TEST REPORT

PRODUCT ENGINEERING LABORATORY	RL. 140209	REVISION: 1

Material / Parts description:	PN:	REVISION:
POSITIVE LOCK MKIII 3 POS. HSG WITH LOCKING LEVER	**282088-1**	**G2**
POSITIVE LOCK 5mm SERIES	**282106-1**	**V4**

Requester:	Dept:
GENTIL JR	EPA

Customer:	Supplier:
TE CONNECTIVITY	**TE CONNECTIVITY**

Confidentiality:

( ) 1- CONFIDENTIAL
( ) 2- TE RESTRICTED
(X) 3- ADDRESSED CUSTOMER
( )

Distribution:

(X) REQUESTER
(X) DM.TEC
( )
( )

Purpose:	History:
1 - NEW RAW MATERIAL	LOCALIZATION PROJECT.

Test(s) Made :	Specification (s):
-TERMINAL TO CONNECTOR ENGAGEMENT FORCE; -SEC. LOCK CLOSING FORCE; -TERMINAL FROM CONNECTOR EXTRACTION FORCE; -INSERTION/EXTRACTION FORCE FROM CONNECTOR TO COUNTERPART; -DIELECTIRC STRENGHT.	TE SPEC. 108-15036.

Conclusion:

Please see individual tests results.

Fev 25, 2014	*Signature on file	*Signature on file
Date	Executed by	Responsible
	DIOGO BIASETTO ROJAS TEST ENGINEER	PAULO S. ALMEIDA LABORATORY COORDINATOR

TEST REPORT

PRODUCT ENGINEERING LABORATORY

RL. **140209**

Accomplished tests according to Test Plan attached:

Samples Identification

48 parts of POS. LOCK MKIII 3 POS. HSG (BRAZIL) PN: 953043-1;
10 parts of POS. LOCK MKIII 3 POS. HSG (IMPORTED) PN: 953043-1;
120 parts of POSITIVE LOCK 5mm SERIES PN: 141991-2.

Photo 1 - Positive lock

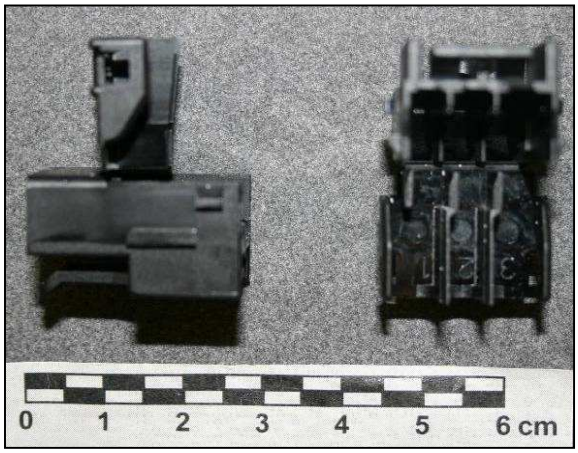

Photo 2 - POS. LOCK MKIII 3 POS. HSG

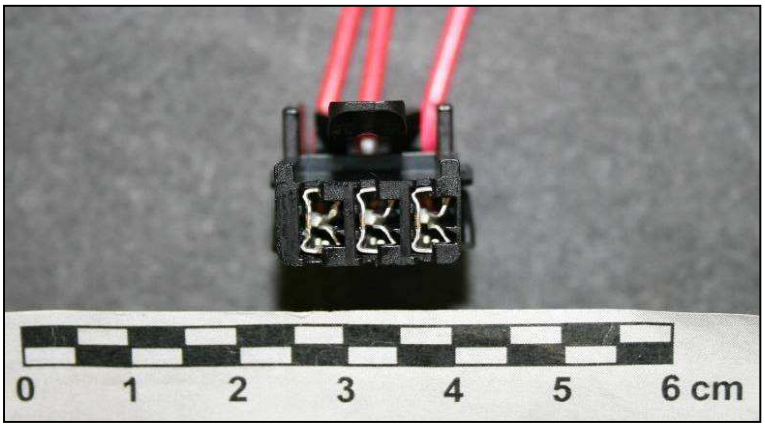

Photo 3 - POS. LOCK MKIII 3 POS. HSG ASS'Y

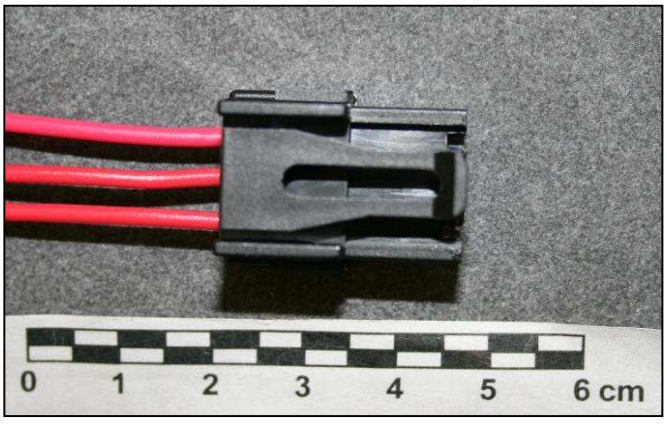

Photo 4 - POS. LOCK MKIII 3 POS. HSG ASS'Y

Results:

1.1 - Terminal to connector mating force:

Samples:
Samples number 1 to 36.

Equipment:
Imada Digital dynamometer, model DPS 11R, ref. TE 92-339017-076.

Procedure:
Measure mating force from terminal to housing manually.

Requirements:
Informative.

Results:

Cavity	Sample	Insertion force [N]		
		Way 1	Way 2	Way 3
1	1	6,88	9,6	7,61
	2	5,15	8,51	11,12
	3	5,11	9,88	10,09
	4	6,9	7,27	7,66
2	5	6,8	7,14	6,27
	6	5,66	7,36	7,43
	7	4,9	7,12	7,35
	8	5,76	6,48	6,69
3	9	4,97	7,4	7,09
	10	4,66	8,15	5,81
	11	5,18	8,68	7,82
	12	6,04	5,1	4,75
4	13	4,41	5,94	5,76
	14	5,79	6,59	4,73
	15	4,84	6,88	5,46
	16	4,59	6,63	5,99

Cavity	Sample	Insertion force [N]		
		Way 1	Way 2	Way 3
5	17	4,16	8,55	8,59
	18	4,36	5,64	6,78
	19	4,12	6,24	6,66
	20	4,03	6,86	5,14
6	21	6,08	9,38	5,52
	22	4,13	7,58	10,51
	23	4,48	8,68	5,73
	24	5,53	6,84	6,27
7	25	5,07	8,4	7,11
	26	4,89	6,96	6,92
	27	4,48	5,9	6,63
	28	5,53	6,95	6,25
8	29	5,46	7,69	8,9
	30	5,67	6,53	7,48
	31	6,22	6,45	7,64
	32	5,18	7,19	7,1
Imported	33	4,61	6,47	6,41
	34	5,23	6,03	8,14
	35	5,61	7	7,52
	36	6,17	6,6	6,83

Photo 5 - Insertion force

Conclusion:
Informative.

1.2 - Sec. Lock closing force of :

Samples:
Samples number 1 to 36.

Equipment:
Imada Digital dynamometer, model DPS 11R, ref. TE 92-339017-076.

Procedure:
Measure the force necessary to close the Sec. Lock.

Requirements:
Informative.

Results:

Cavity	Sample	Sec lock closing force [N]
1	1	13,95
	2	13,03
	3	12,76
	4	15,38
2	5	13,18
	6	10,24
	7	12,47
	8	10,29
3	9	16,1
	10	11,73
	11	12,94
	12	13,38
4	13	12,29
	14	13,99
	15	13,24
	16	13,09

Cavity	Sample	Sec lock closing force [N]
5	17	13,72
	18	14,2
	19	13,25
	20	15,36
6	21	14,84
	22	13,79
	23	14,2
	24	17,34
7	25	15,1
	26	12,56
	27	15,86
	28	14,71
8	29	13,51
	30	13,05
	31	13,63
	32	13,43
Imported	33	16,74
	34	12,59
	35	12,28
	36	11,6

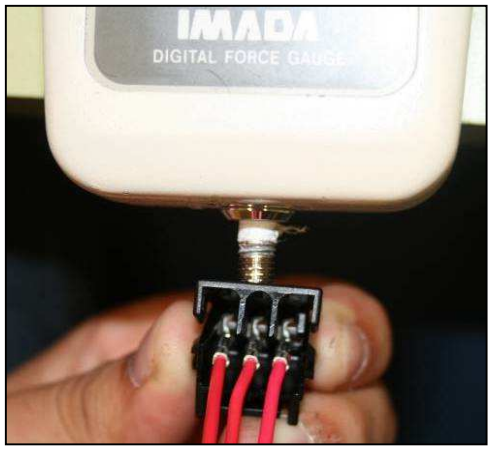

Photo 6 - Sec. Lock closing force

Conclusion:
Informative.

1.3 - Terminal from connector extraction force:

Samples:
Samples number 1 to 36.

Equipment:
Mecmesim AFG 2500N dynamometer, nr. 92-339017-090.

Procedure:
Measure the terminal to housing retention force, with sec. lock closed.

Requirements:
Informative.

Results:

Cavity	Sample	Retention force [N]		
		Way 1	Way 2	Way 3
1	1	163,5	202	204,8
	2	172,5	205	192
	3	166,5	194,5	205,5
	4	201	210,5	213,5
2	5	193	205,5	222
	6	194	203	221
	7	139	200	205
	8	147,5	206,5	204
3	9	224,5	205	204
	10	192,5	216,5	200,5
	11	208	201,5	185
	12	147	189,5	196
4	13	167	198,5	199
	14	146,5	188,5	202,5
	15	148	193	195,5
	16	145	196,5	203

Cavity	Sample	Retention force [N]		
		Way 1	Way 2	Way 3
5	17	202,5	197,5	203
	18	195,5	198	208
	19	198,5	188	202,5
	20	149,5	203	197,5
6	21	196	193,5	192
	22	190,5	196	200
	23	189,5	188,5	205,5
	24	144,5	202,5	195,5
7	25	179,5	191,5	194
	26	201	197	196,5
	27	193,5	199,5	207,5
	28	197	201,5	199
8	29	179	189	204
	30	163,5	197	218,5
	31	158,5	193,5	204,5
	32	156,5	202,5	198,5
Imported	33	166,5	203,5	197,5
	34	171,5	198,5	191,5
	35	216	192	221,5
	36	176,5	210,5	218,5

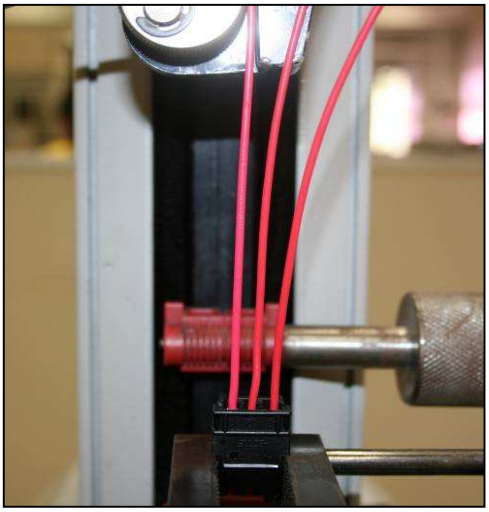

Photo 7 - Sec. Lock closing force

Conclusion:
Informative.

1.4 - Insertion/extraction force from connector to counterpart:

Samples:
Samples number 37 to 48.

Equipment:
Mecmesim AFG 2500N dynamometer, nr. 92-339017-090.

Procedure:
Measure the insertion/extraction force from connector to counterpart

Requirements:
Insertion force < 60N.
Extraction force connector unlocked < 40N.
Extraction force connector locked = informative.

Results:

Cavity	Sample	Insertion force [N]	Extraction force with connector unlocked [N]	Extraction force with connector locked [N]
1	37	49,5	22,0	95,5
2	38	36,0	28,0	83,5
3	39	38,0	18,5	82,5
4	40	54,0	20,0	92,0
5	41	38,5	32,5	82,5
6	42	34,5	23,5	94,5
7	43	45,0	23,0	92,0
8	44	39,0	30,5	95,0
Imported	45	40,5	28,5	102,0
	46	55,0	39,0	101,0
	47	40,0	22,5	101,0
	48	38,5	30,5	86,5

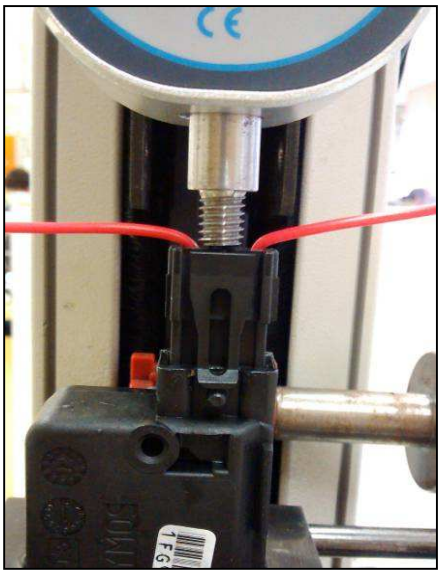

Photo 8 - Connector insertion force to counterpart

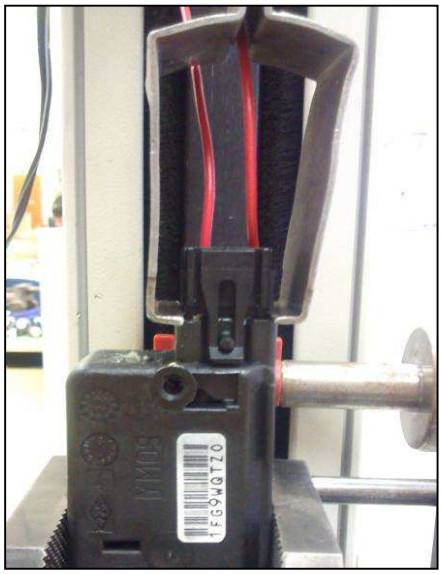

Photo 9 - Connector extraction force (locked)

Conclusion:
Samples approved.

1.5 - Dielectric strenght:

Samples:
Samples number 49 to 53.

Equipment:
Hypot ULTRA III Associated Research, Inc Serial number 93-339033-734.

Specification:
Item 4.20 spec. GMW 3191, 2007 revision.

Procedure:
Aplly 1000VAC for one minute between adjacent terminals.

Requirements:
No dielectric breakdown or flash-over shall occur between cavities at any time during the test.

Results:
No dielectric or flash-over occured.

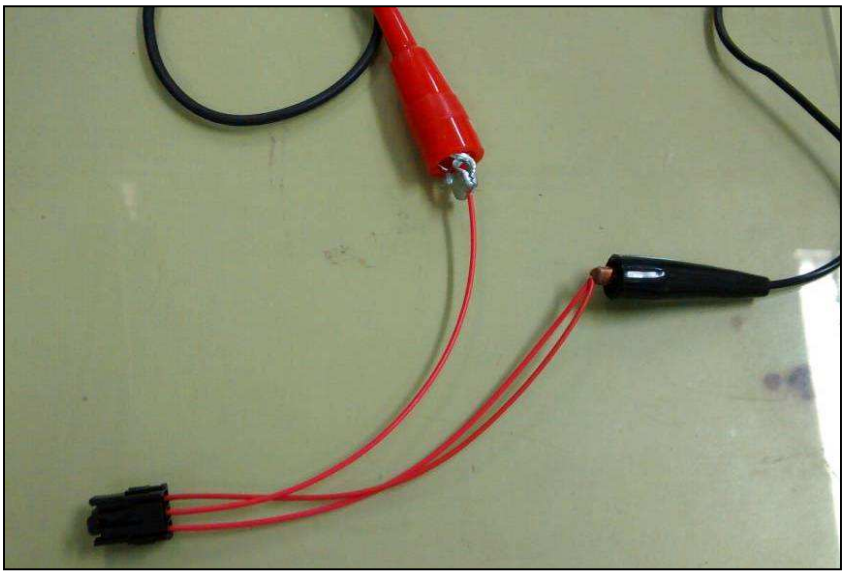

Photo 10 - Dielectric strenght

Conclusion:
Samples approved.