

NOVASTACK® 35-HDP

Part No. 20697-0**E-0#-#, 20698-0**E-0#

Test Report

Product Specification no. PRS-2187

11	T26076	September 8, 2026	X.Zhang	-	S.Suzuki
10	T26051	June 23, 2026	X.Zhang	-	S.Suzuki
9	T25078	October 22, 2025	C.Saito	-	S.Suzuki
8	T25040	May 12, 2025	T.Matsunaga	-	S.Suzuki
Rev.	ECN	Date	Prepared by	Checked by	Approved by

1. 目的

NOVASTACK 35-HDP コネクタの性能を PRS-2187 に基づいて評価する。

2. 試料

- (1) NOVASTACK 35-HDP PLUG ASS'Y (P/N: 20697-0**E-0#-#)
- (2) NOVASTACK 35-HDP RECEPTACLE ASS'Y (P/N: 20698-0**E-0#)

3. 試験順序

全ての評価は表 1 の試験順序に従って行った。

4. 結果

表 2-1～2-4、グラフ 1～26 参照。試験条件の詳細は PRS-2187 参照。n 数は測定データを意味する。

5. 結論

全ての資料が製品規格（PRS-2187）の必要条件を満足した。

Table 1 試験順序と試料数

試験項目	グループ											
	A	B	C	D	E	F	G	H	J	K	L	M
接触抵抗	2,6		1,3,5	1,5	1,3	1,5	1,5,7	1,3	1,3			
絶縁抵抗				2,6		2,6	2,8					
耐電圧				3,7		3,7	3,9					
温度上昇												1
挿入力	1,5											
抜去力	3,7											
耐久性	4						4 (10cycles)					
端子保持力		1,3										
振動			2									
衝撃			4									
熱衝撃				4								
高温寿命		2			2							
湿度(定常状態)						4						
湿度(サイクリング)							6					
塩水噴霧								2				
ガス (H ₂ S)									2			
半田付け性										1		
半田耐熱性											1	
試料数	5 pcs.	20 pcs.	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。

Table 2-1. 試験結果

グループ	測定内容		規格	単位	コネクタ数	n	データ					判定	
							AVE.	MAX.	MIN.	S	X±3s		
A	耐久性												
	接触抵抗												
	Signal contact	初期	40	MAX.	mΩ	5	210	15.223	17.22	14.15	0.690	17.293	Pass
		試験後 30 cycles	ΔR 40	MAX.				0.324	3.78	-2.91	1.568	5.028	Pass
	Power contact	初期	20	MAX.			20	2.985	3.78	2.47	0.403	4.194	Pass
		試験後 30 cycles	ΔR 20	MAX.				0.115	0.61	-0.57	0.327	1.096	Pass
	Shell	初期	20	MAX.			10	9.095	10.17	8.50	0.468	10.499	Pass
		試験後 30 cycles	ΔR 20	MAX.				1.162	1.78	0.38	0.434	2.464	Pass
	挿入力												
	Signal Contact 16P+Power Contact 4P	初期	32.0	MAX.	N	5	-	21.498	22.35	20.78	-	-	Pass
		試験後 30 cycles						9.630	10.36	9.04	-	-	Pass
	Signal Contact 22P+Power Contact 4P	初期	32.0	MAX.			-	25.444	26.64	24.18	-	-	Pass
		試験後 30 cycles						9.277	9.77	7.67	-	-	Pass
	Signal Contact 28P+Power Contact 4P	初期	32.0	MAX.			-	28.318	29.54	27.35	-	-	Pass
		試験後 30 cycles						11.012	12.12	10.24	-	-	Pass
	Signal Contact 34P+Power Contact 4P	初期	38.0	MAX.			-	30.988	31.80	30.17	-	-	Pass
		試験後 30 cycles						12.738	13.33	12.54	-	-	Pass
	Signal Contact 42P+Power Contact 4P	初期	46.0	MAX.			-	32.592	33.71	31.51	-	-	Pass
		試験後 30 cycles						14.194	14.66	13.42	-	-	Pass
	Signal Contact 56P+Power Contact 4P	初期	60.0	MAX.			-	39.758	42.40	38.37	-	-	Pass
		試験後 30 cycles						19.596	21.23	18.08	-	-	Pass
	Signal Contact 62P+Power Contact 4P	初期	66.0	MAX.			-	45.920	47.20	44.10	-	-	Pass
		試験後 30 cycles						21.840	23.00	21.30	-	-	Pass
	抜き力												
	Signal Contact 16P+Power Contact 4P	初期	3.2	MIN.	N	5	-	10.180	10.42	9.99	-	-	Pass
		試験後 30 cycles						6.456	6.81	5.89	-	-	Pass
	Signal Contact 22P+Power Contact 4P	初期	3.2	MIN.			-	12.306	12.93	11.46	-	-	Pass
		試験後 30 cycles						8.869	9.80	7.77	-	-	Pass
	Signal Contact 28P+Power Contact 4P	初期	3.2	MIN.			-	14.360	15.21	13.54	-	-	Pass
		試験後 30 cycles						10.226	11.32	9.43	-	-	Pass
	Signal Contact 34P+Power Contact 4P	初期	3.8	MIN.			-	15.122	15.91	14.34	-	-	Pass
		試験後 30 cycles						10.824	11.39	9.99	-	-	Pass
	Signal Contact 42P+Power Contact 4P	初期	4.6	MIN.			-	15.988	17.88	15.13	-	-	Pass
		試験後 30 cycles						9.942	10.40	9.30	-	-	Pass
	Signal Contact 56P+Power Contact 4P	初期	6.0	MIN.			-	20.800	21.63	20.45	-	-	Pass
		試験後 30 cycles						13.340	13.93	12.94	-	-	Pass
	Signal Contact 62P+Power Contact 4P	初期	6.6	MIN.			-	18.940	19.60	18.00	-	-	Pass
		試験後 30 cycles						18.060	19.30	16.50	-	-	Pass

B	端子保持力											
	Plug											
	Signal contact	初期	0.6	MIN.	N	-	20	2.52 MIN.		-	-	Pass
		試験後						2.07 MIN.		-	-	Pass
	Power contact	初期						3.80 MIN.		-	-	Pass
		試験後						3.92 MIN.		-	-	Pass
	Receptacle											
	Signal contact	初期	0.1	MIN.	N	-	20	0.42 MIN.		-	-	Pass
		試験後						0.34 MIN.		-	-	Pass
	Power contact	初期						0.53 MIN.		-	-	Pass
試験後		0.48 MIN.						-	-	Pass		

*外観規格: 機能を損なう異常無き事

Table 2-2. 試験結果

グループ	測定内容		規格		単位	コネクタ数	n	データ					判定	
								AVE.	MAX.	MIN.	S	X±3s		
C	振動 → 衝撃													
	接触抵抗													
	Signal contact	初期	40	MAX.	mΩ	5	210	15.200	17.04	13.96	0.685	17.255	Pass	
		振動後	ΔR	40				MAX.	-0.500	0.32	-1.31	0.474	0.922	Pass
		衝撃後							-0.505	0.44	-1.39	0.393	0.674	Pass
	Power contact	初期	20	MAX.			20	2.783	3.31	2.18	0.362	3.869	Pass	
		振動後	ΔR	20				MAX.	0.166	0.72	-0.20	0.268	0.970	Pass
		衝撃後							0.324	0.87	-0.29	0.363	1.413	Pass
	Shell	初期	20	MAX.			10	8.145	9.28	7.38	0.585	9.900	Pass	
		振動後	ΔR	20				MAX.	0.149	0.55	-0.20	0.281	0.992	Pass
		衝撃後							0.163	0.77	-0.27	0.288	1.027	Pass
	電氣的瞬断													
	試験中	1	MAX.	μs	5	-	瞬断無し					Pass		
外観														
	試験後	*		-	5	-	瞬断無し					Pass		

D	熱衝撃													
	接触抵抗													
	Signal contact	初期	40	MAX.	mΩ	5	210	15.962	18.86	13.46	1.198	19.556	Pass	
		試験後	ΔR	40				MAX.	0.769	4.46	-2.70	1.376	4.897	Pass
	Power contact	初期	20	MAX.			20	2.680	3.48	1.67	0.537	4.291	Pass	
		試験後	ΔR	20				MAX.	0.420	1.09	-0.15	0.308	1.344	Pass
	Shell	初期	20	MAX.			10	8.865	9.38	8.45	0.356	9.933	Pass	
		試験後	ΔR	20				MAX.	-0.067	0.61	-0.84	0.413	1.172	Pass
	絶縁抵抗													
		初期	1000	MIN.			MΩ	5	-	1.77 x 10 ⁵ Min.				
		試験後	500	MIN.	1.43 x 10 ⁵ Min.					Pass				
	耐電圧													
		試験後	* *		-	5	-	異常無し					Pass	
	外観													
		試験後	*		-	5	-	異常無し					Pass	

E	高温寿命													
	接触抵抗													
	Signal contact	初期	40	MAX.	mΩ	5	210	15.949	18.73	13.20	1.215	19.594	Pass	
		試験後	ΔR	40				MAX.	0.529	3.44	-2.26	1.110	3.859	Pass
	Power contact	初期	20	MAX.			20	2.718	3.33	2.21	0.363	3.807	Pass	
		試験後	ΔR	20				MAX.	-0.095	0.76	-0.80	0.437	1.216	Pass
	Shell	初期	20	MAX.			10	8.208	8.67	7.46	0.441	9.531	Pass	
		試験後	ΔR	20				MAX.	-0.098	0.75	-0.75	0.465	1.297	Pass
	外観													
		試験後	*				-	5	-	異常無し				

*外観規格: 機能を損なう異常無き事

**耐電圧規格: 沿面放電、空中放電、絶縁破壊等の異常無き事。

Table 2-3. 試験結果

グループ	測定内容		規格		単位	コネクタ数	n	データ					判定	
								AVE.	MAX.	MIN.	S	X±3s		
F	湿度試験(定常状態)													
	接触抵抗													
	Signal contact	初期	40	MAX.	mΩ	5	210	16.158	18.74	13.94	1.143	19.587	Pass	
		試験後	ΔR 40	MAX.				0.865	3.37	-1.63	1.103	4.174	Pass	
	Power contact	初期	20	MAX.			20	2.786	3.62	2.18	0.393	3.965	Pass	
		試験後	ΔR 20	MAX.				0.190	1.13	-0.84	0.582	1.936	Pass	
	Shell	初期	20	MAX.			10	8.295	8.78	7.56	0.378	9.429	Pass	
		試験後	ΔR 20	MAX.				-0.186	0.30	-0.91	0.420	1.074	Pass	
	絶縁抵抗													
		初期	1000	MIN.	MΩ	5	-	1.28 x 10 ⁵ Min.					Pass	
		試験後	500	MIN.				1.04 x 10 ⁵ Min.					Pass	
	耐電圧													
		試験後	* *		-	5	-	異常無し					Pass	
	外観													
		試験後	*		-	5	-	異常無し					Pass	
G	湿度試験(サイクリング)													
	接触抵抗													
	Signal contact	初期	40	MAX.	mΩ	5	210	15.793	17.74	13.74	0.842	18.319	Pass	
		耐久挿抜10cyc 後	ΔR 40	MAX.				-0.719	1.60	-2.52	0.786	1.639	Pass	
		試験後						0.493	2.51	-1.63	0.881	3.136	Pass	
	Power contact	初期	20	MAX.			20	2.982	3.70	2.33	0.426	4.260	Pass	
		耐久挿抜10cyc 後	ΔR 20	MAX.				-0.041	1.29	-1.08	0.643	1.888	Pass	
		試験後						0.114	1.36	-1.18	0.626	1.992	Pass	
	Shell	初期	20	MAX.			10	8.164	8.86	7.40	0.399	9.361	Pass	
		耐久挿抜10cyc 後	ΔR 20	MAX.				-0.070	1.04	-1.31	0.709	2.057	Pass	
		試験後						0.134	1.33	-0.46	0.559	1.811	Pass	
	絶縁抵抗													
		初期	1000	MIN.	MΩ	5	-	1.15 x 10 ⁵ Min.					Pass	
		試験後	500	MIN.				1.04 x 10 ⁵ Min.					Pass	
	耐電圧													
		試験後	* *		-	5	-	異常無し					Pass	
	外観													
		試験後	*		-	5	-	異常無し					Pass	
H	塩水噴霧													
	接触抵抗													
	Signal contact	初期	40	MAX.	mΩ	5	210	15.093	17.07	13.23	0.890	17.763	Pass	
		試験後	ΔR 40	MAX.				0.201	3.68	-3.49	1.670	5.211	Pass	
	Power contact	初期	20	MAX.			20	2.952	3.36	2.46	0.255	3.717	Pass	
		試験後	ΔR 20	MAX.				-0.037	0.98	-0.53	0.382	1.109	Pass	
	Shell	初期	20	MAX.			10	8.050	8.70	7.55	0.404	9.262	Pass	
		試験後	ΔR 20	MAX.				0.036	0.77	-0.61	0.444	1.368	Pass	
	外観													
		試験後	*		-	5	-	異常無し					Pass	

*外観規格: 機能を損なう異常無き事

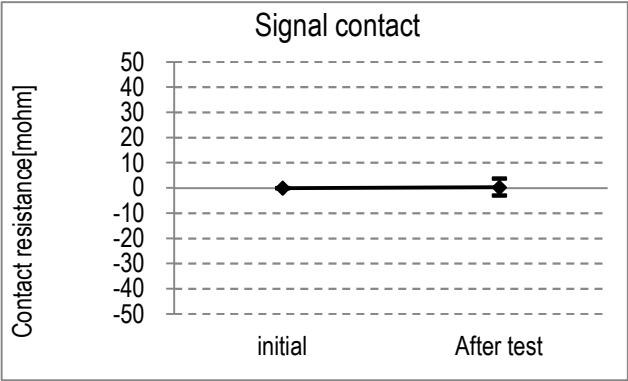
**耐電圧規格: 沿面放電、空中放電、絶縁破壊等の異常無き事。

Table 2-4. 試験結果

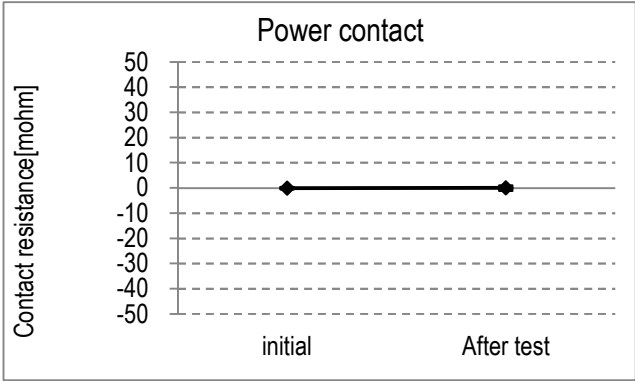
グループ	測定内容		規格	単位	コネクタ数	n	データ					判定
							AVE.	MAX.	MIN.	S	X±3s	
J	硫化水素ガス											
	接触抵抗											
	Signal contact	初期	40 MAX.	mΩ	5	210	15.721	17.80	13.61	0.920	18.481	Pass
		試験後	ΔR 40 MAX.				0.599	3.41	-2.34	1.115	3.944	Pass
	Power contact	初期	20 MAX.			20	2.961	3.84	2.24	0.345	3.996	Pass
		試験後	ΔR 20 MAX.				-0.124	0.92	-1.06	0.550	1.526	Pass
	Shell	初期	20 MAX.			10	8.001	8.52	7.50	0.335	9.006	Pass
		試験後	ΔR 20 MAX.				0.303	0.96	-0.28	0.418	1.557	Pass
外観												
	試験後	*	-	5	-	異常無し					Pass	
K	半田付け性											
	半田濡れ面積											
		試験後	95 MIN.	%	10	-	95 MIN.					Pass
L	半田耐熱性											
	外観											
		試験後	*	-	10	-	異常なし					Pass
M	温度上昇											
	Signal Contact 16P + Power Contact 4P (Signal:0.30A,Power:4.50A)		ΔT 30 MAX.	℃	5	-	23.09 Max.					Pass
	Signal Contact 22P + Power Contact 4P (Signal:0.30A,Power:4.50A)						25.18 Max.					Pass
	Signal Contact 28P + Power Contact 4P (Signal:0.30A,Power:4.50A)						25.56 Max.					Pass
	Signal Contact 34P + Power Contact 4P (Signal:0.30A,Power:4.50A)						26.74 Max.					Pass
	Signal Contact 42P + Power Contact 4P (Signal:0.29A,Power:4.50A)						21.66 Max.					Pass
	Signal Contact 56P + Power Contact 4P (Signal:0.22A,Power:4.50A)						22.89 Max.					Pass
	Signal Contact 62P + Power Contact 4P (Signal:0.19A,Power:4.50A)						21.69 Max.					Pass

*外観規格: 機能を損なう異常無き事

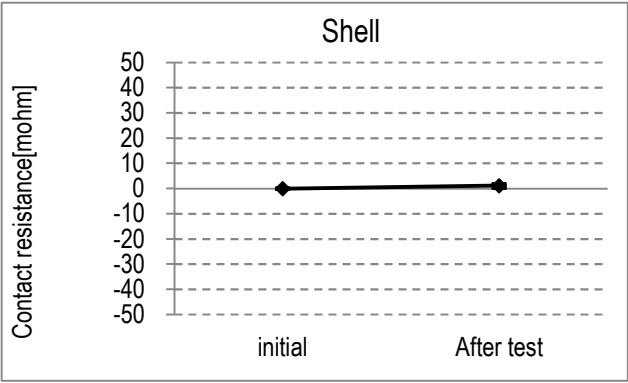
A Group / Durability



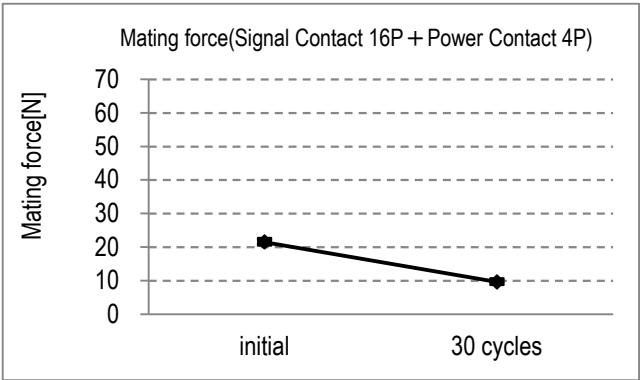
Graph-1. A change of signal contact resistance



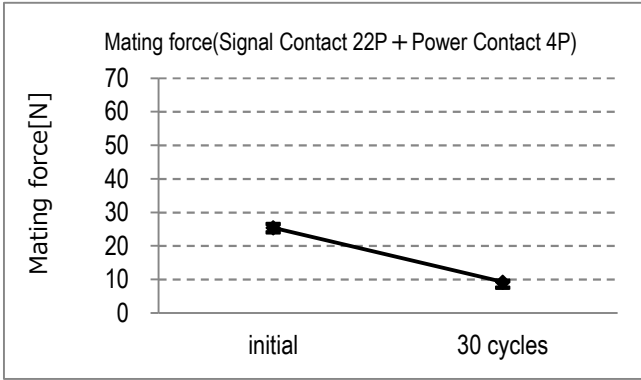
Graph-2. A change of power contact resistance



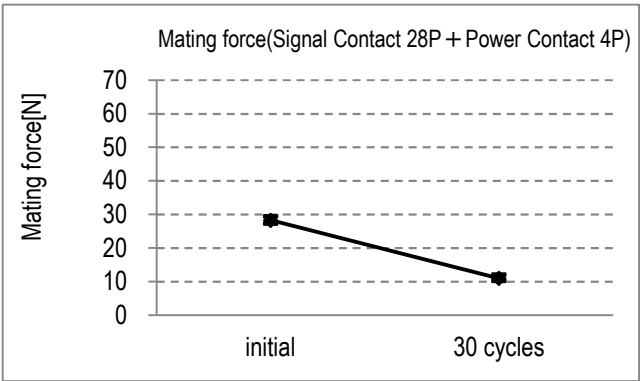
Graph-3. A change of Shell contact resistance



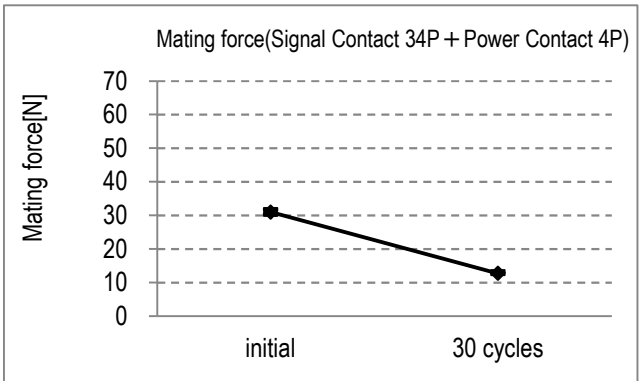
Graph-4-1. A change of mating force Signal Contact 16P + Power Contact 4P



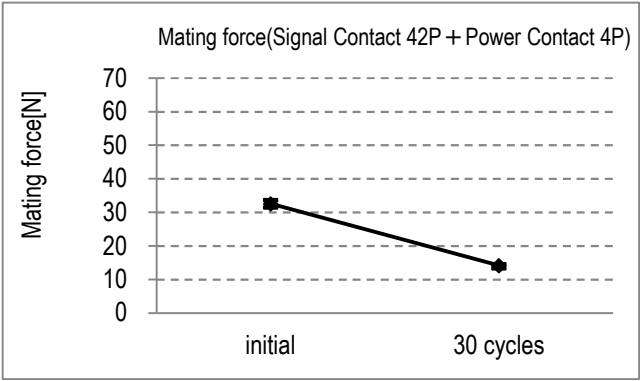
Graph-4-2. A change of mating force Signal Contact 22P + Power Contact 4P



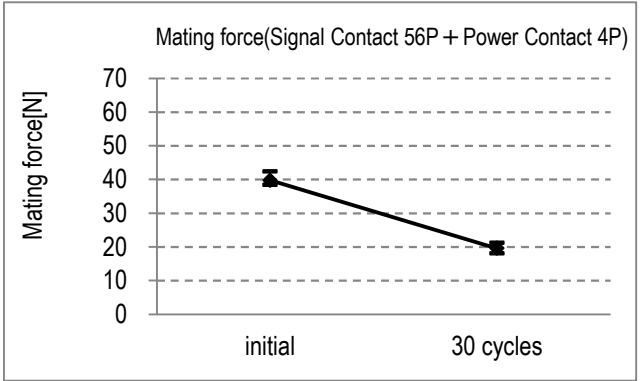
Graph-4-3. A change of mating force Signal Contact 28P + Power Contact 4P



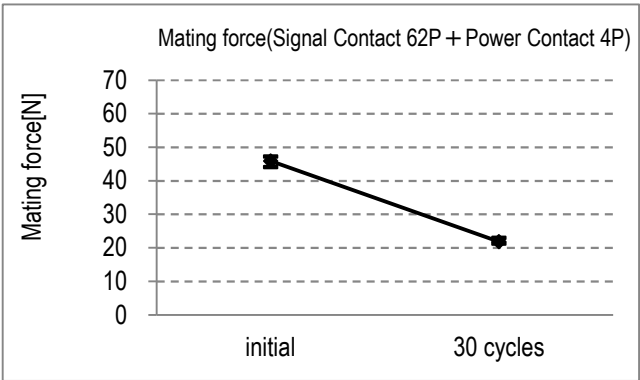
Graph-4-4. A change of mating force Signal Contact 34P + Power Contact 4P



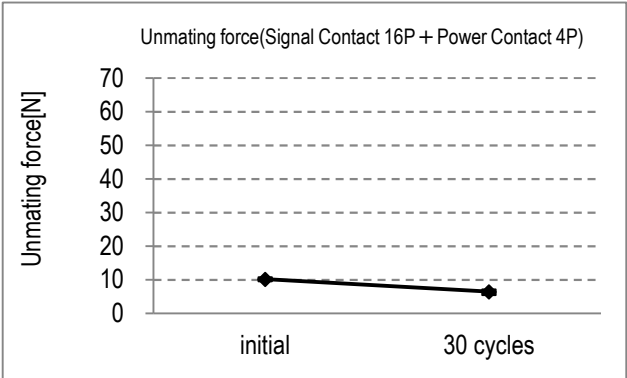
Graph-4-5. A change of mating force Signal Contact 42P + Power Contact 4P



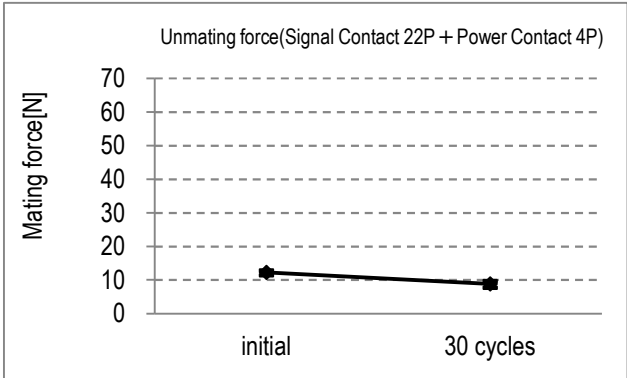
Graph-4-6. A change of mating force Signal Contact 56P + Power Contact 4P



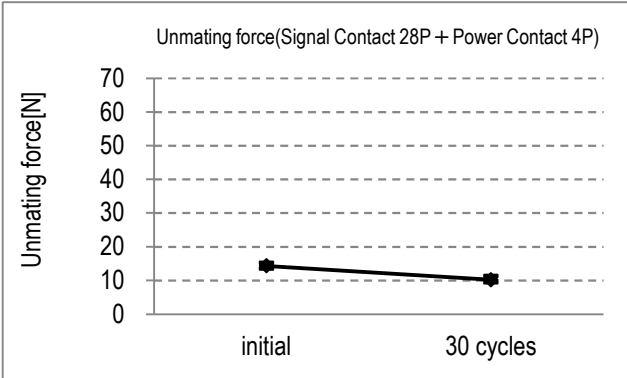
Graph-4-7. A change of mating force Signal Contact 62P + Power Contact 4P



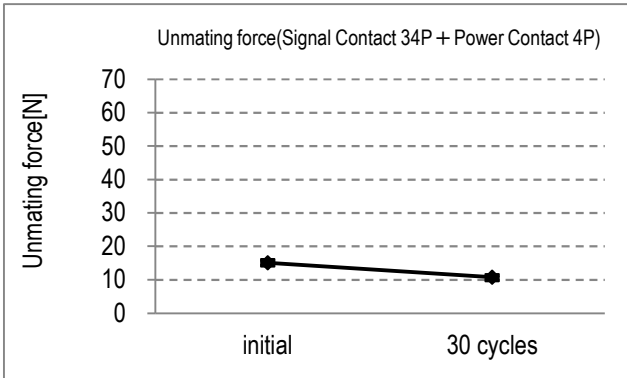
Graph-5-1. A change of unmating force Signal Contact 16P + Power Contact 4P



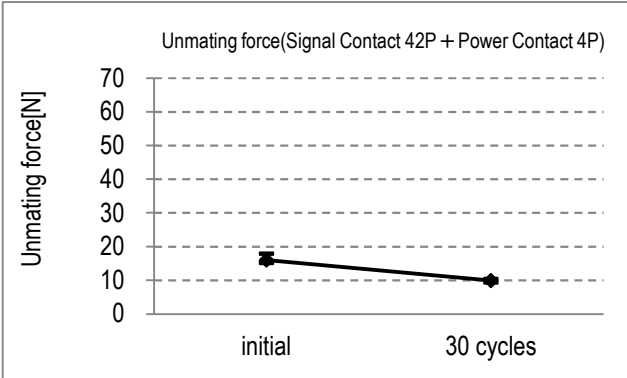
Graph-5-2. A change of unmating force Signal Contact 22P + Power Contact 4P



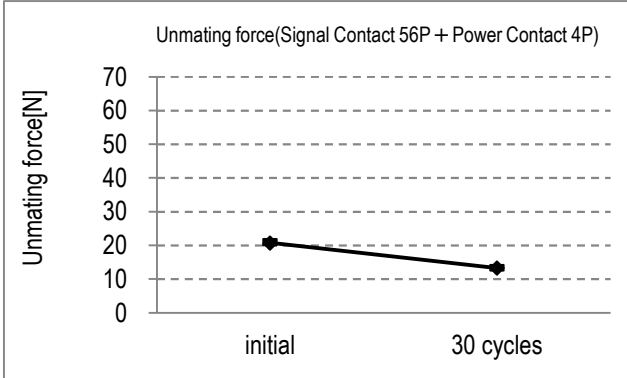
Graph-5-3. A change of unmating force Signal Contact 28P + Power Contact 4P



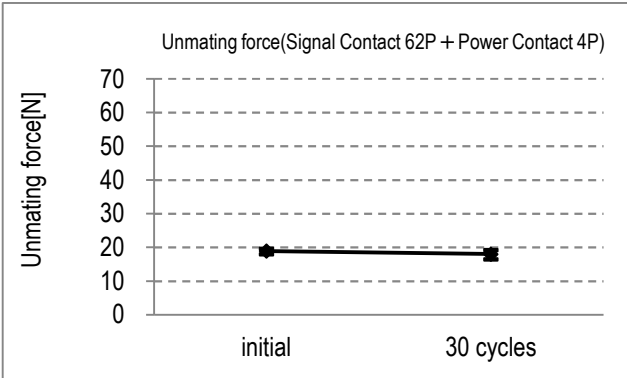
Graph-5-4. A change of unmating force Signal Contact 34P + Power Contact 4P



Graph-5-5. A change of unmating force Signal Contact 42P + Power Contact 4P

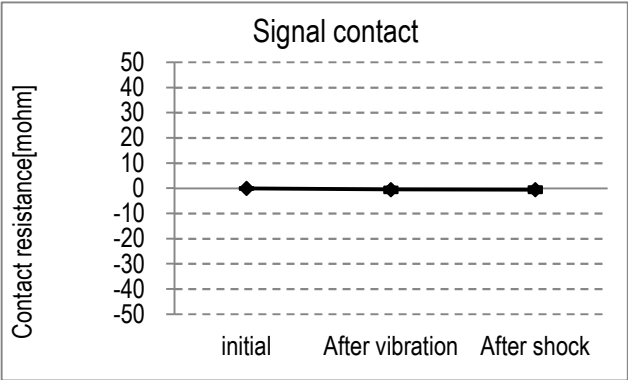


Graph-5-6. A change of unmating force Signal Contact 56P + Power Contact 4P

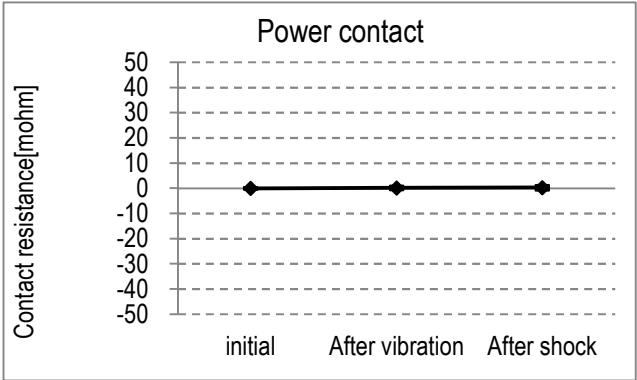


Graph-5-7. A change of unmating force Signal Contact 62P + Power Contact 4P

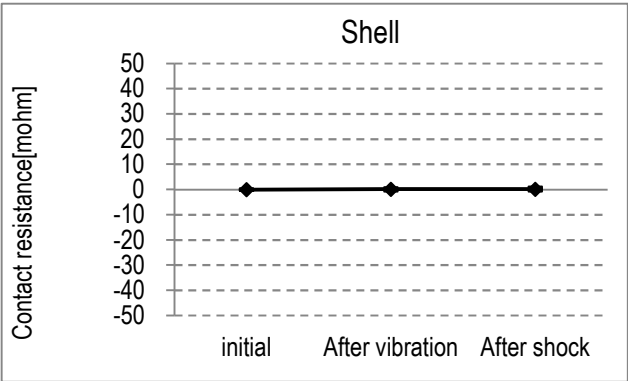
C Group / Vibration → Shock



Graph-6. A change of signal contact resistance

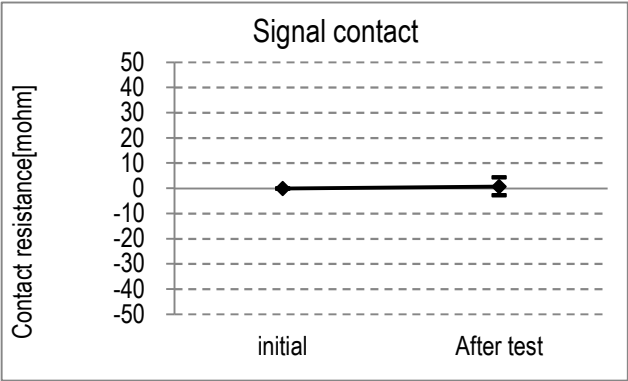


Graph-7. A change of power contact resistance

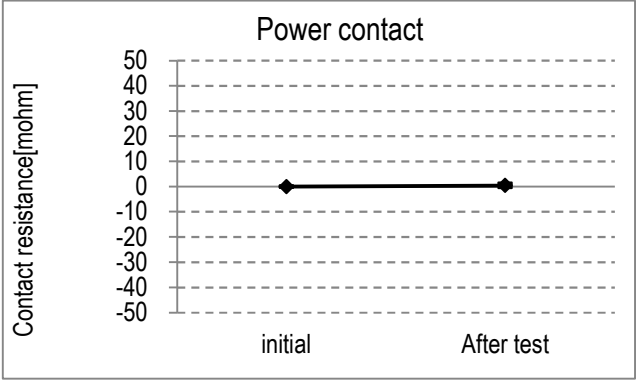


Graph-8. A change of Shell contact resistance

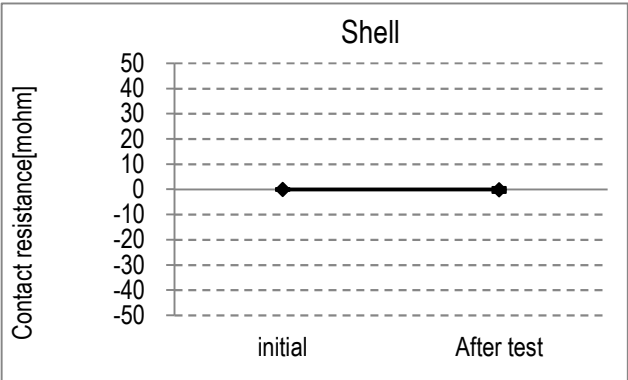
D Group / Thermal Shock



Graph-9. A change of signal contact resistance

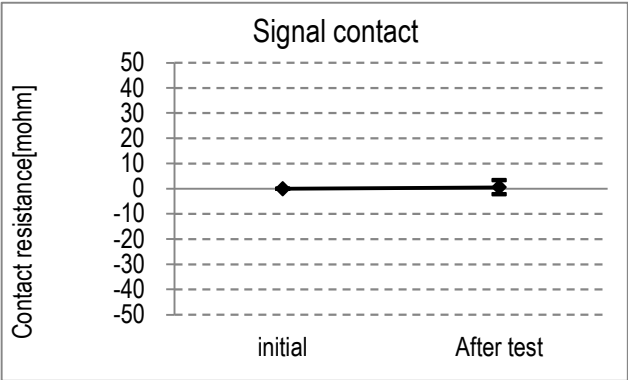


Graph-10. A change of power contact resistance

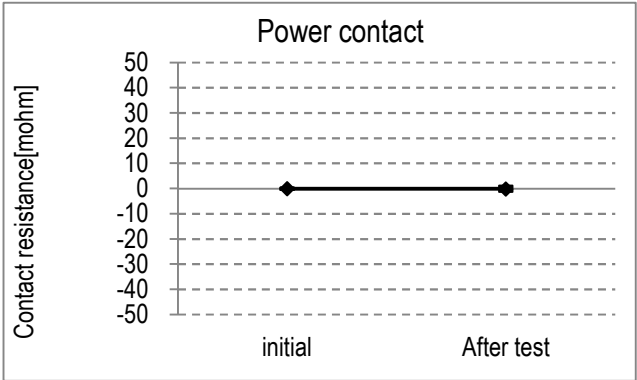


Graph-11. A change of Shell contact resistance

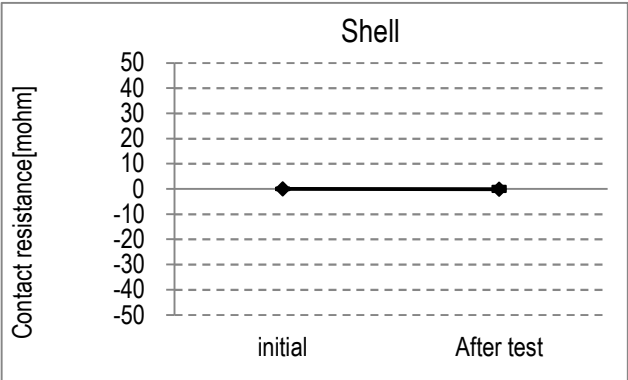
E Group / High Temperature Life



Graph-12. A change of signal contact resistance

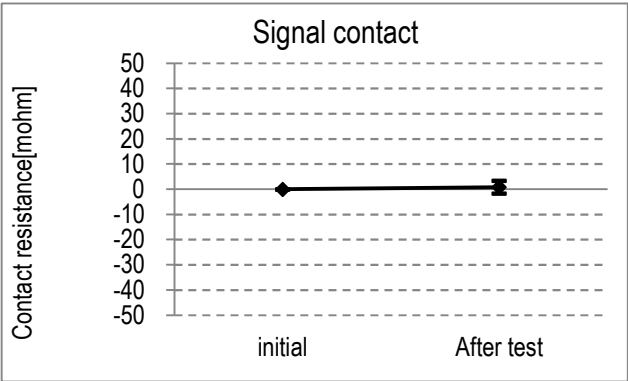


Graph-13. A change of power contact resistance

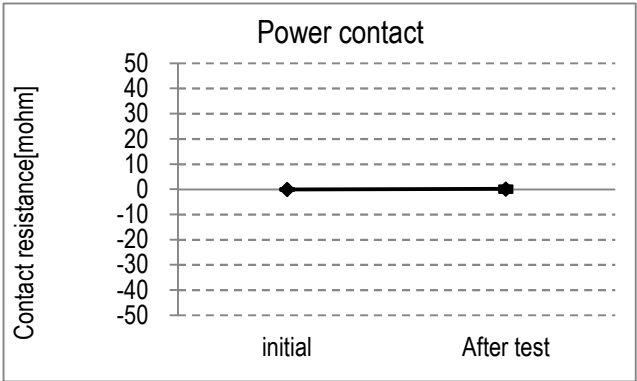


Graph-14. A change of Shell contact resistance

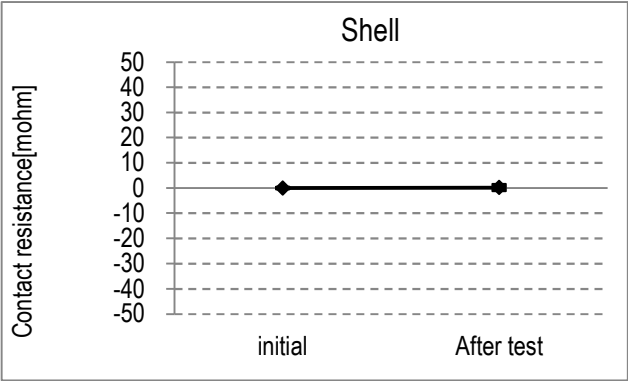
F Group / Humidity (Steady State)



Graph-15. A change of signal contact resistance

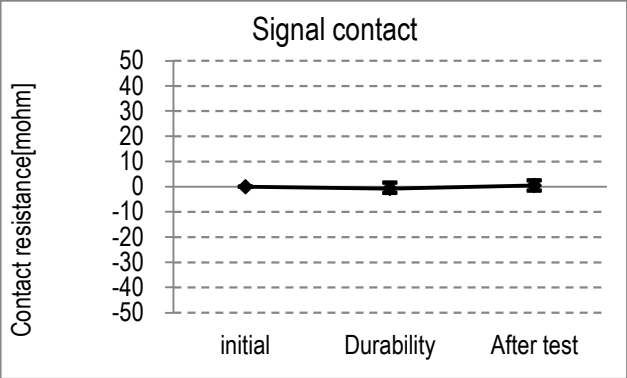


Graph-16. A change of power contact resistance

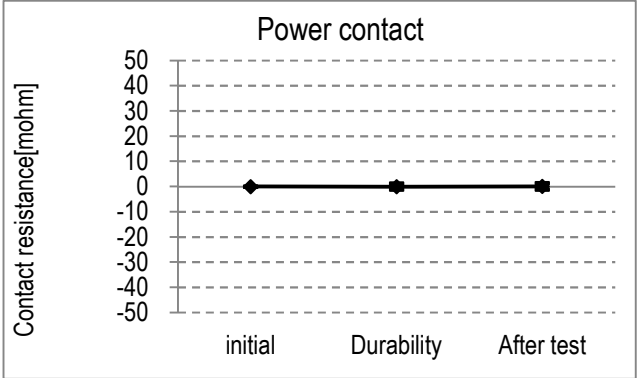


Graph-17. A change of Shell contact resistance

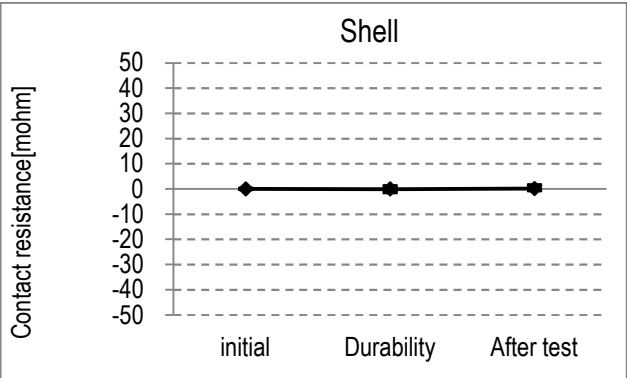
G Group / Humidity (Cycling)



Graph-18. A change of signal contact resistance

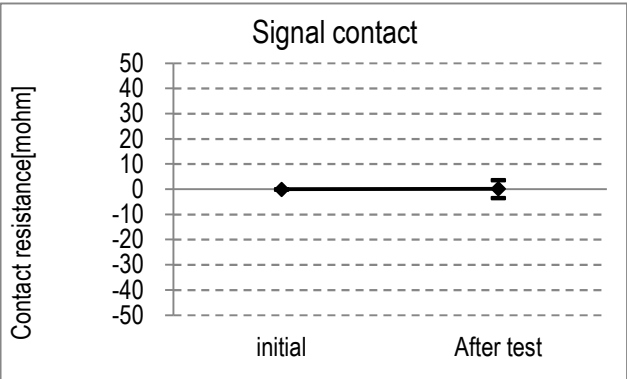


Graph-19. A change of power contact resistance

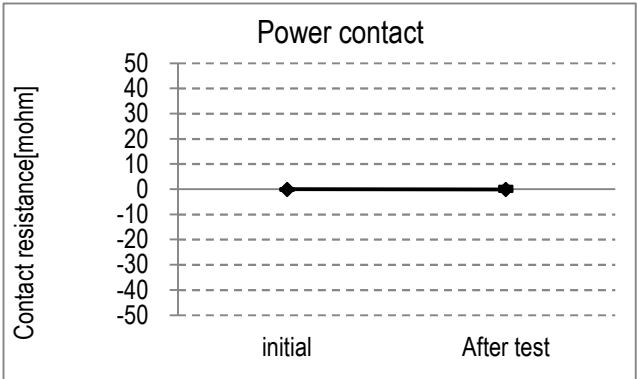


Graph-20. A change of Shell contact resistance

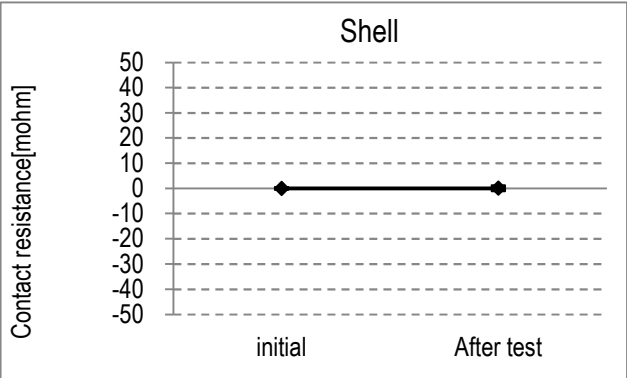
H Group / Salt Water Spray



Graph-21. A change of signal contact resistance

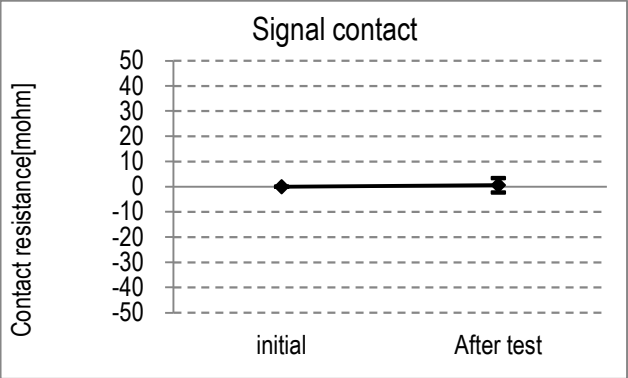


Graph-22. A change of power contact resistance

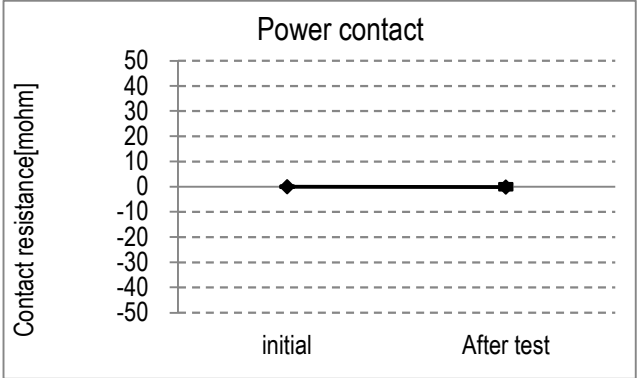


Graph-23. A change of Shell contact resistance

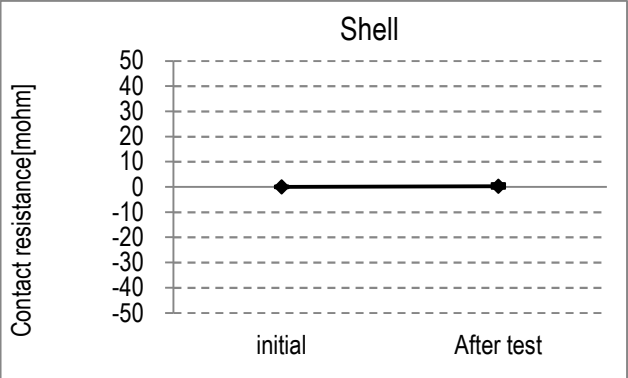
J Group / Gas



Graph-24. A change of signal contact resistance



Graph-25. A change of power contact resistance



Graph-26. A change of Shell contact resistance