

CABLINE®-VS IIF

Part No. Plug: 20862-0**T-01

Receptacle: 20849-0**E-0※

Test Report

Product Specification no. PRS-2430

1	T21181	December 6, 2021	M.Muro	-	H.Ikari
0	T20047	July 17, 2020	R.Fukuda	M.Muro	Y.Shimada
Rev.	ECN	Date	Prepared by	Checked by	Approved by

1. Purpose

To evaluate the performance of CABLINE-VS IIF Connector in accordance with PRS-2430.

2. Specimen

- (1) CABLINE-VS IIF SHELL ASS'Y (Part No. 20862-0**T-01)
- (2) CABLINE-VS II RECE. ASS'Y (Part No. 20849-0**E-0※)

3. Test Sequence

All the evaluations were performed in accordance with Table 1. Test Sequence.

4. Result

See Table.2-1~2-3 and Graph.1~18.

For the details of the testing conditions and requirements, see PRS-2430.

The Set number in a table means the number of samples,
and n means the number of measurement data.

5. Conclusion

All the specimens met the requirements of PRS-2430.

Table.1 Test Sequence

Test Item	Group								
	A	B	C	D	E	F	G	H	J
C/T Resistance		2,6	1,3,5	1,3	1,3	1,5	1,5	1,3	1,3
Insulation Resistance						2,6	2,6		
D. W. Voltage						3,7	3,7		
Temp. Life	1								
Mating Force		1,5							
Un mating Force		3,7							
Durability		4							
Vibration			2						
Shock			4						
Thermal Shock				2					
High Temp. Life					2				
Humidity (Steady State)						4			
Humidity (Cycling)							4		
Salt Spray								2	
Gas (H ₂ S)									2

※The number of group is test sequence.

Table.2-1 Test result

Test Item	Contents of Measurement		Specifications	Set	n	Data					Judge	
						AVE.	MAX.	MIN.	s	X±3s		
A Group Temperature Rising	0.3A/Contact 12.0A/Connector		ΔT=30°C MAX.	5	5	ΔT=18.2°C MAX.					OK	
B Group Durability	Contact Resistance (mΩ)	Initial	60mΩ MAX.	5	200	20.970	27.36	13.99	2.388	28.134	OK	
		After Testing	ΔR=40mΩ MAX.			-1.057	3.75	-4.74	1.784	4.295	OK	
	GND 抵抗 GND Resistance (mΩ)	Initial	60mΩ MAX.	5	5	6.320	6.59	5.98	0.273	7.139	OK	
		After Testing	ΔR=40mΩ MAX.			0.155	0.55	-0.08	0.192	0.731	OK	
	Mating force (N)	30P	Initial	13.50N MAX.	5	5	8.629	10.02	7.32	1.162	12.115	OK
			After Testing	13.50N MAX.			5.436	6.73	4.13	1.030	8.526	OK
		40P	Initial	18.00N MAX.	5	5	10.801	11.82	9.70	0.913	13.540	OK
			After Testing	18.00N MAX.			7.420	8.11	6.61	0.617	9.271	OK
	Un mating force (N)	30P	Initial	1.44N MIN.	5	5	3.117	3.54	2.66	0.394	1.935	OK
			After Testing	1.44N MIN.			2.918	3.44	2.64	0.322	1.952	OK
		40P	Initial	1.92N MIN.	5	5	5.258	6.15	4.43	0.764	2.966	OK
			After Testing	1.92N MIN.			4.595	5.27	3.85	0.649	2.648	OK
C Group Vibration ↓ Shock	Contact Resistance (mΩ)	Initial	60mΩ MAX.	5	200	19.699	27.39	11.65	3.202	29.305	OK	
		After Vibration	ΔR=40mΩ MAX.			-0.650	4.82	-5.32	1.967	5.251	OK	
		After Shock	ΔR=40mΩ MAX.			-0.622	4.46	-5.80	2.091	5.651	OK	
	GND Resistance (mΩ)	Initial	60mΩ MAX.	5	5	6.524	6.81	5.81	0.308	7.448	OK	
		After Vibration	ΔR=40mΩ MAX.			0.163	0.64	-0.29	0.343	1.192	OK	
		After Shock	ΔR=40mΩ MAX.			0.313	0.73	-0.39	0.351	1.366	OK	
	Electrical discontinuity	During Vibration	1μsec. MAX.	5	5	No Electrical discontinuity					OK	
		During Shock				No Electrical discontinuity					OK	
	Appearance	After Vibration	No abnormality adversely affecting the performance shall occur.	5	5	No Abnormality					OK	
		After Shock				No Abnormality					OK	

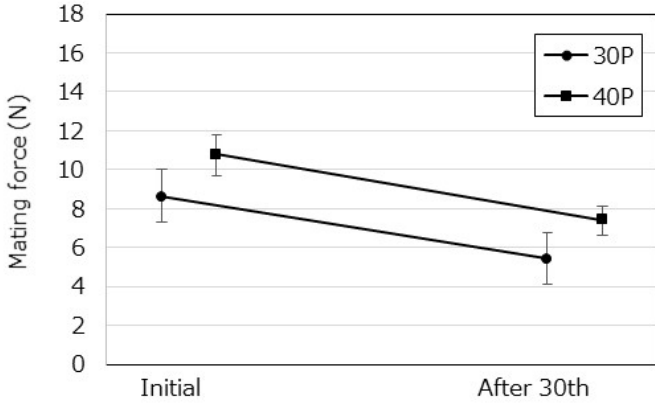
*The Temperature Rising Test is a result when applied ratings current (0.3A/contact) between the neighboring contacts for 40pos. (With the whole connector 12.0A.

Table.2-2 Test result

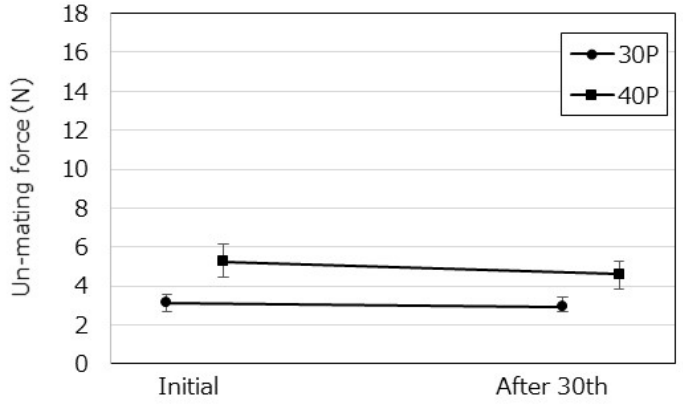
Test Item	Contents of Measurement		Specifications	Set	n	Data					Judge
						AVE.	MAX.	MIN.	s	X±3s	
D Group Thermal Shock	Contact Resistance (mΩ)	Initial	60mΩMAX.	5	200	21.086	27.35	13.29	2.681	29.129	OK
		After Testing	ΔR=40mΩ MAX.			0.966	4.80	-2.79	1.451	5.319	OK
	GND Resistance (mΩ)	Initial	60mΩMAX.	5	5	6.365	6.88	6.02	0.267	7.166	OK
		After Testing	ΔR=40mΩ MAX.			0.197	0.61	-0.30	0.313	1.136	OK
E Group High Temperature Life	Contact Resistance (mΩ)	Initial	60mΩMAX.	5	200	20.336	27.28	15.43	2.350	27.386	OK
		After Testing	ΔR=40mΩ MAX.			-0.579	4.09	-4.23	1.567	4.122	OK
	GND Resistance (mΩ)	Initial	60mΩMAX.	5	5	6.260	6.63	5.93	0.258	7.034	OK
		After Testing	ΔR=40mΩ MAX.			0.217	0.64	-0.01	0.198	0.811	OK
F Group Humidity (Steady State)	Contact Resistance (mΩ)	Initial	60mΩMAX.	5	200	21.467	27.74	15.47	2.184	28.019	OK
		After Testing	ΔR=40mΩ MAX.			1.030	6.62	-4.72	2.031	7.123	OK
	GND Resistance (mΩ)	Initial	60mΩMAX.	5	5	6.189	6.82	5.79	0.327	7.170	OK
		After Testing	ΔR=40mΩ MAX.			0.149	0.62	-0.13	0.230	0.839	OK
	Insulation Resistance (MΩ)	Initial	1000MΩMIN.	5	100	1.24×10 ⁵ MΩMIN.					OK
		After Testing	500MΩMIN.			1.01×10 ⁵ MΩMIN.					OK
	D. W. Voltage	Initial	No abnormalities such as creeping discharge, flashover, insulator breakdown occur.	5	100	No Abnormality					OK
		After Testing				No Abnormality					OK

Table.2-3 Test result

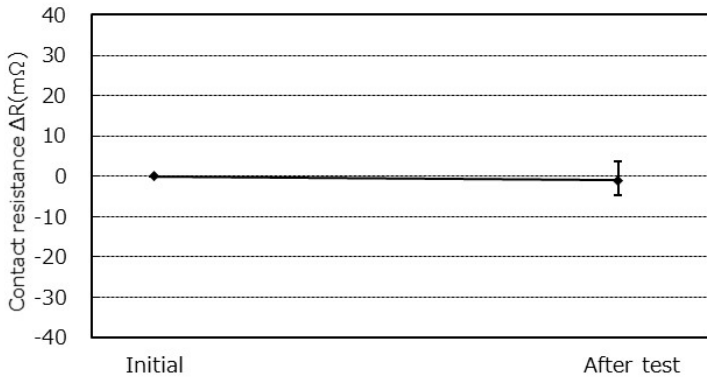
Test Item	Contents of Measurement	Specifications		Set	n	Data					Judge	
						AVE.	MAX.	MIN.	s	X±3s		
G Group Humidity (Cycling)	Contact Resistance (mΩ)	Initial	60mΩMAX.	5	200	21.116	27.21	15.23	2.372	28.232	OK	
		After Testing	ΔR=40mΩ MAX.			1.977	5.48	-3.36	1.803	7.386	OK	
	GND Resistance (mΩ)	Initial	60mΩMAX.	5	5	6.260	6.63	5.93	0.258	7.034	OK	
		After Testing	ΔR=40mΩ MAX.			0.446	0.74	0.01	0.238	1.160	OK	
	Insulation Resistance (MΩ)	Initial	1000MΩMIN.	5	100	1.01×10 ⁵ MΩMIN.					OK	
		After Testing	500MΩMIN.			8.32×10 ⁴ MΩMIN.					OK	
	D. W. Voltage	Initial	No abnormalities such as creeping discharge, flashover, insulator breakdown occur.	5	100	No Abnormality					OK	
		After Testing				No Abnormality					OK	
	H Group Salt Water Spray	Contact Resistance (mΩ)	Initial	60mΩMAX.	5	200	20.504	27.30	15.15	2.404	27.716	OK
			After Testing	ΔR=40mΩ MAX.			-0.703	3.95	-4.93	1.883	4.946	OK
GND Resistance (mΩ)		Initial	60mΩMAX.	5	5	6.260	6.63	5.93	0.258	7.034	OK	
		After Testing	ΔR=40mΩ MAX.			0.284	0.91	-0.58	0.424	1.556	OK	
Appearance		After Testing	No abnormality adversely affecting the performance shall occur.	5	5	No Abnormality					OK	
J Group Gas(H ₂ S)	Contact Resistance (mΩ)	Initial	60mΩMAX.	5	200	21.112	27.60	14.14	2.861	29.695	OK	
		After Testing	ΔR=40mΩ MAX.			-1.628	3.58	-5.79	1.787	3.733	OK	
	GND Resistance (mΩ)	Initial	60mΩMAX.	5	5	6.228	6.67	5.69	0.327	7.209	OK	
		After Testing	ΔR=40mΩ MAX.			0.350	0.78	-0.06	0.261	1.133	OK	
	Appearance	After Testing	No abnormality adversely affecting the performance shall occur.	5	5	No Abnormality					OK	



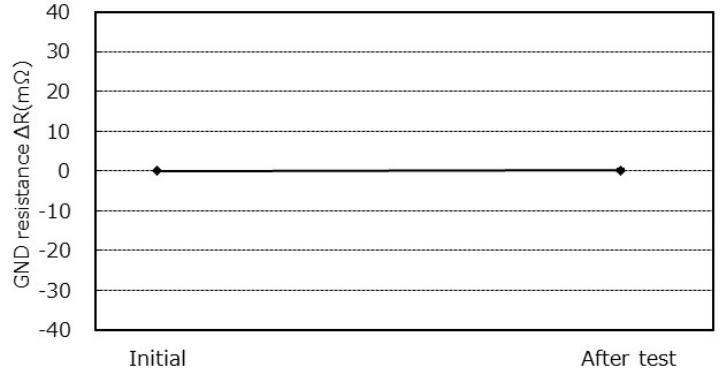
Graph.1 A change of mating force
B Group : Durability



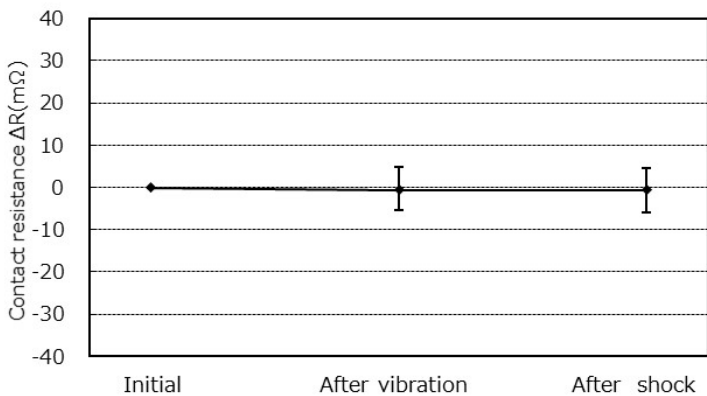
Graph.2 A change of un mating force
B Group : Durability



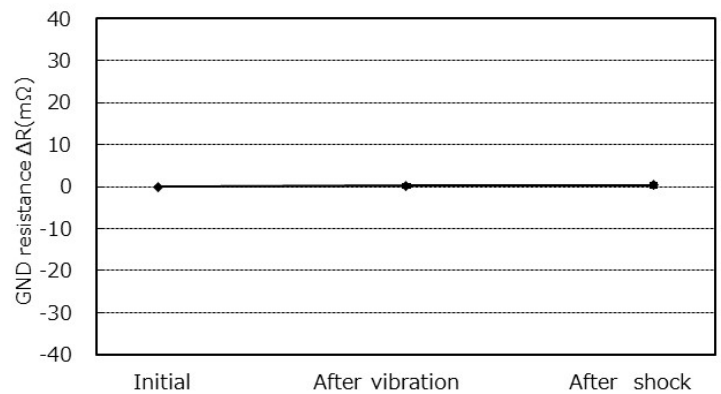
Graph.3 A change of contact resistance
B Group : Durability



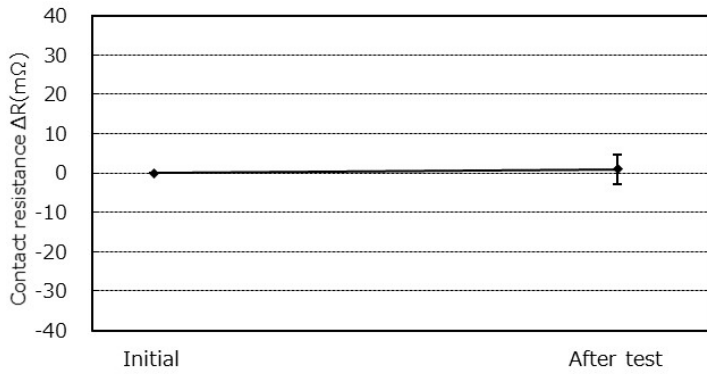
Graph.4 A change of GND resistance
B Group : Durability



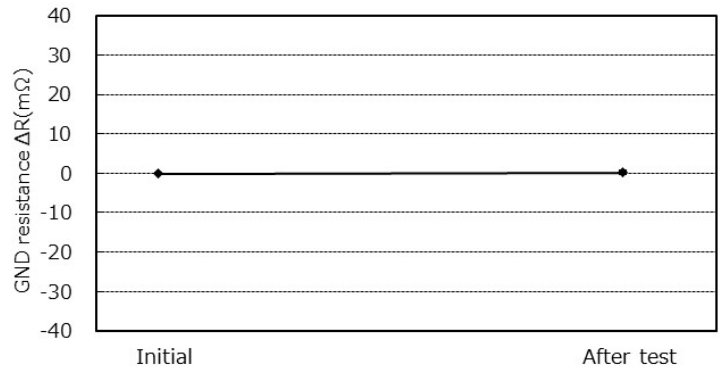
Graph.5 A change of contact resistance
C Group : Vibration/Shock



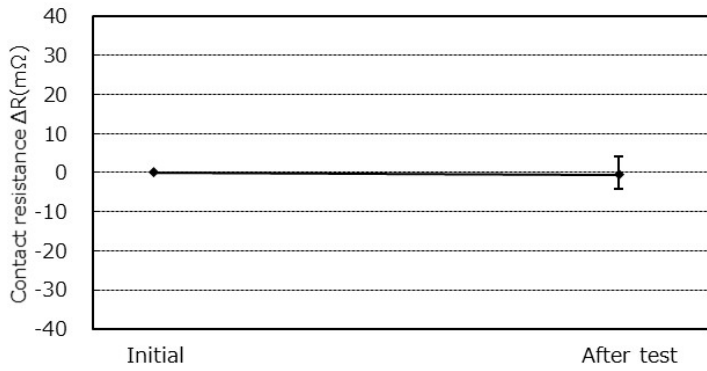
Graph.6 A change of GND resistance
C Group : Vibration/Shock



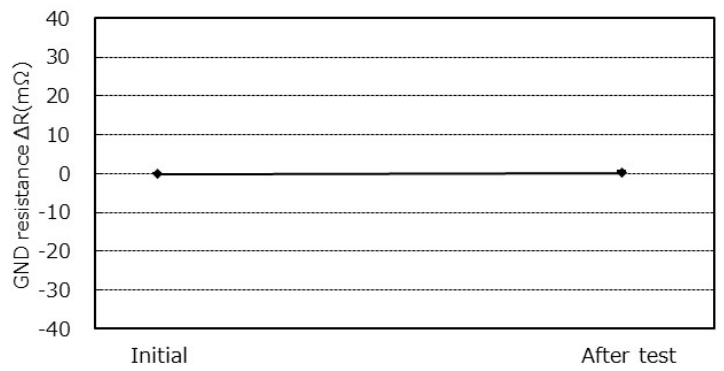
Graph.7 A change of contact resistance
D Group : Thermal shock



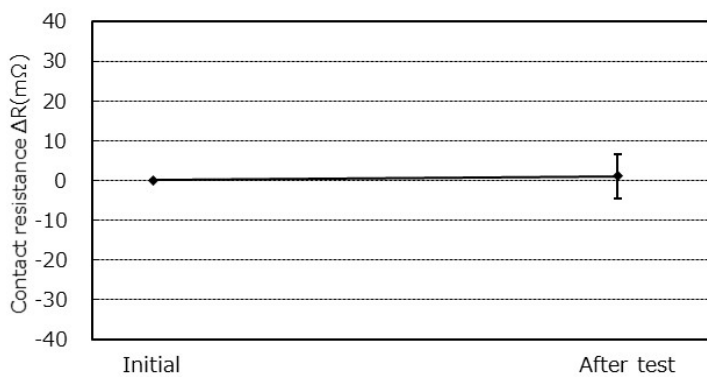
Graph.8 A change of GND resistance
D Group : Thermal shock



Graph.9 A change of contact resistance
E Group : High temp. life



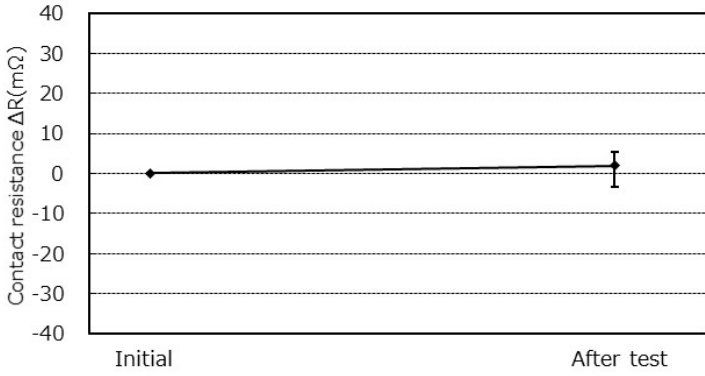
Graph.10 A change of GND resistance
E Group : High temp. life



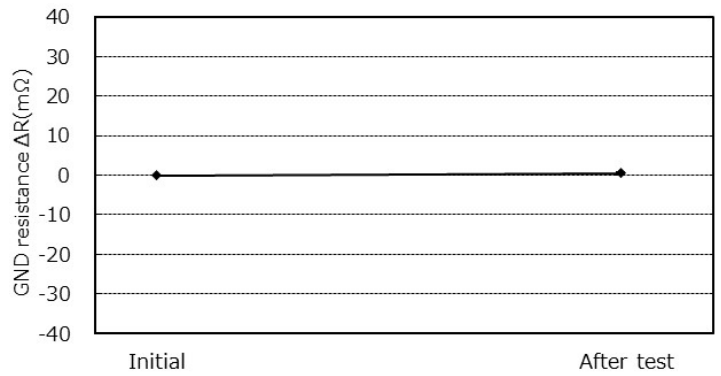
Graph.11 A change of contact resistance
F Group : Humidity (Steady state)



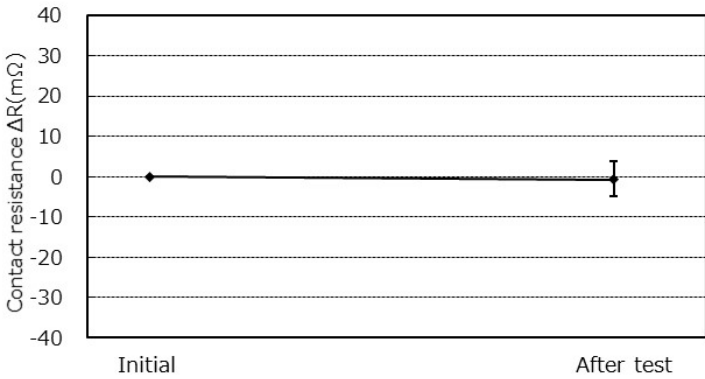
Graph.12 A change of GND resistance
F Group : Humidity (Steady state)



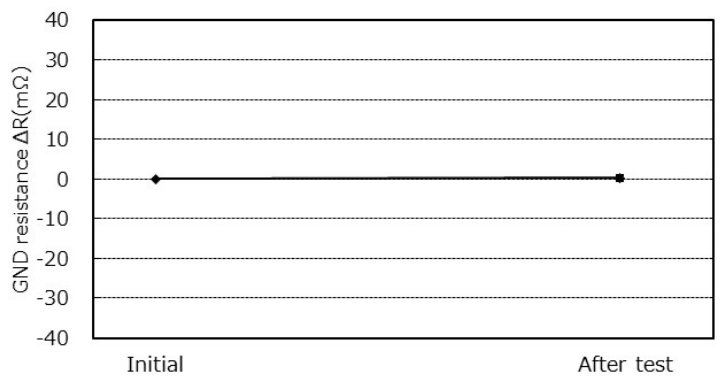
Graph.13 A change of contact resistance
G Group : Humidity (Cycling)



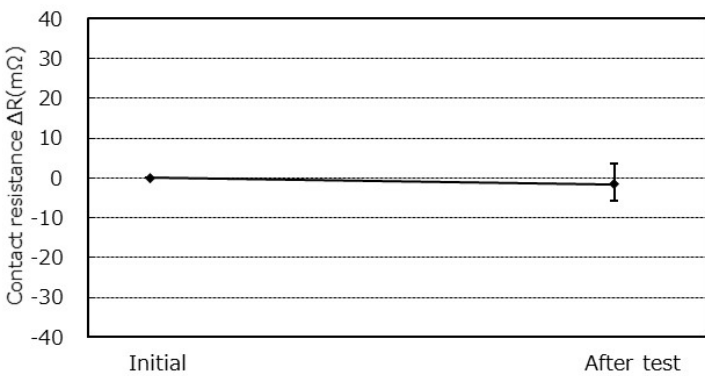
Graph.14 A change of GND resistance
G Group : Humidity (Cycling)



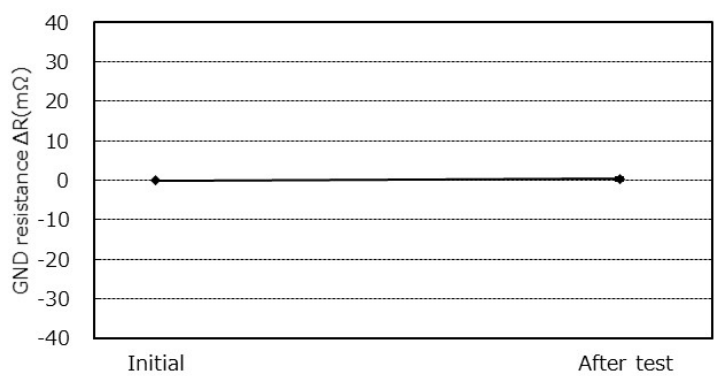
Graph.15 A change of contact resistance
H Group : Salt spray



Graph.16 A change of GND resistance
H Group : Salt spray



Graph.17 A change of contact resistance
J Group : Gas (H₂S)



Graph.18 A change of contact resistance
J Group : Gas (H₂S)