107	16.100	15.947	16.193	16.067	15.830	16.177	16.147	15.920	Xbar C	16.0387
15	Range	0.000	0.010	0.000	0.010	0.010	0.010	0.000	0.010	0.010	0.000	Rbar C	0.0060
16	Part Avarage (X p)	15.898	16.108	16.092	15.943	16.191	16.063	15.824	16.182	16.146	15.911	Xbar-bar R p	16.0359 0.3667
17	(Rbar A + Rbar B + Rbar C)/(# of Appraisers = 3)											Rbar-bar	0.0057
18	(Max Xbar)-(Min Xbar) = Xbar DIFF												0.0057
19	(R bar-bar)*(D4=2.58)=UCL R												0.01
20	(R bar-bar)*(D3=0.00)=LCL R												0.00

Gage Repeatability and Reproducibility Report

Date 01.Apr.'21

Part No,and Name	Measurement sample for Gage R&R use	Gage Name	Projector	Performed by
Characteristics	Dimension	Gage No,	YA1H0028	Taniguchi
Tolerance	0.6 Units mm	Gage Type	Projector	Katou
Tolerance (T)	T= 0.6			Abe
From data sheet	Rbar-bar= 0.00567	Xbar DIFF=	0.00567	R p= 0.3667

Measurement Unit Analysis

Repeatability - Equipment Variation (EV)

EV = Rbar-bar * K1
= 0.00335

Trials	K1
2	0.8862
3	0.5908

% EV= (EV*6/T) * 100
= 3.35 %

Reproducibility - Appraiser Variation (AV)

AV= SQRT((Xbar DIFF * K2)^2 - (EV^2/nr))
= 0.002901

Appraisers	2	3
K2	0.7071	0.5231

% AV= (AV*6/T) * 100
= 2.90 %

n = number of parts
r = number of trials

Repeatability & Reproducibility (R&R)

R&R= SQRT(EV^2 + AV^2)
= 0.00443

% R&R= (R&R*6/T) * 100
= 4.43 %
Gage system OK

Part Variation (PV)

PV= R p * K3
= 0.11535

Parts	K3
2	0.7071
3	0.5231
4	0.4467
5	0.4030
6	0.3742
7	0.3534
8	0.3375
9	0.3249
10	0.3146

% PV= (PV*6/T) * 100
= 115.35 %

Total Variation (TV)

TV= SQRT(R&R^2 + PV^2)
= 0.11544

ndc= 1.41(PV/GRR)
= 36

Gage discrimination acceptable

Based on the TOLERANCE

PART INSPECTION REPORT

Suppler
SUMITOMO WIRING SYSTEMS

Part Certification

Mold:L7141

Part Number	ECL	Part Name
8240-0512	7	TER-WUS120FMAG

Dim №	Figure Code	Drawing Dimension	Acceptance Lower	Acceptance Upper	PARTS/TOOL CAVITIES CHECKED 1	2	3	4	5	6	7	8	OK	NOT OK	
1		2.55	2.35	2.75	2.54	2.53	2.53	2.54	2.53				O		
2		2	1.8	2.2	1.99	1.98	1.98	1.98	2.00				O		
3		18	17.7	18.3	18.09	18.11	18.09	18.11	18.11				O		
4		3.75	3.55	3.95	3.76	3.74	3.76	3.74	3.80				O		
5		2	1.8	2.2	1.94	1.98	1.94	1.98	1.96				O		
6		0.85	0.65	1.05	0.85	0.86	0.85	0.86	0.84				O		
7		3.0	2.7	3.3	3.00	2.98	3.00	2.98	2.99				O		
8		(2.8)	Ref		2.83	2.83	2.83	2.82	2.83				-		
9		4.95	4.65	5.25	4.83	4.84	4.83	4.84	4.82				O		
10		(4.0)	Ref		3.99	3.98	4.00	3.98	3.99				-		
11															
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Inspection Source Company Name

Inspected by	Title	Inspection Report Date
Y.Hattori	QA STAFF	24.Jun.'21
Inspctor Supervisor	**Title**	**Date**
Approved by T. Okazaki	Title Components Gr. QA Dep. Manager	Date 24.Jun.'21

PART INSPECTION REPORT

Suppler

SUMITOMO WIRING SYSTEMS

Part Certification

Mold:L7155

Part Number	ECL	Part Name
8240-0512	7	TER-WUS120FMAG

Dim №	Figure Code	Drawing Dimension	Acceptance Lower	Acceptance Upper	PARTS/TOOL CAVITIES CHECKED 1	2	3	4	5	6	7	8	OK	NOT OK	
1		2.55	2.35	2.75	2.53	2.53	2.52	2.53	2.53				O		
2		2	1.8	2.2	1.98	1.97	1.97	1.97	1.98				O		
3		18	17.7	18.3	18.11	18.08	18.16	18.09	18.10				O		
4		3.75	3.55	3.95	3.75	3.74	3.81	3.75	3.75				O		
5		2	1.8	2.2	1.99	1.99	2.07	1.99	1.99				O		
6		0.85	0.65	1.05	0.83	0.83	0.83	0.83	0.82				O		
7		3.0	2.7	3.3	2.98	2.98	2.97	2.96	2.97				O		
8		(2.8)	Ref		2.82	2.83	2.82	2.83	2.81				-		
9		4.95	4.65	5.25	4.81	4.81	4.82	4.83	4.83				O		
10		(4.0)	Ref		4.00	3.99	4.00	4.00	3.99				-		
11															
12															
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Inspection Source Company Name

Inspected by	Title	Inspection Report Date
Y.Hattori	QA STAFF	24.Jun.'21
Inspctor Supervisor	**Title**	**Date**
Approved by T. Okazaki	Title Components Gr. QA Dep. Manager	Date 24.Jun.'21

PART INSPECTION REPORT

Suppler

SUMITOMO WIRING SYSTEMS

Part Certification

Mold:L7164

Part Number	ECL	Part Name
8240-0512	7	TER-WUS120FMAG

Dim №	Figure Code	Drawing Dimension	Acceptance Lower	Acceptance Upper	PARTS/TOOL CAVITIES CHECKED 1	2	3	4	5	6	7	8	OK	NOT OK	
1		2.55	2.35	2.75	2.52	2.52	2.53	2.53	2.52				O		
2		2	1.8	2.2	1.98	1.98	1.98	1.99	1.98				O		
3		18	17.7	18.3	18.10	18.13	18.10	18.10	18.10				O		
4		3.75	3.55	3.95	3.75	3.79	3.75	3.75	3.75				O		
5		2	1.8	2.2	2.02	2.08	2.02	2.02	2.02				O		
6		0.85	0.65	1.05	0.85	0.85	0.85	0.85	0.85				O		
7		3.0	2.7	3.3	3.01	2.99	2.99	2.99	3.01				O		
8		(2.8)	Ref		2.82	2.81	2.83	2.82	2.82				-		
9		4.95	4.65	5.25	4.83	4.83	4.80	4.81	4.81				O		
10		(4.0)	Ref		3.99	3.99	4.00	3.99	4.00				-		
11															
12															
13															
14															
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45															

Inspection Source Company Name

Inspected by	Title	Inspection Report Date
Y.Hattori	QA STAFF	24.Jun.'21
Inspctor Supervisor	**Title**	**Date**
Approved by T. Okazaki	Title Components Gr. QA Dep. Manager	Date 24.Jun.'21

MATERIAL TEST RESULTS

Supplier
Part Certification

SUMITOMO WIRING SYSTEMS Ltd.

Mold:L7141

Supplier	Part Number
SUMITOMO WIRING SYSTEMS Ltd.	8240-0512
Name of Laboratory	Part Name
SUMITOMO WIRING SYSTEMS Ltd.	TER-WUS120FMAG

TYPE OF TEST	MATERIAL SPEC. NO / DATE / SPECIFICATION	SUPPLIER TEST RESULTS	OK	NOT OK
Tensile strength	Unit:N/mm² Spec: 410-540	483	OK	
Hardness	Unit:HV Spec: 105.0-175.0	155.0	OK	

Signature	Title	Date
T. Okazaki	Components Gr. QA Dep. Manager	24.Jun.'21

MATERIAL TEST RESULTS

Supplier
Part Certification

SUMITOMO WIRING SYSTEMS Ltd.

Mold:L7155

Supplier	Part Number
SUMITOMO WIRING SYSTEMS Ltd.	8240-0512
Name of Laboratory	Part Name
SUMITOMO WIRING SYSTEMS Ltd.	TER-WUS120FMAG

TYPE OF TEST	MATERIAL SPEC. NO / DATE / SPECIFICATION	SUPPLIER TEST RESULTS	OK	NOT OK
Tensile strength	Unit:N/mm² Spec: 410-540	483	OK	
Hardness	Unit:HV Spec: 105.0-175.0	155.0	OK	

Signature	Title	Date
T. Okazaki	Components Gr. QA Dep. Manager	24.Jun.'21

MATERIAL TEST RESULTS

Supplier
Part Certification

SUMITOMO WIRING SYSTEMS Ltd.

Mold:L7164

Supplier	Part Number
SUMITOMO WIRING SYSTEMS Ltd.	8240-0512
Name of Laboratory	Part Name
SUMITOMO WIRING SYSTEMS Ltd.	TER-WUS120FMAG

TYPE OF TEST	MATERIAL SPEC. NO / DATE / SPECIFICATION	SUPPLIER TEST RESULTS	OK	NOT OK
Tensile strength	Unit:N/mm² Spec: 410-540	483	OK	
Hardness	Unit:HV Spec: 105.0-175.0	155.0	OK	

Signature	Title	Date
T. Okazaki	Components Gr. QA Dep. Manager	24.Jun.'21

24.Jun'21
Sumitomo Wiring
Systems Ltd.
T. Okazaki

Process Capavility Data

Part Name: TER-WUS120FMAG Part No: 8240-0512

Mold:L7141

Measurement Place	1															
Standard	2.55															
Standard(Max)	2.75															
Standard(Min)	2.35															
n 1	2.530	2.530	2.530	2.530												
n 2	2.530	2.530	2.530	2.540												
n 3	2.530	2.530	2.530	2.540												
n 4	2.530	2.530	2.530	2.530												
n 5	2.530	2.530	2.530	2.530												
n 6	2.530	2.530	2.530	2.530												
n 7	2.530	2.530	2.530	2.530												
n 8	2.530	2.530	2.530	2.530												
n 9	2.530	2.540	2.530	2.540												
n 10	2.530	2.530	2.530	2.530												
n 11	2.530	2.530	2.530	2.540												
n 12	2.530	2.530	2.530	2.530												
n 13	2.530	2.530	2.530	2.530												
n 14	2.530	2.530	2.520	2.530												
n 15	2.530	2.530	2.530	2.530												
n 16	2.530	2.530	2.530	2.530												
n 17	2.520	2.530	2.520	2.530												
n 18	2.530	2.530	2.530	2.530												
n 19	2.530	2.530	2.530	2.530												
n 20	2.530	2.540	2.530	2.530												
n 21	2.530	2.540	2.530	2.530												
n 22	2.530	2.540	2.530	2.540												
n 23	2.530	2.530	2.530	2.530												
n 24	2.530	2.530	2.530	2.530												
n 25(=100)	2.530	2.530	2.520	2.540												
x	2.530															
MAX	2.540															
MIN	2.520															
δ	0.004															
CP	18.051															
CPK	16.300															

Measurement Place

Please refer to an attached sheet drawing

24.Jun'21
Sumitomo Wiring
Systems Ltd.
T. Okazaki

Process Capavility Data

Part Name: TER-WUS120FMAG Part No: 8240-0512

Mold:L7155

Measurement Place	1															
Standard	2.55															
Standard(Max)	2.75															
Standard(Min)	2.35															
n 1	2.520	2.530	2.530	2.530												
n 2	2.530	2.530	2.540	2.530												
n 3	2.520	2.530	2.530	2.530												
n 4	2.520	2.530	2.530	2.540												
n 5	2.530	2.520	2.530	2.530												
n 6	2.530	2.520	2.530	2.530												
n 7	2.520	2.530	2.530	2.530												
n 8	2.530	2.530	2.530	2.540												
n 9	2.530	2.520	2.530	2.530												
n 10	2.520	2.530	2.530	2.540												
n 11	2.520	2.530	2.530	2.530												
n 12	2.530	2.520	2.530	2.530												
n 13	2.530	2.530	2.540	2.530												
n 14	2.530	2.520	2.520	2.530												
n 15	2.530	2.530	2.530	2.530												
n 16	2.530	2.530	2.530	2.530												
n 17	2.530	2.530	2.540	2.530												
n 18	2.520	2.530	2.510	2.540												
n 19	2.520	2.530	2.530	2.540												
n 20	2.550	2.530	2.530	2.540												
n 21	2.520	2.520	2.520	2.520												
n 22	2.520	2.520	2.530	2.520												
n 23	2.520	2.520	2.520	2.530												
n 24	2.520	2.520	2.530	2.530												
n 25(=100)	2.520	2.530	2.530	2.530												
x	2.530															
MAX	2.550															
MIN	2.510															
δ	0.006															
CP	10.442															
CPK	9.304															

Measurement Place

Please refer to an attached sheet drawing

24.Jun'21
Sumitomo Wiring
Systems Ltd.
T. Okazaki

Process Capavility Data

Part Name: TER-WUS120FMAG Part No: 8240-0512

Mold:L7164

Measurement Place	1															
Standard	2.55															
Standard(Max)	2.75															
Standard(Min)	2.35															
n 1	2.520	2.520	2.520	2.520												
n 2	2.520	2.520	2.520	2.530												
n 3	2.520	2.520	2.530	2.530												
n 4	2.520	2.520	2.520	2.520												
n 5	2.520	2.520	2.520	2.520												
n 6	2.520	2.520	2.520	2.520												
n 7	2.520	2.520	2.520	2.520												
n 8	2.520	2.520	2.520	2.520												
n 9	2.520	2.520	2.520	2.520												
n 10	2.520	2.520	2.520	2.520												
n 11	2.520	2.520	2.520	2.520												
n 12	2.520	2.520	2.520	2.520												
n 13	2.520	2.520	2.520	2.520												
n 14	2.520	2.520	2.520	2.520												
n 15	2.510	2.520	2.520	2.520												
n 16	2.520	2.520	2.520	2.520												
n 17	2.520	2.520	2.520	2.520												
n 18	2.520	2.530	2.520	2.530												
n 19	2.520	2.520	2.520	2.530												
n 20	2.530	2.520	2.530	2.570												
n 21	2.530	2.520	2.530	2.520												
n 22	2.520	2.520	2.530	2.520												
n 23	2.520	2.520	2.520	2.520												
n 24	2.520	2.530	2.520	2.530												
n 25(=100)	2.520	2.530	2.520	2.530												
x	2.520															
MAX	2.570															
MIN	2.510															
δ	0.006															
CP	10.903															
CPK	9.371															

Measurement Place

Please refer to an attached sheet drawing

WORK INSTRUCTION

AREA:	QUALITY ASSURANCE LAB (ver'21)

TITLE

LABORATORY SCOPE–Sumitomo Wiring Systems

PURPOSE :	APPLICATION :
To summarize the testing capabilities at the Plant of Sumitomo Wiring Systems Ltd, and to make clear the test items, equipment, standards.	Sumitomo Wiring Systems Ltd. (Yokkaichi Laboratory)
	RULE ENFORCER : QA Cordinator / Above

Tests Performed in Sumitomo Wiring Systems

TESTS ITEM	EQUIPMENT	TEST METHODS / STANDARD	QUANTITIES	CAPABILITY OF MEASURING
Dimentional Measurement	Caliper	SCD-H01-002-3925	4	Measuring Range : 0 – 150 mm Measurement error : ±0.02 mm Minimum Indication : 0.01 mm
Dimentional Measurement	Projector (1)	SCD-H01-018-3925	2	Measuring Range(X) : 225 mm Measuring Range(Y) : 100 mm Minimum Indication : 0.001 mm Minimum Indication of Angle : 0° 01′ Lens Magnification : x 10,x 20 x 50,x 100
Dimentional Measurement	Projector (2)	SCD-H01-020-3925	1	Measuring Range(X) : 150 mm Measuring Range(Y) : 50 mm Minimum Indication : 0.001 mm Minimum Indication of Angle : 0° 01′ Lens Magnification : x 5, x 10 x 20
Insertation / Retention Test	Push-Pull Gage (500N)	SCD-H01-006-3925	1	Maximum Load : 500 N Minimum resolution : 0.1 N
Insertation / Retention Test	Push-Pull Gage (1000N)	SCD-H01-006-3925	2	Maximum Load : 1000 N Minimum resolution : 0.1 N
Insertation / Retention Test	Push-Pull Gage (1000N)	SCD-H01-008-3925	1	Maximum Load : 1000 N Minimum Resolution : 1 N
WaterProof Test	Waterproof tester	SCD-H01-016-3925	1	Measuring Range : 10 – 500 kPa Resolution : 10 kPa
Torque Test	Torque Gage	SCD-H01-010-3925	1	Measuring Range : 20 – 100 N・m Minimum Resolving Power : 0.1N・m Precision : ±1%
Rubber Hardness Measurement	Rubber Hardness Measurement Gage	SCD-H01-044-3925	2	Measuring Range : 100 mN Minimum Resolving Power : 1N・m
Rubber Specific Gravity Measurement	Specific Gravity Measurement Gage	SCD-H01-048-3925	1	Maximum Weight : 220 g Minumum Indication : 0.01 g
Rubber tensileTest	Tensile Test Gage (Auto Graph)	SCD-H01-050-3925	1	Speed : 0.0005–1000 mm/min Allowable Load : 10000 N Precision : ±1% Minimum Resolving Power : 0.01mm
Heat-resistant Test	Aging Layer(2)	SCD-H01-054-3925	1	(No.2 Layer) Layer Temperture : 0–300 ℃ Minimum Scale : 1℃ Precision : ±1℃
Heat-resistant Test	Aging Layer(1)	SCD-H01-052-3925	1	(No.1 Layer) Layer Temperture : 0–300 ℃ Minimum Scale : 0.1℃ Precision : ±1℃
SoC Analysis	Fluorescent X-ray Analysis Teaster	SCD-H01-046-3925	1	Resolution : 190ev Precision : (in Polyethylene) Cd, Pb, Cr : into 15% (in Brass) Cd, Pb, Cr : into 15% (in Polyethylene including Be 4%) Cl : into 15%
Weight measurement	Electronic scale	SCD-H01-048-3925	1	Maximum Measuring Range : 220 g Minimum Indication : 0.01 g

MATERIAL SAFETY DATA SHEET

Revision date: June 4, 2012
Revision No.: 2

1. Product and Company Information

Classification	Material name	Correspondence JIS number
Copper	Oxygen-free copper	C1020
	Tough-pitch copper	C1100
	Phosphorous-deoxidized copper	C1220
Copper Alloy	Brass	C2600,C2680,C2801

Supplier Company Name : DOWA METALTECH CO.,LTD
2630 Shingai, Iwata-shi, Shizuoka-ken, 438-0025 JAPAN
Tel: +81-538-37-5111, Fax: +81-538-37-0147

Manufacturer Company Name : DOWA METAL CO.,LTD
& Information Qualty Control Dept.
767 Matsunokijima, Iwata-shi, Shizuoka-ken, 438-0125 JAPAN
Tel: +81-539-62-3131, Fax: +81-539-62-3996
E-mail:DML_MSDS@dowa.co.jp

2. Hazards Identification

2-1 Copper

GHS Classification

Physical Hazards

Explosives	: Not applicable
Flammable gases	: Not applicable
Flammable aerosols	: Not applicable
Oxidizing gases	: Not applicable
Gases under pressure	: Not applicable
Flammable liquids	: Not applicable
Flammable solids	: Classification not possible
Self-reactive substances and mixtures	: Not applicable
Pyrophoric liquids	: Not applicable
Pyrophoric solids	: Classification not possible
Self-heating substances and mixtures	: Classification not possible
Substances and mixture which, in contact with water, emit flammable gases	: Classification not possible
Oxidizing liquids	: Not applicable
Oxidizing solids	: Not applicable
Organic peroxides	: Not applicable
Corrosive to metals	: Classification not possible

Health Hazards

Acute toxicity (oral)	: Classification not possible
Acute toxicity (skin)	: Classification not possible
Acute toxicity (inhalation: gas)	: Not applicable
Acute toxicity (inhalation: vapor)	: Not applicable
Acute toxicity (inhalation: dust, mist)	: Classification not possible
Skin corrosion / irritation	: Classification not possible
Serious eye damage / eye irritation	: Classification not possible
Respiratory sensitization	: Classification not possible
Skin sensitization	: Classification not possible
Germ cell mutagenicity	: Classification not possible
Carcinogenicity	: Not classified

Reproductive toxicity : Classification not possible

Specific target organ toxicity:
single exposure : Category3 (Respiratory tract irritation)
Specific target organ toxicity:
repeated exposure : Category1 (Liver)
Aspiration hazard : Classification not possible

Environmental Hazards
Aquatic toxicity (acute) : Classification not possible
Aquatic toxicity (chronic) : Category4

Pictogram

3. Specification of substance

Chemical name : Cu,Cu-Zn alloy

Element	Cu	Pb	Fe	Zn	P
CAS No.	7440-50-8	7439-92-1	7439-89-6	7440-66-6	7723-14-0
Identification No. by PRTR Law	-	-	-	-	-
Enforcement Serial No. by Industrial Safety and Health Laws	Appendix No.9-379	-	-	-	-

Chemical Composition (wt%)

Element	Cu	Pb※	Fe※	Zn	P
C1020	≦99.96	-	-	-	-
C1100	≦99.90	-	-	-	-
C1220	≦99.90	-	-	-	0.015-0.040
C2600	68.5-71.5	≦0.05	≦0.05	Bal.	-
C2680	64.0-68.0	≦0.05	≦0.05	Bal.	-
C2801	59.0-62.0	≦0.1	≦0.07	Bal.	-

※No intentional addition.

4. First aid

4-1 Caught in the eyes:
Immediately flush out dust with sufficient clean water and seek physician's treatment for pain or uncomfortable feeling.
4-2 Struck to the skin: wash the affected area with soap.
4-3 Inhaled: If a large quantity of vapors and particles are inhaled, move the patient to a place of clean air immediately. Give the patient oxygen inhalation and have him/her seek immediate physician's treatments in case it seems to be necessary.
4-4 Swallowed: If large quantities of vapors and particles are swallowed, make him/her vomit and then have him/her seek physician's treatments immediately.

5. Action for fire

Extinguishing: -- (Incombustibles)

6. Action for leakage

No requirement for solid metal product.

7. Notes for handling and storage

Handling: To prevent the inhalation of vapors or particles, wear personal protection such as a mask during welding or grinding processes.
The cut ends or edges of the strip are sharp enough to slice, so take sufficient care when handling.
Storage: Do not store together with acids.

8. Avoidance of exposure

Acceptable concentration :
Japan Society for Occupational Health: No Requirement
ACGIH TWA * Cu 1mg/m3 (dust)
Cu 0.2mg/m3 (fume or vapor)
Protective outfit
For mouth: Dustproof mask
For eyes: Dustproof glasses
For hands: Rubber or plastic gloves
For body: --
* ACGIH TWA: American Conference of Governmental Industrial Hygienists
Time Weighted Average

9. Physical / chemical properties

	C1020	C1100	C1220	C2600	C2680	C2801
Appearance	Metallic brightness					
Melting point(degree C)	1083	1083	1083	955	930	905
Specific gravity(g/cm^3)	8.94	8.89-8.94	8.94	8.53	8.47	8.39

10. Hazardous information

Stability / reactivity: Stable under normal handling conditions.

11. Toxicological information

(No information about the alloy, but information on each element is shown below.)
Acute toxicity:
Orally administered - mouse LD50 >4000mg/kg (Copper dusts)

Carcinogenicity:
Japan Society for Occupational Health: No Classification

12. Ecological Information

(No information about the alloy, but information on each element is shown below.)
Water Pollution Control Law:
Life environment clause (for Copper)

13. Note for scrapping

Should be collected and recycled as a metal.
Contact scrapping agent.

14. Note for transportation

Handle with care when transporting as follows:
Take care not to allow the air to cause corrosion. Do not drop or damage packaging.

15. Applicable legislation

(No information about the alloy, but information on each element is shown below.)
Water Pollution Control Law:
Life environment clause (for Copper)
NB-series does not correspond to Poisons, Deleterious Substances, Specific Deleterious Substances, in Poisonous and Deleterious Substances Control Law.

16. Other Information

We have tried to make it as accurate and useful as possible, but can take no responsibility for its use, misuse or accuracy. We have not verified this information, and can not guarantee that it is up-to-date.