

CABLINE®-UX II Connector

Part No. Plug: 20531 Receptacle: 20533

Test Report

Product Specification no. PRS-1555

8	T19043	March 22, 2019	A.Koyanagi	T.Masunaga	Y.Shimada
7	T17161	October 2, 2017	S.Kawamura	-	M.Takemoto
6	T15120	September 23, 2015	R.N	-	T.Takano
5	T15105	August 3, 2015	S.K	-	T.Takano
Rev.	ECN	Date	Prepared by	Checked by	Approved by

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1. Purpose

CABLINE-UX II コネクタの性能を PRS-1555 に基づいて評価する。

To evaluate the performance of CABLINE-UX II Connector in accordance with PRS-1555.

2. Specimen

(1) CABLINE-UX II PLUG CABLE ASS'Y (Part No. 20531-0**T-*2)

・CABLINE-UX II PLUG HOUSING ASS'Y (Part No. 20532-0**T-*2)

・CABLINE-UX II PLUG METAL COVER (Part No. 2799-0**1)

(2) CABLINE-UX II RECEPTACLE ASS'Y (Part No.20533-0**E-**)

3. 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. Result

表 2-1~2-4、グラフ 1~18 参照。試験条件の詳細は PRS-1555 参照。n 数は測定データを意味する。

See Table 2-1 to 2-4, Graph 1 to 18. For the details of the testing conditions and requirements, see PRS-1555.

The "n" in the tables show the number of measurement points.

5. Conclusion

全ての資料が製品規格（PRS-1555）の必要条件を満足した。

All the specimens met the requirements of PRS-1555.

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	I	J	K	L
接触抵抗 Contact Resistance	2,6		1,3,5	1,5	1,3	1,5	1,5,7	1,3	1,3			
絶縁抵抗 Insulation Resistance				2,6		2,6	2,8					
耐電圧 D. W. Voltage				3,7		3,7	3,9					
温度上昇 Temperature rising												1
挿入力 Mating Force	1,5											
抜去力 Un-mating Force	3,7											
耐久性 Durability	4						4 (10cycles)					
端子保持力 Contact Retention Force		1										
ケーブル保持力 Cable Retention Force	8											
耐振動性 Vibration			2									
耐衝撃性 Shock			4									
熱衝撃 Thermal Shock				4								
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)							6					
塩水噴霧 Salt Water Spray								2				
硫化水素ガス H2S Gas									2			
半田付け性 Solder ability										1		
半田耐熱性 Soldering Heat Resistance											1	
試料数 Specimen Quantity.	5 pcs.	20 pos.	5 pcs.	5 pcs.	5 pcs.	5 pcs.	5 pcs.	5 pcs.	5 pcs.	10 pcs.	10 pcs.	5 pcs.

※グループ表中の番号は、試験順序を示す。 / Numbers indicate sequence in which tests are performed.

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Table 2-1.試験結果 / 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 Judgment	
						AVE.	MAX.	MIN.	s	X±3s		
A Group 耐久性 Durability ↓ 保持力 Cable Retention Force	接触抵抗 (mΩ) Contact Resistance (mΩ)	初期 Initial	AWG#44 1080mΩMAX.	5	250	833.776	877.63	802.46	16.973	884.695	Pass	
		20回挿抜後 After 20Cycles	AWG#44 ΔR=40mΩ MAX.			-0.985	9.14	-8.33	5.381	15.158	Pass	
		初期 Initial	AWG#46 1880mΩMAX.	5	250	1662.657	1690.7	1633.27	10.584	1694.41	Pass	
		20回挿抜後 After 20Cycles	AWG#46 ΔR=40mΩ MAX.			1.933	8.95	-8.58	4.638	15.847	Pass	
	Ground抵抗 (mΩ) Ground Resistance(mΩ)	初期 Initial	100mΩMAX.	5	—	35.581	39.66	32.19	—	—	Pass	
		20回挿抜後 After 20Cycles	ΔR=40mΩ MAX.			-2.768	3.55	-8.5	—	—	Pass	
	30P	挿入力(N) Mating Force	初期 Initial	26.4N MAX.	5	—	10.786	11.65	9.75	—	—	Pass
			20回挿抜後 After 20Cycles	26.4N MAX.			6.446	6.68	6.23	—	—	Pass
		抜去力(N) Un-mating Force	初期 Initial	1.50N MIN.	5	—	6.229	6.55	5.72	—	—	Pass
			20回挿抜後 After 20Cycles	1.50N MIN.			5.708	6.03	5.43	—	—	Pass
	ケーブル保持力(N) Cable Retention Force		15.0N MIN.	5	—	30.336	36.06	25.13	—	—	Pass	
	34P	挿入力(N) Mating Force	初期 Initial	27.6N MAX.	5	—	12.307	12.70	12.07	—	—	Pass
			20回挿抜後 After 20Cycles	27.6N MAX.			5.840	6.35	5.14	—	—	Pass
		抜去力(N) Un-mating Force	初期 Initial	1.90N MIN.	5	—	9.167	9.73	8.85	—	—	Pass
			20回挿抜後 After 20Cycles	1.90N MIN.			6.103	6.34	5.78	—	—	Pass
	ケーブル保持力(N) Cable Retention Force		17.0N MIN.	5	—	53.000	55.00	51.00	—	—	Pass	
40P	挿入力(N) Mating Force	初期 Initial	29.4N MAX.	5	—	16.606	16.91	16.19	—	—	Pass	
		20回挿抜後 After 20Cycles	29.4N MAX.			7.41	7.86	7.16	—	—	Pass	
	抜去力(N) Un-mating Force	初期 Initial	2.50N MIN.	5	—	9.137	9.8	8.32	—	—	Pass	
		20回挿抜後 After 20Cycles	2.50N MIN.			6.697	7.72	5.79	—	—	Pass	
ケーブル保持力(N) Cable Retention Force		20.0N MIN.	5	—	62.908	64.17	60.53	—	—	Pass		
50P	挿入力(N) Mating Force	初期 Initial	32.4N MAX.	5	—	25.167	28.13	23.12	—	—	Pass	
		20回挿抜後 After 20Cycles	32.4N MAX.			10.54	10.73	10.21	—	—	Pass	
	抜去力(N) Un-mating Force	初期 Initial	3.50N MIN.	5	—	12.487	13.39	11.96	—	—	Pass	
		20回挿抜後 After 20Cycles	3.50N MIN.			7.49	7.78	7.31	—	—	Pass	
ケーブル保持力(N) Cable Retention Force		25.0N MIN.	5	—	72.977	77.21	68.51	—	—	Pass		

Table 2-2.試験結果 / 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 Judgment
						AVE.	MAX.	MIN.	s	X±3s	
B Group 端子保持力 Contact Retention Force	PLUG端子保持力(N) Plug Contact Retention Force		0.5N MIN	—	25	2.0Nの力を加えても、端子の抜け無し It does not pull out, even if it applies the power of 2.0N to a terminal.					Pass
	RECE端子保持力(N) Rece.Contact Retention Force		0.2N MIN	—	25	0.389	0.52	0.32	—	—	Pass
C Group 耐振動性 Vibration ↓ 耐衝撃性 Shock	接触抵抗 (mΩ) Contact Resistance (mΩ)	初期 Initial	AWG#44 1080mΩMAX.	5	250	817.925	835.85	800.08	7.879	841.563	Pass
		振動後 After Vibration	AWG#44 ΔR=40mΩMAX.			-1.548	5.87	-6.66	3.6	9.254	Pass
		衝撃後 After Shock	AWG#44 ΔR=40mΩMAX.			-0.434	5.97	-7.592	3.461	9.95	Pass
	Ground抵抗 (mΩ) Ground Resistance (mΩ)	初期 Initial	100mΩMAX.	5	—	29.935	36.32	25.5	—	—	Pass
		振動後 After Vibration	ΔR=40mΩMAX.			0.661	3.33	-4.06	—	—	Pass
		衝撃後 After Shock	ΔR=40mΩMAX.			1.72	5.34	-1.25	—	—	Pass
	電気の瞬断 Electrical Discontinuity	振動/衝撃試験中 During Vibration/Shock	1μsec. MAX.	5	—	瞬断無し No discontinuity					Pass
外観 Appearance	試験後 After test	異常なきこと No abnormality	5	—	異常無し No abnormality					Pass	
D Group 熱衝撃 Thermal Shock	接触抵抗 (mΩ) Contact Resistance (mΩ)	初期 Initial	AWG#44 1080mΩMAX.	5	250	819.594	835.26	801.67	7.302	841.502	Pass
		試験後 After test	AWG#44 ΔR=40mΩMAX.			-1.817	8.97	-8.97	5.182	13.73	Pass
	Ground抵抗 (mΩ) Ground Resistance (mΩ)	初期 Initial	100mΩMAX.	5	—	27.141	29.05	25.69	—	—	Pass
		試験後 After test	ΔR=40mΩMAX.			4.459	7.5	0.6	—	—	Pass
	絶縁抵抗 (MΩ) Insulation Resistance	初期 Initial	100MΩMIN.	5	—	5.14×10 ⁵ MΩ MIN.					Pass
		試験後 After test	100MΩMIN.			7.10×10 ⁵ MΩ MIN.					Pass
	耐電圧 D.W.Voltage		異常無き事 No abnormality	5	—	異常無し No abnormality					Pass
外観 Appearance	試験後 After test	異常なきこと No abnormality	5	—	異常無し No abnormality					Pass	
E Group 高温寿命 High Temperature Life	接触抵抗 (mΩ) Contact Resistance (mΩ)	初期 Initial	AWG#44 1080mΩMAX.	5	250	817.564	835.67	799.52	8.472	842.978	Pass
		試験後 After test	AWG#44 ΔR=40mΩMAX.			-3.802	7.66	-8.89	4.338	9.212	Pass
	Ground抵抗 (mΩ) Ground Resistance (mΩ)	初期 Initial	100mΩMAX.	5	—	26.785	28.91	24.61	—	—	Pass
		試験後 After test	ΔR=40mΩMAX.			-3.591	0.56	-6.03	—	—	Pass
	外観 Appearance	試験後 After test	異常なきこと No abnormality	5	—	異常無し No abnormality					Pass

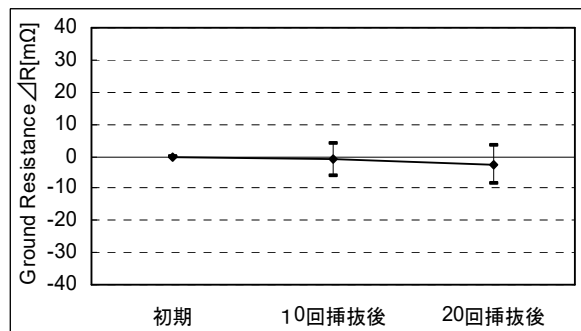
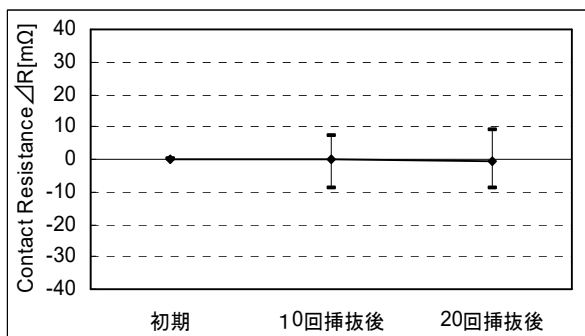
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Table 2-3.試験結果 / Test result

試験項目 Test Item	測定内容 Contents of Measurement		規格 Specifications	Set	n	データ Data					判定 Judgment
						AVE.	MAX.	MIN.	s	X±3s	
F Group 湿度 (定常状態) Humidity (Steady State)	接触抵抗 (mΩ) Contact Resistance (mΩ)	初期 Initial	AWG#44 1080mΩMAX.	5	250	817.849	834.95	800.21	8.281	842.693	Pass
		試験後 After test	AWG#44 ΔR=40mΩ MAX.			-3.552	8.71	-9.54	5.009	11.475	Pass
	Ground抵抗 (mΩ) Ground Resistance (mΩ)	初期 Initial	100mΩMAX.	5	—	27.26	29.21	25.37	—	—	Pass
		試験後 After test	ΔR=40mΩ MAX.			5.874	8.4	2.45	—	—	Pass
	絶縁抵抗 (MΩ) Insulation Resistance	初期 Initial	100MΩMIN.	5	—	1.06×10 ⁵ MΩ MIN.					Pass
		試験後 After test	100MΩMIN.			4.51×10 ⁵ MΩ MIN.					Pass
耐電圧 D.W.Voltage		異常なき事 No abnormality		5	—	異常無し No abnormality					Pass
外観 Appearance	試験後 After test	異常なきこと No abnormality		5	—	異常無し No abnormality					Pass
G Group 湿度 (サイクリング) Humidity (Cycling)	接触抵抗 (mΩ) Contact Resistance (mΩ)	初期 Initial	AWG#44 1080mΩMAX.	5	250	818.279	834.48	800.24	8.631	844.172	Pass
		試験後 After test	AWG#44 ΔR=40mΩ MAX.			-0.906	9.06	-8.97	5.563	15.781	Pass
	Ground抵抗 (mΩ) Ground Resistance (mΩ)	初期 Initial	100mΩMAX.	5	—	26.897	28.96	25.14	—	—	Pass
		試験後 After test	ΔR=40mΩ MAX.			2.967	8.14	-6.09	—	—	Pass
	絶縁抵抗 (MΩ) Insulation Resistance	初期 Initial	100MΩMIN.	5	—	1.71×10 ⁵ MΩ MIN.					Pass
		試験後 After Testing	100MΩMIN.			3.49×10 ⁵ MΩ MIN.					Pass
外観 Appearance	試験後 After test	異常なきこと No abnormality		5	—	異常無し No abnormality					Pass
H Group 塩水噴霧 Salt Water Spray	接触抵抗 (mΩ) Contact Resistance (mΩ)	初期 Initial	AWG#44 1080mΩMAX.	5	250	816.678	835.78	800.3	8.597	842.469	Pass
		試験後 After test	AWG#44 ΔR=40mΩ MAX.			0.186	8.95	-8.81	4.748	14.431	Pass
	Ground抵抗 (mΩ) Ground Resistance (mΩ)	初期 Initial	100mΩMAX.	5	—	27.776	29.09	25.82	—	—	Pass
		試験後 After test	ΔR=40mΩ MAX.			-2.846	2.52	-8.72	—	—	Pass
	外観 Appearance	試験後 After test	異常なきこと No abnormality		5	—	異常無し No abnormality				
J Group 硫化水素ガス (H2S) H2S Gas	接触抵抗 (mΩ) Contact Resistance (mΩ)	初期 Initial	AWG#44 1080mΩMAX.	5	250	811.577	834.48	788.05	10.11	841.907	Pass
		試験後 After test	AWG#44 ΔR=40mΩ MAX.			-1.547	8.33	-9.04	4.893	13.132	Pass
	Ground抵抗 (mΩ) Ground Resistance (mΩ)	初期 Initial	100mΩMAX.	5	—	26.797	27.9	26.35	—	—	Pass
		試験後 After test	ΔR=40mΩ MAX.			-3.243	1.89	-9.22	—	—	Pass
	外観 Appearance	試験後 After test	異常なきこと No abnormality		5	—	異常無し No abnormality				

Table 2-4.試験結果 / 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 Judgment
					AVE.	MAX.	MIN.	s	X±3s	
K Group 半田付け性 Solder ability	外観 Appearance	95%以上濡れること More than 95% wet	10	—	95%以上濡れる Wet 95% MIN.					Pass
L Group 半田耐熱性 Soldering Heat Resistance	外観 Appearance	異常無き事 No abnormality	10	—	異常無し No abnormality					Pass
M Group 温度上昇 Temperature rising	AWG#44 Phosphor Bronze :0.15A Corson Alloy :0.19A	ΔT=30℃ MAX.	5	—	Phosphor Bronze :ΔT= 28.4℃MAX. (50P) Corson Alloy :ΔT= 24.2℃MAX. (50P)					Pass
	AWG#46 Phosphor Bronze : 0.10A Corson Alloy : 0.14A	ΔT=30℃ MAX.	5	—	Phosphor Bronze :ΔT= 24.7℃MAX. (50P) Corson Alloy :ΔT= 24.0℃MAX. (50P)					Pass

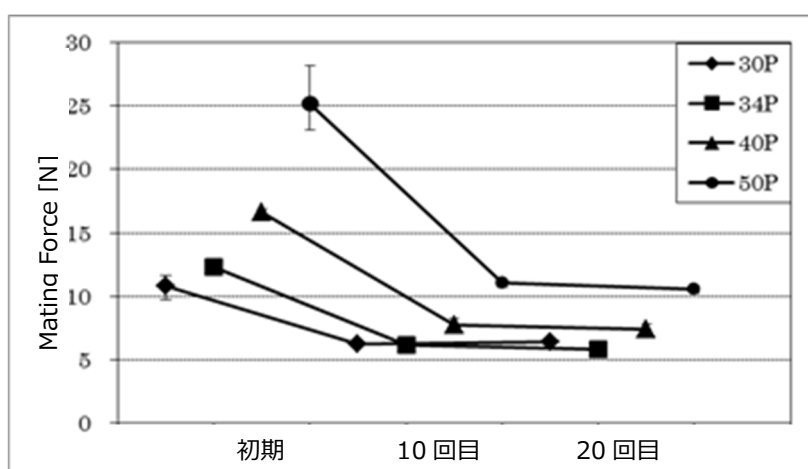


Graph1. 接触抵抗値の変化 (A Group : 耐久性)

A change of contact resistance (A Group : Durability)

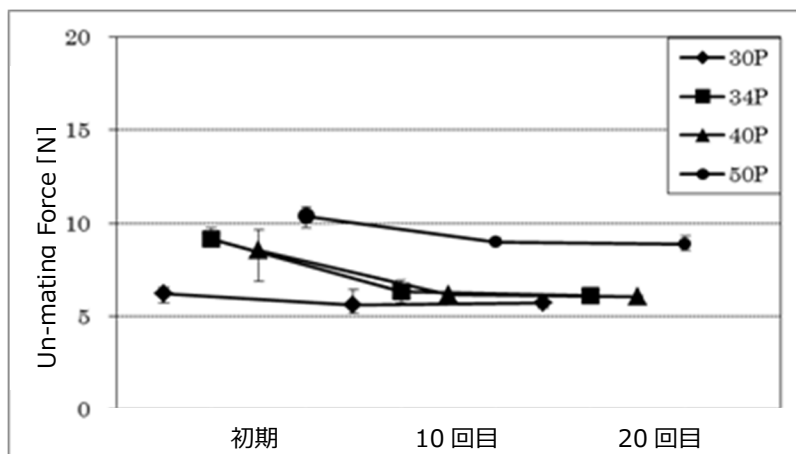
Graph2. Ground 抵抗値の変化 (A Group : 耐久性)

A change of Ground resistance(A Group : Durability)



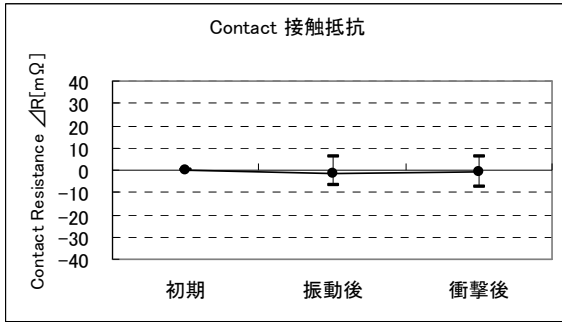
Graph3. 挿入力の変化 (A Group : 耐久性)

A change of mating force (A Group : Durability)

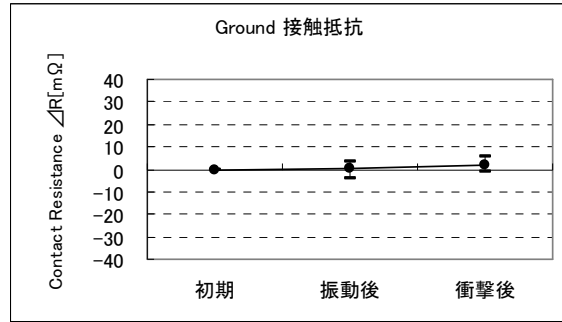


Graph 4. 抜去力の変化 (A Group : 耐久性)

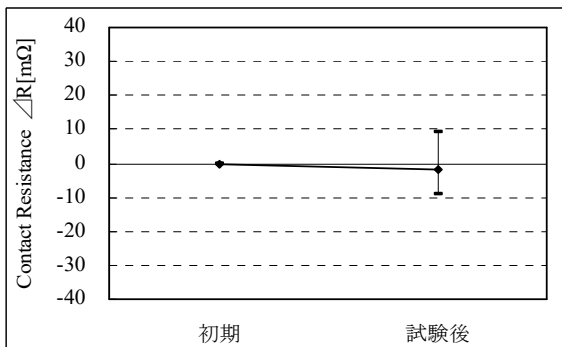
A change of un-mating force(A Group : Durability)



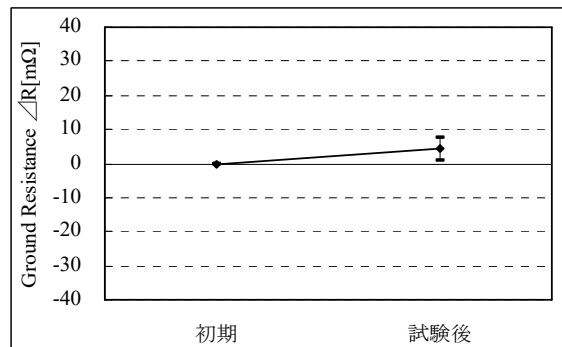
Graph5. 接触抵抗値の変化
(C Group : 耐振動性・耐衝撃性)
A change of contact resistance
(C Group : Vibration・shock)



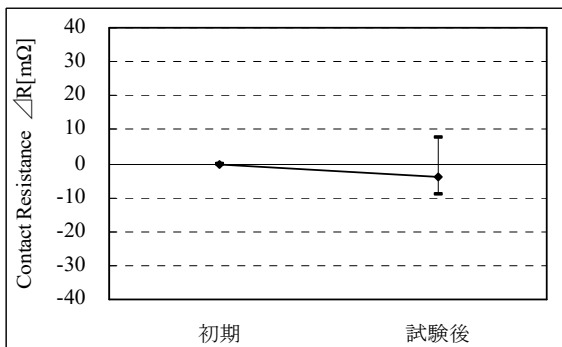
Graph6. Ground 抵抗値の変化
(C Group : 耐振動性・耐衝撃性)
A change of Ground resistance
(C Group : Vibration・shock)



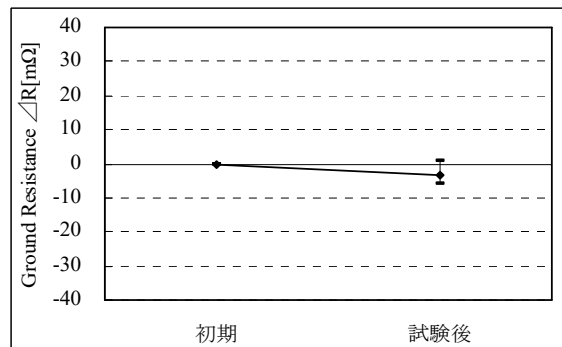
Graph7. 接触抵抗値の変化 (D Group : 熱衝撃)
A change of contact resistance
(D Group : Thermal shock)



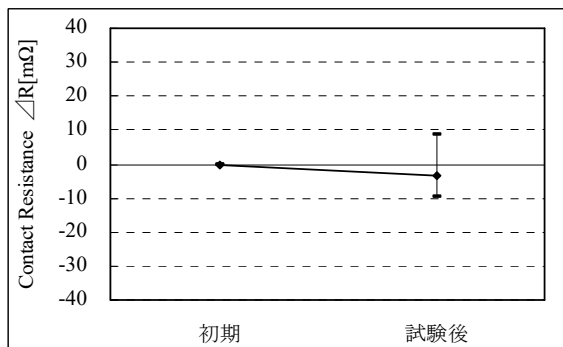
Graph8. Ground 抵抗値の変化 (D Group : 熱衝撃)
A change of Ground resistance
(D Group : Thermal shock)



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



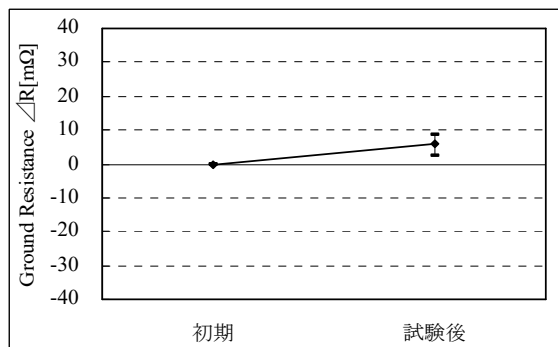
Graph10. Ground 抵抗値の変化 (E Group : 高温寿命)
A change of Ground resistance
(E Group : High Temperature Life)



Graph11. 接触抵抗値の変化 (F Group : 湿度(定常状態))

A change of contact resistance

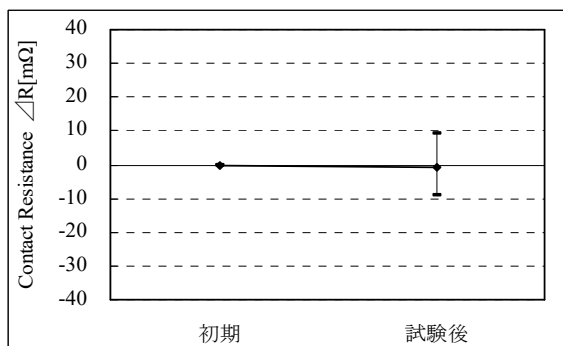
(F Group : Humidity(Steady state))



Graph12. Ground 抵抗値の変化 (F Group : 湿度(定常状態))

A change of Ground resistance

(F Group : Humidity(Steady state))

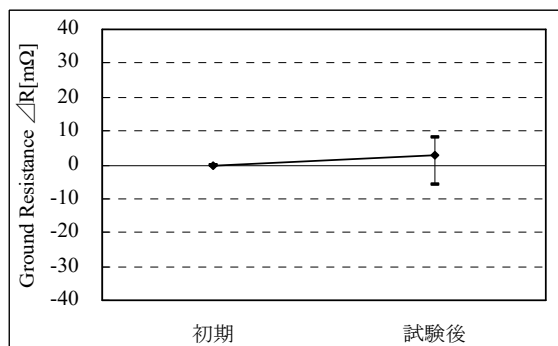


Graph 13. 接触抵抗値の変化

(G Group : 湿度(サイクリング))

A change of contact resistance

(G Group : Humidity(Cycling))

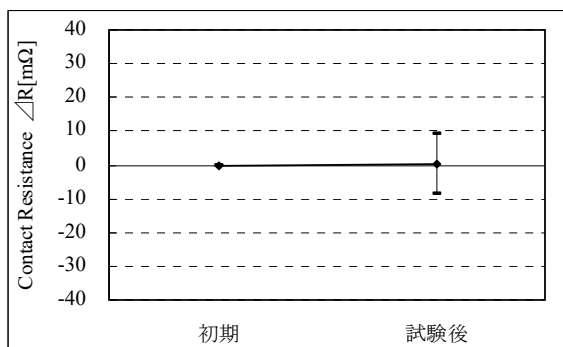


Graph14. Ground 抵抗値の変化

(G Group : 湿度(サイクリング))

A change of Ground resistance

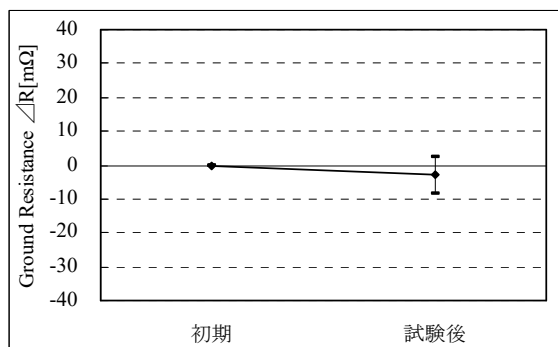
(G Group : Humidity(Cycling))



Graph15. 接触抵抗値の変化 (H Group : 塩水噴霧)

A change of contact resistance

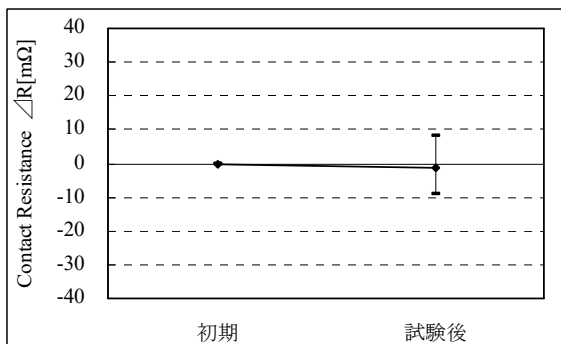
(H Group : Salt Water Spray)



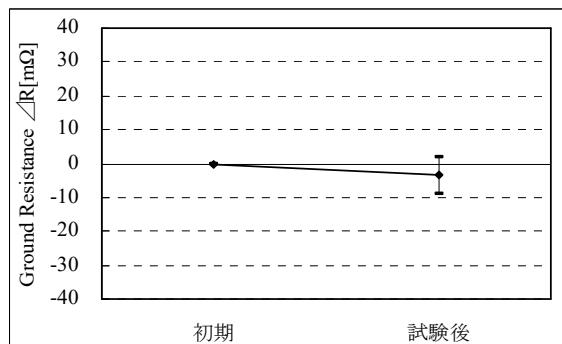
Graph16. Ground 抵抗値の変化 (H Group : 塩水噴霧)

A change of Ground resistance

(H Group : Salt Water 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. Ground 抵抗値の変化 (J Group : ガス(H₂S))
 A change of Ground resistance
 (J Group : Gas(H₂S))