CABLINE®-CAF

Part No. Plug: 3437-0601 (SHELL Only), 20858-060T-01 (SHELL ASS'Y)

Receptacle: 20525-※60E-※※※

Test Report

Product Specification no. PRS-2465

1	T19035	March 5, 2019	Y.Sasa	T.Masunaga	Y.Shimada
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Rev.	ECN	Date	Prepared by	Checked by	Approved by

1. 目的／Purpose

CABLINE-CAF コネクタの製品性能を PRS-2465 に基づいて評価する。

To evaluate the performance of CABLINE-CAF connector in accordance with PRS-2465.

2. 試料／Specimen

(1) CABLINE-CAF SHELL ASS'Y （Part No. 20858-060T-01）
CABLINE-CAF SHELL ONLY （Part No. 3437-0601）

(2) CABLINE-CA RECE. ASS'Y （Part No. 20525-※60E-※※※）

3. 試験順序／Test Sequence

全ての評価は表 1 の試験順序に従って行った。

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

4. 結果／Result

表 2-1～2-3、グラフ 1～18 参照。試験条件の詳細は PRS-2465 参照。

n 数は測定データを意味する。

Results are indicated in Tables 2-1 to 2-3 and Graphs 1 to 18. For the details of the testing conditions and requirements, refer to product specification no. PRS-2465.

The “n” in the tables show the number of measurement point

5. 結論／Conclusion

全ての試料が製品規格（PRS-2465）の必要条件を満足しております。

All the specimens met the requirements of PRS-2465.

表(Table)1　試験順序と試料数／Test Sequence and Sample Quantity

試験項目(Test Item)	グループ／Group								
	A	B	C	D	E	F	G	H	J
接触抵抗 Contact Resistance		2,6	1,3,5	1,3	1,3	1,5	1,5	1,3	1,3
絶縁抵抗 Insulation Resistance						2,6	2,6		
耐電圧 D. W. Voltage						3,7	3,7		
温度上昇 Temp. Rise	1								
挿入力 Mating Force		1,5							
抜去力 Un-mating Force		3,7							
耐久性 Durability		4							
振動 Vibration			2						
衝撃 Shock			4						
熱衝撃 Thermal Shock				2					
高温寿命 High Temperature Life					2				
湿度（定常状態） Humidity (Steady State)						4			
湿度（サイクリング） Humidity (Cycling)							4		
塩水噴霧 Salt Water Spray								2	
硫化水素ガス H_2S Gas									2
試料数 Sample QTY.	5	5	5	5	5	5	5	5	5

※グループ表中の番号は、試験順序を示す。

The number of group is test sequence.

表 2-1. 試験結果 (Table.2-1 Test result)

試験項目 Test Item	測定内容 Contents of Measurement		規格 Specifications	Set	n	データ／Data AVE.	MAX.	MIN.	s	X±3s	判定 Judge
A Group 温度上昇 Temperature Rising	0.3A/Contact 18.0A/Connector		ΔT=30℃MAX.	5	5	ΔT=24.3℃MAX.					OK
B Group 耐久性 Durability	接触抵抗 Contact Resistance (mΩ)	初期 Initial	60mΩMAX.	5	300	18.187	23.22	12.97	2.023	24.256	OK
		30 回挿抜後 After Testing	ΔR=40mΩ MAX.			0.659	4.67	-3.67	1.493	5.138	OK
	GND 抵抗 GND Resistance (mΩ)	初期 Initial	60mΩMAX.	5	5	5.861	6.73	4.59	0.704	7.973	OK
		30 回挿抜後 After Testing	ΔR=40mΩ MAX.			-0.715	0.21	-1.83	0.766	1.583	OK
	挿入力 Mating Force (N)	初期 Initial	16.61N MAX.	5	5	9.673	10.16	8.99	0.439	10.990	OK
		30 回挿抜後 After Testing	16.61N MAX.			8.723	9.03	8.02	0.420	9.983	OK
	抜去力 Un-mating Force (N)	初期 Initial	2.16N MIN.	5	5	6.282	6.58	5.86	0.263	5.493	OK
		30 回挿抜後 After Testing	2.16N MIN.			5.977	6.37	5.49	0.322	5.011	OK
C Group 振動 Vibration ↓ 衝撃 Shock	接触抵抗 Contact Resistance (mΩ)	初期 Initial	60mΩMAX.	5	300	17.046	21.75	12.51	1.834	22.548	OK
		振動後 After Vibration	ΔR=40mΩ MAX.			1.312	5.03	-2.18	1.262	5.098	OK
		衝撃後 After Shock	ΔR=40mΩ MAX.			3.179	7.51	-0.96	1.473	7.598	OK
	GND 抵抗 GND Resistance (mΩ)	初期 Initial	60mΩMAX.	5	5	5.066	6.61	4.06	0.816	7.514	OK
		振動後 After Vibration	ΔR=40mΩ MAX.			-0.071	1.86	-1.75	1.042	3.055	OK
		衝撃後 After Shock	ΔR=40mΩ MAX.			0.249	2.05	-1.78	1.216	3.897	OK
	電気的瞬断 Electrical discontinuity	振動試験中 During Vibration	1μsec. MAX.	5	5	瞬断無し No Electrical discontinuity					OK
		衝撃試験中 During Shock				瞬断無し No Electrical discontinuity					OK
	外観 Appearance	振動後 After Vibration	異常無き事 Abnormality shall not occur.	5	5	異常無し No Abnormality					OK
		衝撃後 After Shock				異常無し No Abnormality					OK

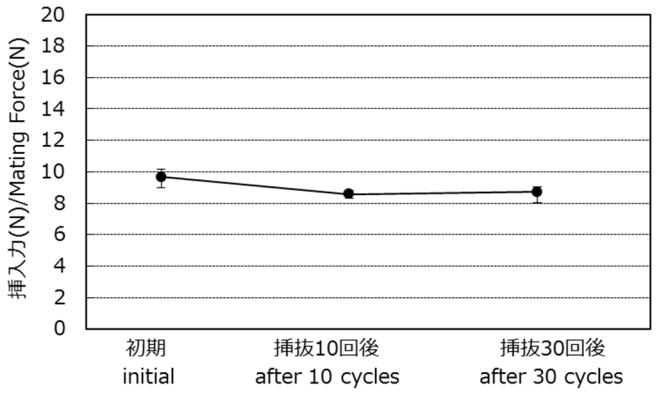
*温度上昇試験については、定格電流の 0.3A/Contact を隣接する 60 芯分（コネクタ全体で 18.0A）流した時の結果です。
The Temperature Rising Test is a result when applied ratings current (0.3A/contact) between the neighboring contacts for 60pos. (With the whole connector 18.0A.)

表 2-2. 試験結果(Table.2-2 Test result)

試験項目 Test Item	測定内容 Contents of Measurement		規格 Specifications	Set	N	データ／Data AVE.	MAX.	MIN.	s	X±3s	判定 Judge
D Group 熱衝撃 Thermal Shock	接触抵抗 Contact Resistance (mΩ)	初期 Initial	60mΩMAX.	5	300	17.544	22.28	12.77	1.850	23.094	OK
		試験後 After Testing	ΔR=40mΩ MAX.			-2.603	2.85	-8.50	1.997	3.388	OK
	GND 抵抗 GND Resistance (mΩ)	初期 Initial	60mΩMAX.	5	5	5.351	6.50	4.23	0.900	8.051	OK
		試験後 After Testing	ΔR=40mΩ MAX.			0.200	1.55	-1.00	0.857	2.771	OK
E Group 高温寿命 High Temperature Life	接触抵抗 Contact Resistance (mΩ)	初期 Initial	60mΩMAX.	5	300	17.478	20.77	14.82	1.144	20.910	OK
		試験後 After Testing	ΔR=40mΩ MAX.			4.663	8.47	1.54	1.334	8.665	OK
	GND 抵抗 GND Resistance (mΩ)	初期 Initial	60mΩMAX.	5	5	5.621	6.30	3.95	0.726	7.799	OK
		試験後 After Testing	ΔR=40mΩ MAX.			-0.865	1.15	-1.99	1.046	2.273	OK
F Group 湿度 (定常状態) Humidity (Steady State)	接触抵抗 Contact Resistance (mΩ)	初期 Initial	60mΩMAX.	5	300	17.544	22.07	12.71	1.848	23.088	OK
		試験後 After Testing	ΔR=40mΩ MAX.			1.553	6.10	-1.91	1.588	6.317	OK
	GND 抵抗 GND Resistance (mΩ)	初期 Initial	60mΩMAX.	5	5	5.077	6.54	4.11	0.956	7.945	OK
		試験後 After Testing	ΔR=40mΩ MAX.			0.155	2.43	-2.62	1.654	5.117	OK
	絶縁抵抗 Insulation Resistance (MΩ)	初期 Initial	1000MΩMIN.	5	150	8.5×10^4 MΩMIN.					OK
		試験後 After Testing	500MΩMIN.			2.8×10^3 MΩMIN.					OK
	耐電圧 D. W. Voltage	初期 Initial	異常無き事 Abnormality shall not occur.	5	150	異常無し No Abnormality					OK
		試験後 After Testing				異常無し No Abnormality					OK

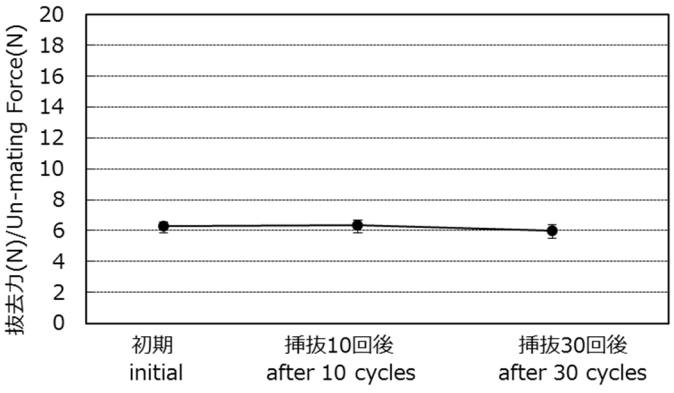
表 2-3. 試験結果(Table.2-3 Test result)

試験項目 Test Item	測定内容 Contents of Measurement	規格 Specifications		Set	N	データ／Data					判定 Judge
						AVE.	MAX.	MIN.	s	X±3s	
G Group 湿度 (サイクリング) Humidity (Cycling)	接触抵抗 Contact Resistance (mΩ)	初期 Initial	60mΩMAX.	5	300	17.518	22.48	12.57	1.848	23.062	OK
		試験後 After Testing	ΔR=40mΩ MAX.			4.840	9.86	-0.27	1.974	10.762	OK
	GND 抵抗 GND Resistance (mΩ)	初期 Initial	60mΩMAX.	5	5	5.927	6.88	4.33	0.872	8.543	OK
		試験後 After Testing	ΔR=40mΩ MAX.			-0.418	1.32	-2.70	1.272	3.398	OK
	絶縁抵抗 Insulation Resistance (MΩ)	初期 Initial	1000MΩMIN.	5	150	7.9×10^4 MΩMIN.					OK
		試験後 After Testing	500MΩMIN.			8.8×10^3 MΩMIN.					OK
	耐電圧 D. W. Voltage	初期 Initial	異常無き事 Abnormality shall not occur.	5	150	異常無し No Abnormality					OK
		試験後 After Testing				異常無し No Abnormality					OK
H Group 塩水噴霧 Salt Water Spray	接触抵抗 Contact Resistance (mΩ)	初期 Initial	60mΩMAX.	5	300	16.578	22.32	12.05	2.053	22.737	OK
		試験後 After Testing	ΔR=40mΩ MAX.			3.723	9.96	-2.75	2.374	10.845	OK
	GND 抵抗 GND Resistance (mΩ)	初期 Initial	60mΩMAX.	5	5	4.851	6.34	3.96	0.772	7.167	OK
		試験後 After Testing	ΔR=40mΩ MAX.			0.725	2.61	-0.75	1.400	4.925	OK
J Group ガス(H_2S) Gas(H_2S)	接触抵抗 Contact Resistance (mΩ)	初期 Initial	60mΩMAX.	5	300	17.437	20.61	14.88	1.137	20.848	OK
		試験後 After testing	ΔR=40mΩ MAX.			2.355	7.95	-2.86	1.967	8.256	OK
	GND 抵抗 GND Resistance (mΩ)	初期 Initial	60mΩMAX.	5	5	5.069	6.33	4.08	0.632	6.965	OK
		試験後 After Testing	ΔR=40mΩ MAX.			0.129	1.09	-1.03	0.793	2.508	OK



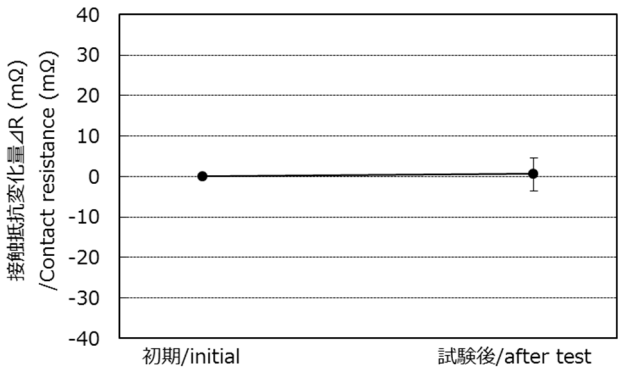
Graph1. 挿入力の変化（B Group：耐久性）

A change of mating force (B Group:Durability)



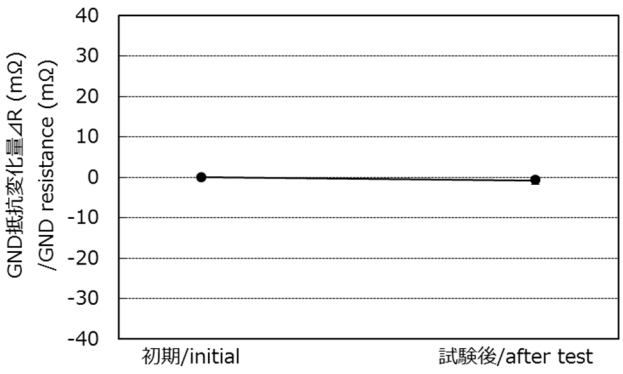
Graph 2. 抜去力の変化（B Group：耐久性）

A change of un-mating force (B Group:Durability)



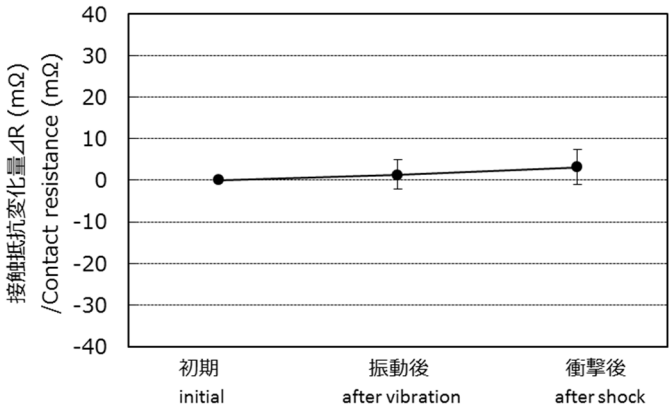
Graph3. 接触抵抗値の変化（B Group：耐久性）

A change of contact resistance (B Group:Durability)



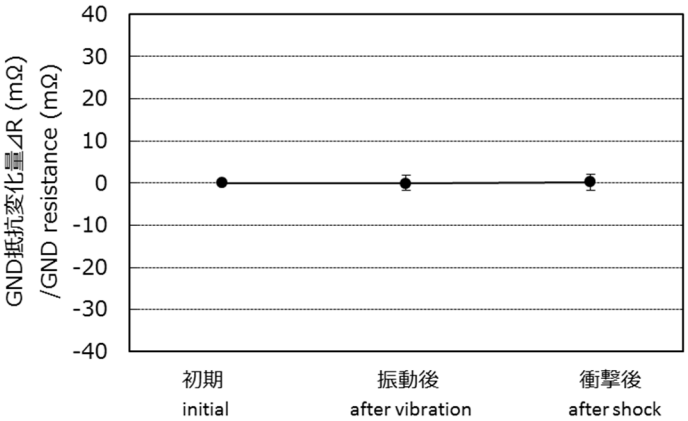
Graph4. GND 抵抗値の変化（B Group：耐久性）

A change of GND resistance (B Group:Durability)



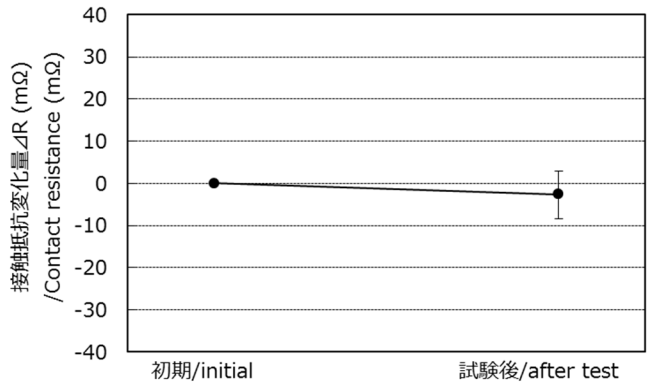
Graph5. 接触抵抗値の変化（C Group：振動･衝撃）

A change of contact resistance(C Group:Vibration/Shock)

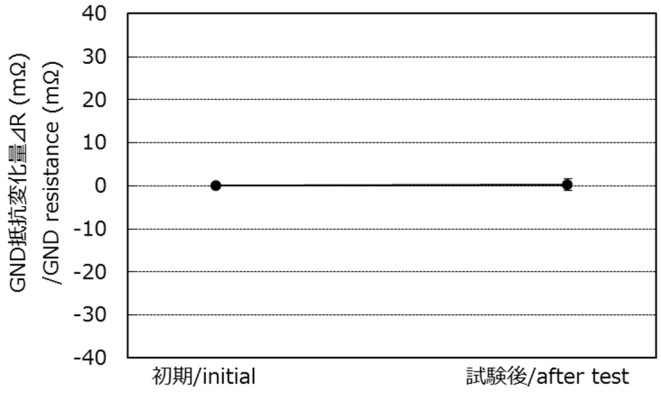


Graph6. GND 抵抗値の変化（C Group：振動･衝撃）

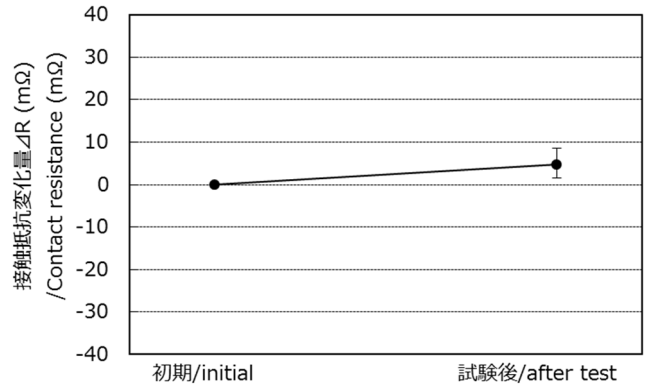
A change of GND resistance(Group:Vibration/Shock)



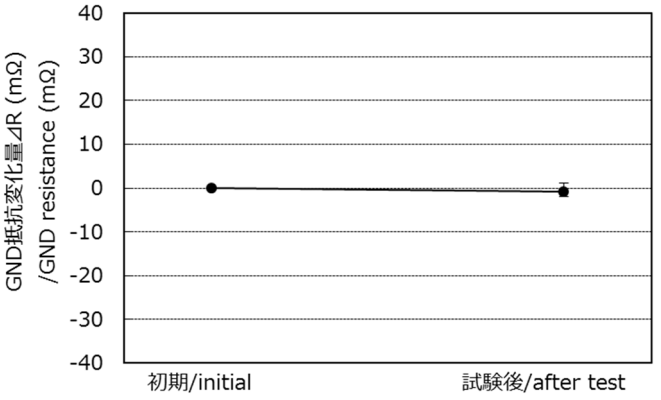
Graph7. 接触抵抗値の変化（D Group：熱衝撃）
A change of contact resistance (D Group:Thermal shock)



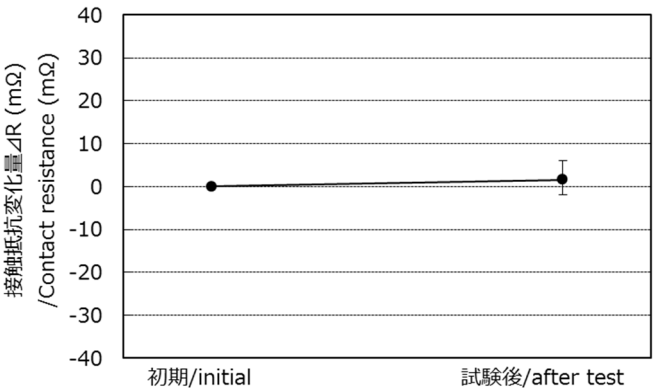
Graph8. GND 抵抗値の変化（D Group：熱衝撃）
A change of GND resistance (D Group:Thermal shock)



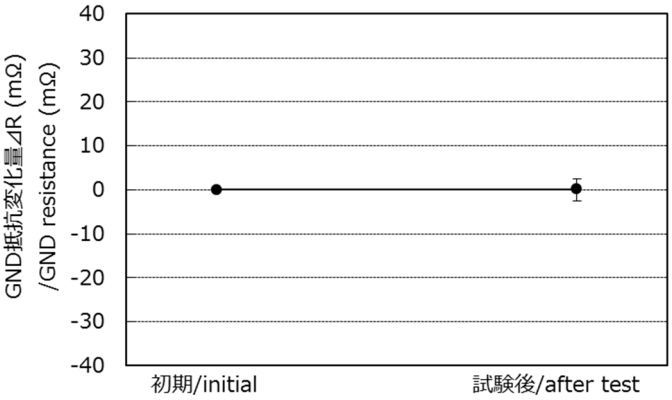
Graph9. 接触抵抗値の変化（E Group：高温寿命）
A change of contact resistance (E Group:High temp.life)



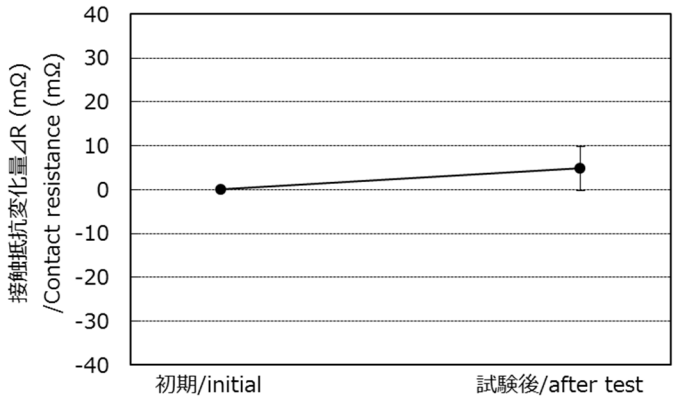
Graph10. GND 抵抗値の変化（E Group：高温寿命）
A change of GND resistance (E Group:High temp.life)



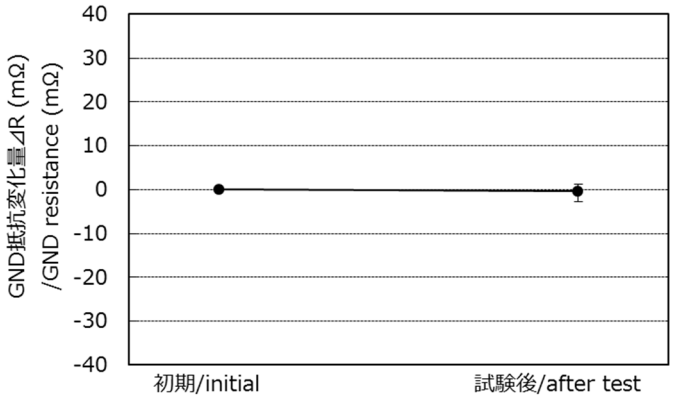
Graph11. 抵抗値の変化（F Group：湿度(定常状態)）
A change of contact resistance (F Group: Humidity(Steady state))



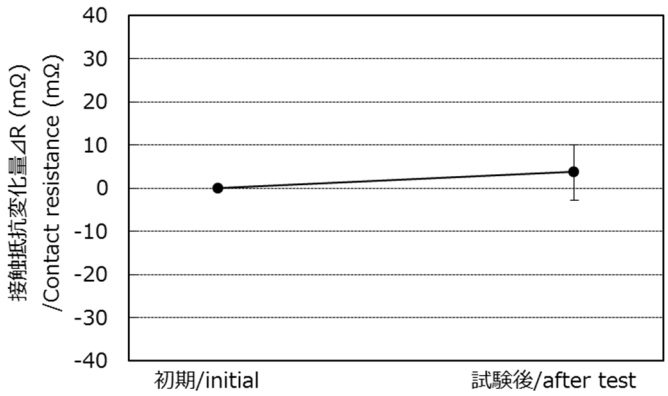
Graph12. GND 抵抗値の変化（F Group：湿度(定常状態)
A change of GND resistance (F Group: Humidity(Steady state))



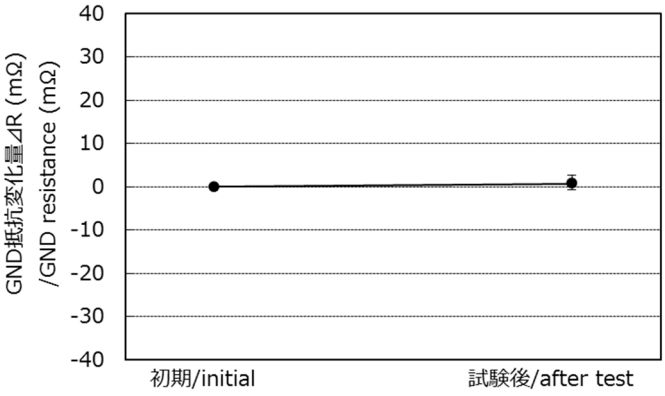
Graph 13. 接触抵抗値の変化（G Group：湿度(サイクリング)）
A change of contact resistance (G Group:Humidity(Cycling))



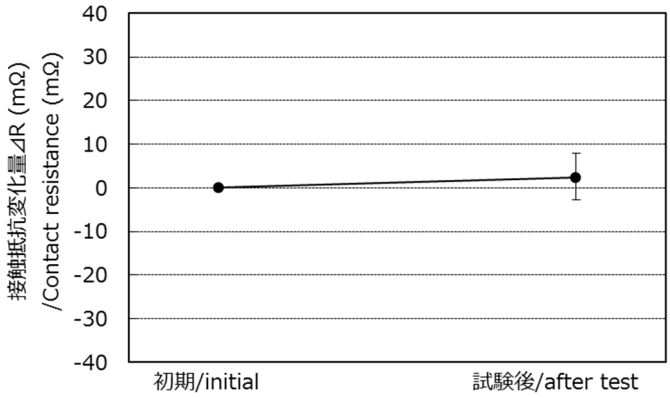
Graph14. GND 抵抗値の変化（G Group：サイクリング）
A change of GND resistance (G Group:Humidity(Cycling))



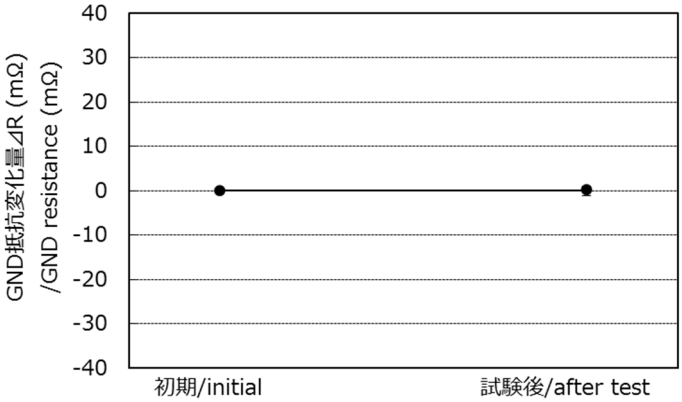
Graph15. 接触抵抗値の変化（H Group：塩水噴霧）
A change of contact resistance (H Group:Salt spray)



Graph16. GND 抵抗値の変化（H Group：塩水噴霧）
A change of GND resistance (H Group:Salt spray)



Graph17. 接触抵抗値の変化（J Group：ガス(H2S)）
A change of contact resistance (J Group:Gas(H2S))



Graph18. GND 抵抗値の変化（JGroup：ガス(H2S)）
A change of contact resistance (J Group:Gas(H2S))