

AMP

ENVIRONMENTAL TESTING LABORATORY

Job Number: 93.11.30	Project Number: 150.020	Date of issue: December 1993.
Description: Micro-MaTch. Paddleboard. (Qualification test)		Part numbers: 0-215570-6 1-215570-6 2-215570-0

Scope:

To investigate the behaviour of the Micro-MaTch Miniature connector system, Paddleboard version, when tested in accordance with the AMP PRODUCT SPECIFICATION.

Conclusions:

All tested connector assemblies meet the requirements of AMP PRODUCT SPECIFICATION.

Test Specification:	IEC 512 series. IEC 68 series. AMP PRODUCT SPECIFICATION 108-19052. Rev.A.	
Test Carried Out:	1 See page 3 and 4. 2 3	
Distribution:	1 Mr. H.vd Steen. (P.E.). 2 Doc. Centre. 3 File Lab.	
Test Engineer:	J.M. Geven	Requested by: Product Engineering.
Laboratory Manager:	W.M. de Cock	Classification: UNRESTRICTED.
Disposal of Samples:	Returned.	Report Number: R 041 - 1665
Appendices:	Page 1 of 32 Pages	

EQUIPMENT USED :

Digital Voltmeter	Hewlett & Packard	3478 A.
Scanner	Hewlett & Packard	3052 A.
Instrument controller	Hewlett & Packard	Series 300.
Digital Ampere meter	Keithley	T-195.
Voltage Source	Data Precision	8200.
Climatic chamber	Heraeus / Vötsch	VLK 08-300.
Climatic chamber	Heraeus / Vötsch	VMS 02-08-20-64.
Oven	Heraeus	T 5042-EK
Tensile tester	Karl Frank	81560.
Push-Pull tester	AMP Holland	Mk II.

DESCRIPTION of TESTSAMPLES:

For:

- Testgroup 1: One 20-position Paddleboard connector, partnumber 2-215570-0, terminated on ribboncable and soldered on a PCB.
5 Of these samples were made and tested.
- Testgroup 2: One 6-position Paddleboard connector, partnumber 0-215570-6, terminated on ribboncable and soldered on a PCB.
8 Of these samples were made and tested.
- Testgroup 3: 10 Paddleboard connectors, Partnumber 2-215570-0.
- Testgroup 4: One 16-position Paddleboard connector, partnumber 1-215570-6, terminated on ribboncable.
4 Of these samples were made and tested.
- Testgroup 5: One 20-position paddleboard connector, partnumber 2-215570-0, terminated on ribboncable.
10 Of these samples were made and tested.
- Testgroup 6: 10 Paddleboard connectors, partnumber 2-215570-0, and 10 PCB's were used.
- Testgroup 7: The current / temperature behaviour of Paddleboard version was verified by testing of the SMC / MOW version, because the latter is more critical. Comparative measurements have shown that the temperature rise at:
1 A DC is 17°C for Paddleboard connector and
18°C for SMC /MOW combination.
One SMC connector, partnumber 2-100411-0, was mounted on a PCB.
One MOW connector, partnumber 2-215083-0, was soldered on a PCB.
These two boards were connected to one assembly.
20-position connectors were used.
5 Of these assemblies were made and tested.

The connectors were terminated onto the ribboncable.

Used hand-operated bench press : partnumber 733280-3

Used ribboncable : AWG 28, 7 strands tinplated

Note: SMC means : Surface Mount Compatible.
MOW means : Male On Wire.



TEST DESCRIPTION:

Visual Examination: Magnification was 10x. acc.to IEC 512-2-1a.

Termination Resistance: Maximum open voltage :20 mVolt.
Maximum current :100 milliAmpere.
Measuring points :See figure 1 on page 4. acc.to IEC 512-2-2a.

Requirement: 10 mΩ maximum.

For group 7: Bulkresistance 30 mΩ wire resistance.
8 mΩ print conductor.
Totally 38 mΩ. (approx.)

Dry Heat: 16 Hours storage at 105°C. acc.to IEC 512-6-11i.

Damp Heat Cyclic: One cycle consists of: acc.to IEC 512-6-11m.
Upper temperature : 55°C.
Lower temperature : 25°C.
Relative humidity : 95%.
Duration one cycle : 12 + 12 Hours.
Number of cycles : 1 and 5 remaining cycles.

Cold: 2 Hours storage at -40°C. acc.to IEC 512-6-11j.

Rapid Change of Temperature: One cycle consists of : acc.to IEC 512-6-11d.
Upper temperature :105°C. for 15 minutes.
Lower temperature :-40°C. for 15 minutes.
Number of cycles :10.

Solderability: Solderbath temperature : 235°C. acc.to IEC 68-2-20Ta.
Ageing 3 : 16 hours at 155°C.
Requirement :maximum 5% dewetting.

Resistance to Soldering Heat: Method 1A. acc.to IEC 68-2-20Tb.
Solderbath :260°C.
Duration :5 seconds.
Requirement :No functional damage.

Axial Tensile:

acc.to IEC 512-8-16d.

The axial tensile strength of wire was determined on the tensile tester.
Speed: 25 mm. per minute.

Requirement :

10 Newton / contact. (= 200 Newton / connector)

ConnectorIns./Extr.force:
in PCB.

The connector inserted and extracted in the holes of a PCB on the push pull tester. 10 Samples were tested.
The forces were recorded.

Requirement :

Insertion force maximum : 100 Newton per connector.

Extraction force minimum : 10 Newton per connector.

Dry Heat under
Cyclic current:
Loading.

acc.to IEC 512-5-9e.

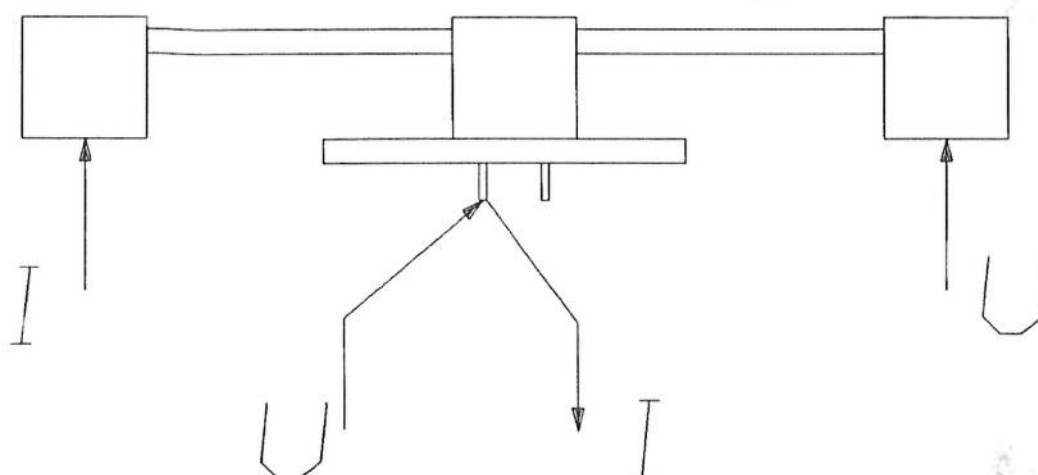
The test samples were placed in an oven with an ambient temperature of 70°C. The samples were, all in series, connected to a current source with a current of 125% of the specified current.

That means for these connectors : 1,4 A DC.(curve A prod.spec.)

500 Current cycles were done.

One cycle consists of : 45 minutes on ON,
15 minutes on OFF.

Measuringpoints termination resistance.



**TESTSEQUENCE:**

- Testgroup 1: Visual Examination.
Termination resistance.
Dry Heat
Damp Heat Cyclic, 1 cycle.
Cold
Damp Heat cyclic, 5 remaining cycles.
Termination Resistance.
Visual Examination.
- Testgroup 2: Visual Examination
Termination Resistance
Rapid Change of Temperature
Termination Resistance
Visual Examination.
- Testgroup 3: Visual Examination
Solderability
Visual Examination
- Testgroup 4: Visual Examination
Termination Resistance.
Resistance to soldering heat
Termination Resistance
Visual Examination
- Testgroup 5: Visual Examination
Axial tensile strength of wire. (half lot)
Rapid Change of Temperature
Axial tensile strength of wire. (half lot)
- Testgroup 6: Visual Examination
Connector insertion force
Connector extraction force
Visual Examination
- Testgroup 7: Visual Examination
Termination Resistance
Dry Heat under loaded current cycling
Termination resistance
Visual Examination

TESTRESULTS:

- Testgroup 3: No dewetting was detected on the functional area.
Testgroup 4: No functional damage was found.

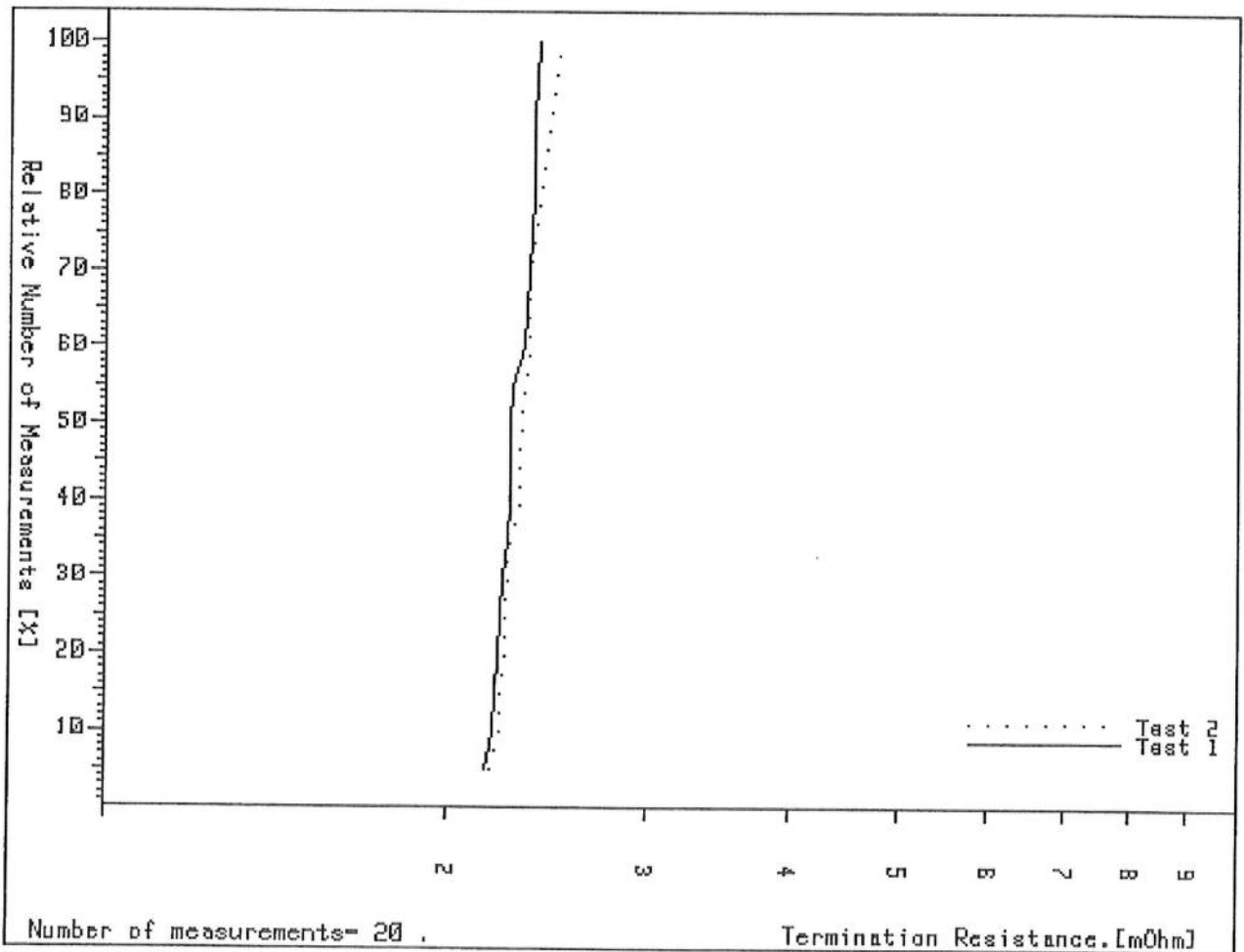


 Product: MicroMaTch. Paddleboard. (93.07.13)

Test 1 : Termination Resistance Initial.
 Test 2 : Climatic Sequence.
 Group : 1
 Lot : 1

----- All values in milliOhms -----

	Test 1	Test 2	delta R
Max. :	2,42	2,51	0,27
Min. :	2,16	2,18	-0,07
Mean :	2,30	2,34	0,04
StDv :	0,08	0,09	0,10





Termination Resistances in milliOhms.

Product Tested: MicroMaTch. Paddleboard. (93.07.13)

Col. Group	Lot	Test
-1-: 1	1	Termination Resistance Initial.
-2-: 1	1	Climatic Sequence.

	-1-	-2-
01	2,16	2,43
02	2,22	2,37
03	2,29	2,37
04	2,35	2,49
05	2,19	2,37
06	2,38	2,47
07	2,27	2,25
08	2,36	2,40
09	2,24	2,18
10	2,40	2,34
11	2,26	2,23
12	2,34	2,43
13	2,20	2,27
14	2,38	2,33
15	2,27	2,23
16	2,39	2,32
17	2,23	2,26
18	2,39	2,32
19	2,28	2,25
20	2,42	2,51

Max.:	2,42	2,51
Min.:	2,16	2,18
Mean:	2,30	2,34



 Product: MicroMaTch. Paddleboard. (93.07.13)

Test 1 : Termination Resistance Initial.

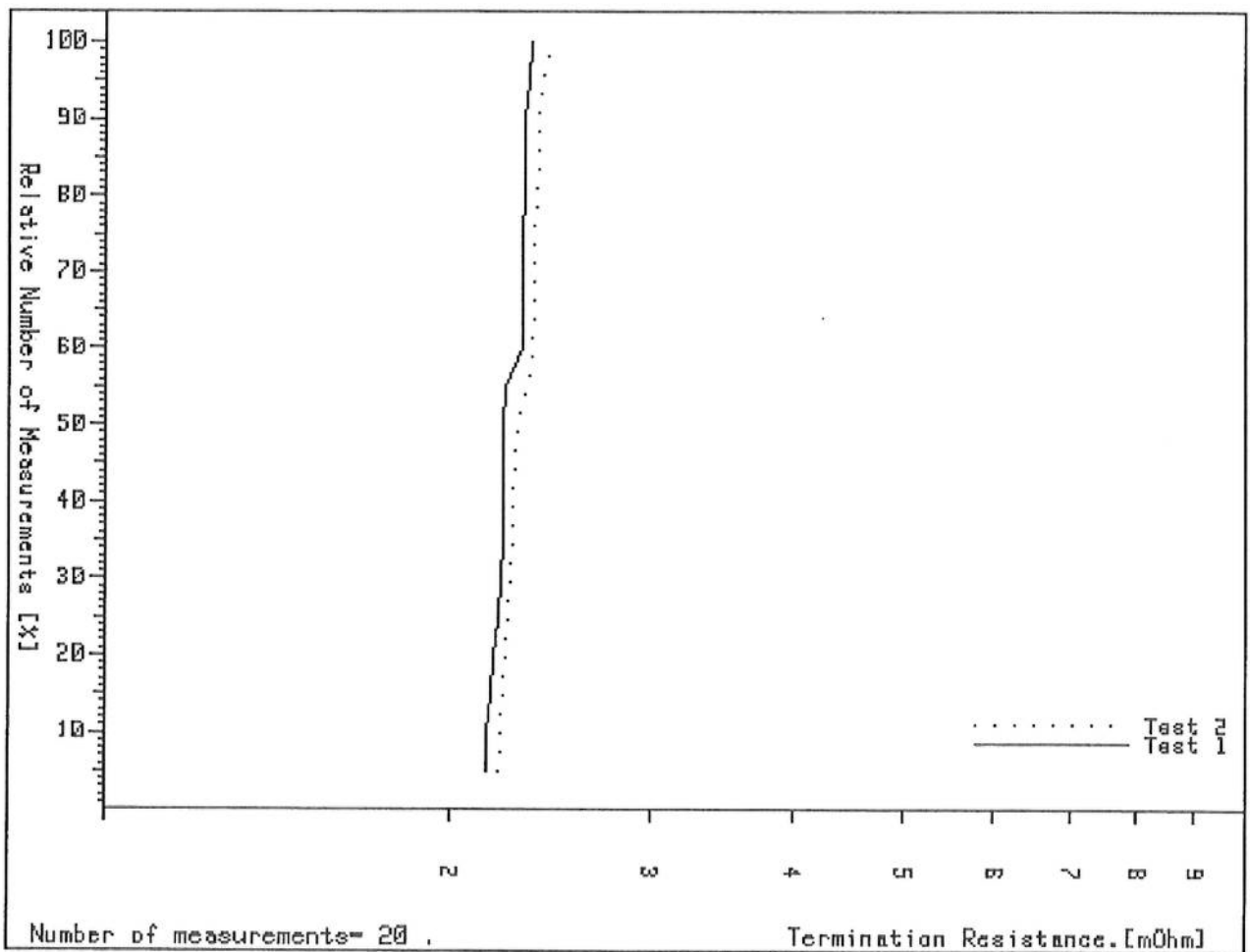
Test 2 : Climatic Sequence.

Group : 1

Lot : 2

----- All values in milliOhms -----

	Test 1	Test 2	delta R
Max. :	2,36	2,47	0,15
Min. :	2,15	2,20	0,00
Mean :	2,26	2,32	0,06
StDv :	0,07	0,08	0,04





 Termination Resistances in milliOhms.

 Product Tested: MicroMaTch. Paddleboard. (93.07.13)

 Col. Group Lot Test

 -1-: 1 2 Termination Resistance Initial.
 -2-: 1 2 Climatic Sequence.

	-1-	-2-
01	2,16	2,25
02	2,15	2,23
03	2,23	2,38
04	2,33	2,37
05	2,18	2,21
06	2,36	2,37
07	2,23	2,28
08	2,34	2,36
09	2,18	2,28
10	2,32	2,41
11	2,23	2,26
12	2,33	2,34
13	2,20	2,20
14	2,32	2,40
15	2,23	2,27
16	2,32	2,40
17	2,22	2,24
18	2,32	2,38
19	2,24	2,29
20	2,36	2,47

Max.: 2,36 2,47
 Min.: 2,15 2,20
 Mean: 2,26 2,32

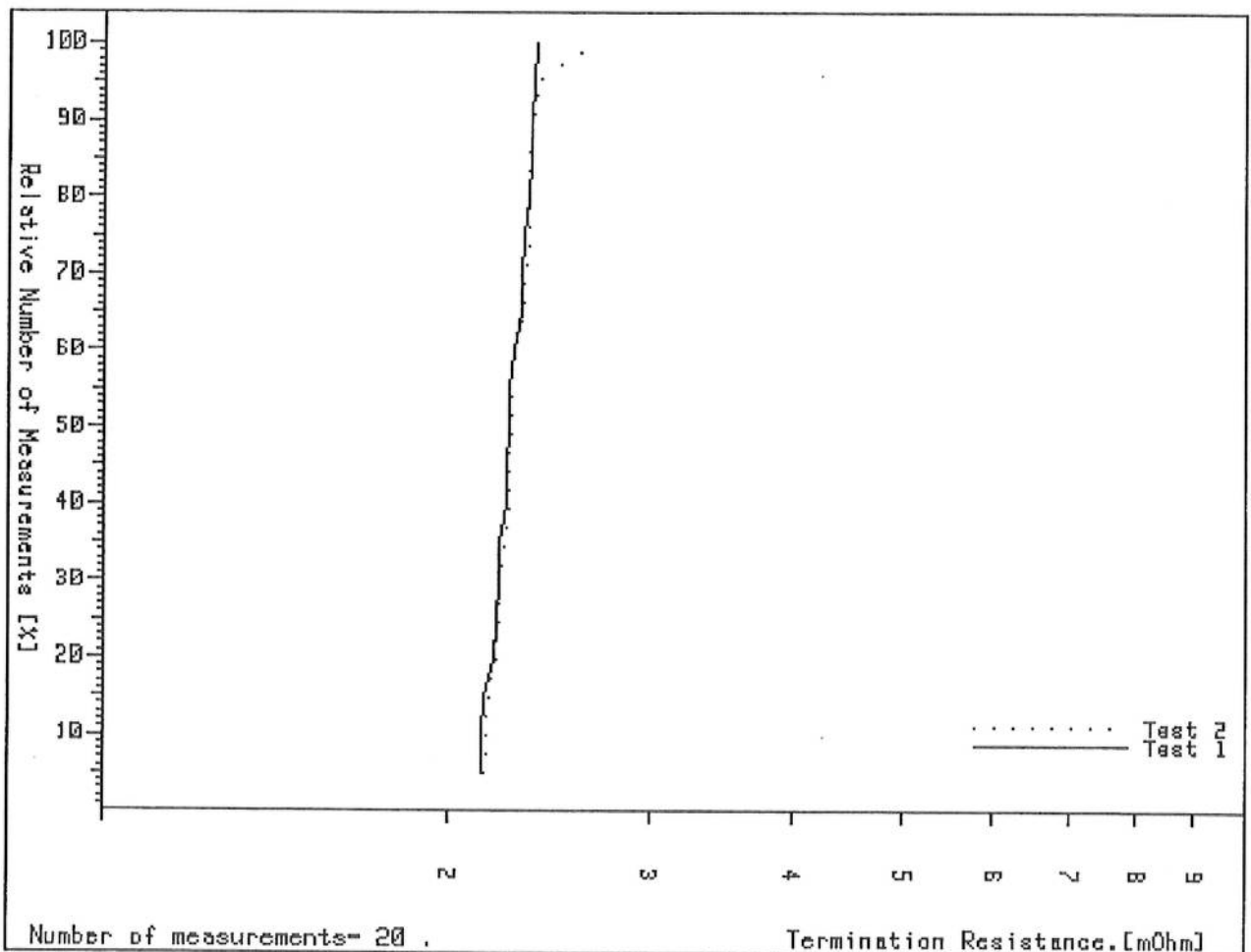


 Product: MicroMaTch. Paddleboard. (93.07.13)

Test 1 : Termination Resistance Initial.
 Test 2 : Climatic Sequence.
 Group : 1
 Lot : 3

----- All values in milliohms -----

	Test 1	Test 2	delta R
Max. :	2,38	2,69	0,31
Min. :	2,14	2,16	-0,01
Mean :	2,27	2,30	0,02
StDv :	0,08	0,12	0,07





 Termination Resistances in milliOhms.

 Product Tested: MicroMaTch. Paddleboard. (93.07.13)

Col. Group	Lot	Test
-1-: 1	3	Termination Resistance Initial.
-2-: 1	3	Climatic Sequence.
	-1-	-2-
01	2,16	2,16
02	2,15	2,16
03	2,26	2,27
04	2,32	2,33
05	2,21	2,21
06	2,31	2,35
07	2,22	2,24
08	2,28	2,29
09	2,22	2,22
10	2,36	2,36
11	2,26	2,26
12	2,33	2,33
13	2,14	2,18
14	2,38	2,39
15	2,26	2,28
16	2,36	2,37
17	2,20	2,22
18	2,37	2,36
19	2,26	2,27
20	2,38	2,69
Max.:	2,38	2,69
Min.:	2,14	2,16
Mean:	2,27	2,30



Product: MicroMaTch. Paddleboard. (93.07.13)

Test 1 : Termination Resistance Initial.

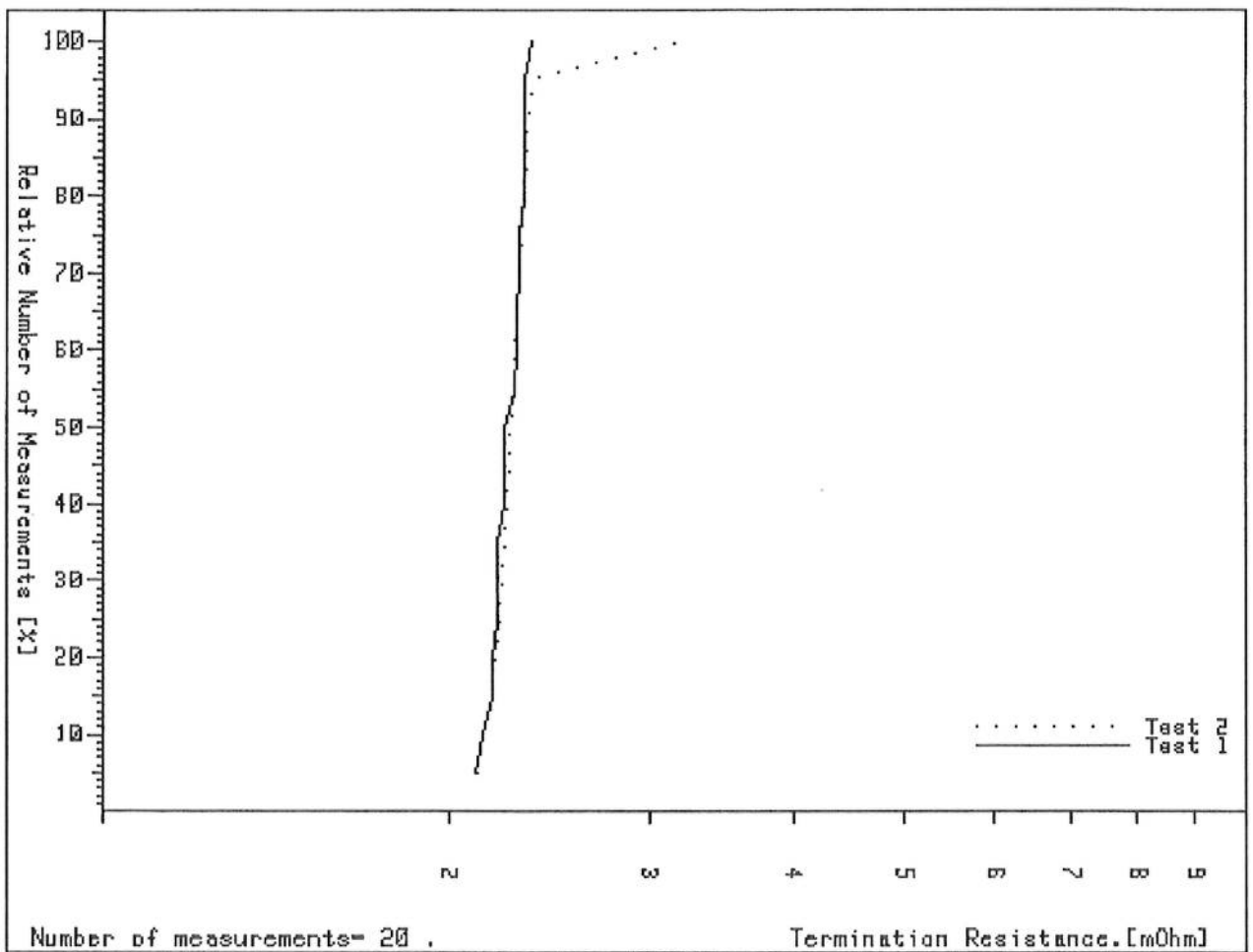
Test 2 : Climatic Sequence.

Group : 1

Lot : 4

All values in milliohms

	Test 1	Test 2	delta R
Max. :	2,37	3,20	0,87
Min. :	2,12	2,12	-0,02
Mean :	2,26	2,31	0,05
StDv :	0,07	0,22	0,19





 Termination Resistances in milliOhms.

Product Tested: MicroMaTch. Paddleboard. (93.07.13)

Col. Group	Lot	Test
-1-: 1	4	Termination Resistance Initial.
-2-: 1	4	Climatic Sequence.
	-1-	-2-
01	2,12	2,12
02	2,15	2,15
03	2,24	2,26
04	2,29	2,29
05	2,21	2,24
06	2,31	2,32
07	2,21	2,23
08	2,33	2,34
09	2,19	2,19
10	2,33	2,35
11	2,21	2,22
12	2,29	2,30
13	2,19	2,19
14	2,31	2,29
15	2,24	2,26
16	2,29	2,30
17	2,24	2,25
18	2,37	2,37
19	2,33	3,20
20	2,33	2,33
Max.:	2,37	3,20
Min.:	2,12	2,12
Mean:	2,26	2,31



Product: MicroMaTch. Paddleboard. (93.07.13)

Test 1 : Termination Resistance Initial.

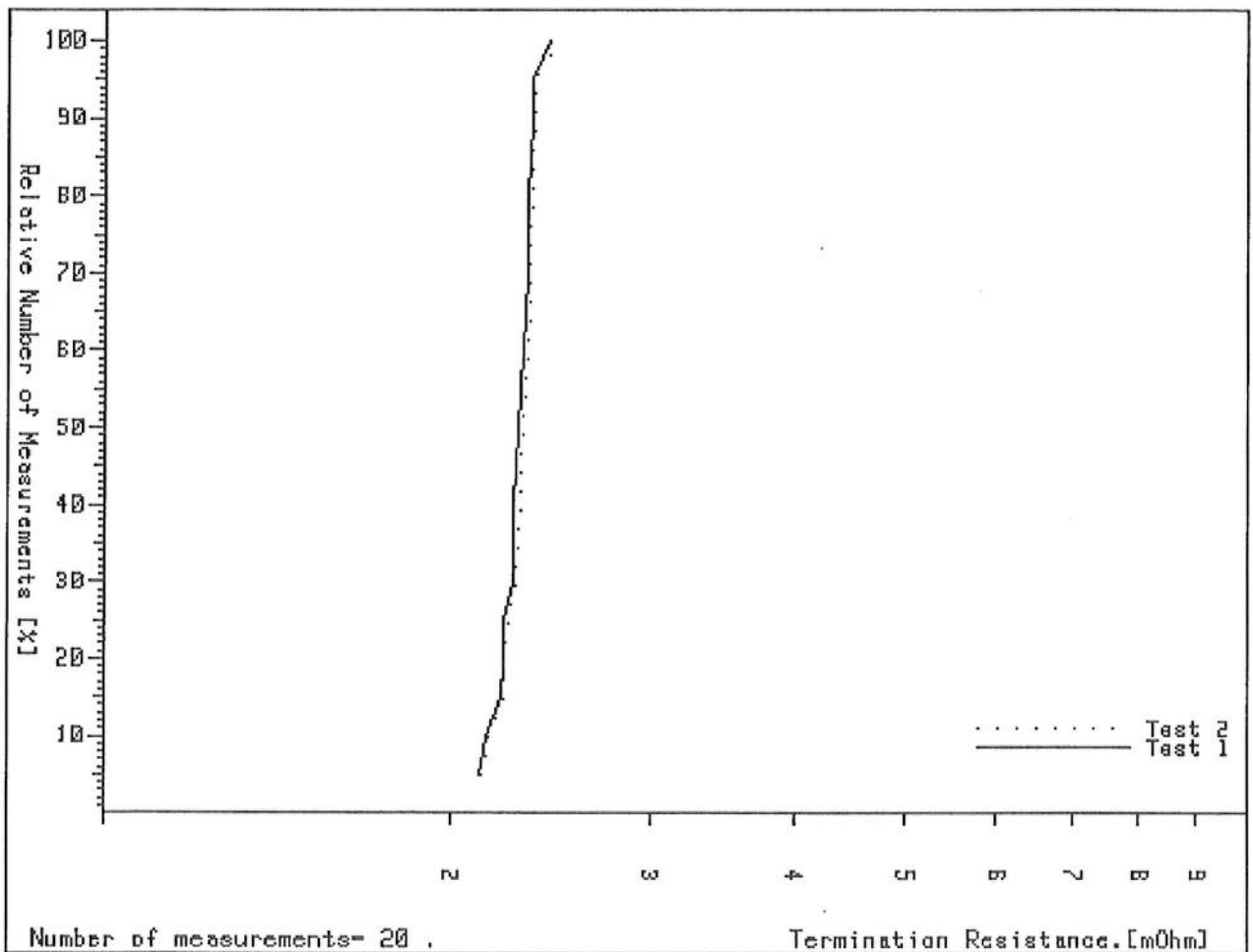
Test 2 : Climatic Sequence.

Group : 1

Lot : 5

----- All values in milliOhms -----

	Test 1	Test 2	delta R
Max. :	2,45	2,48	0,06
Min. :	2,13	2,14	-0,01
Mean :	2,29	2,31	0,02
StDv :	0,08	0,08	0,02





 Termination Resistances in milliOhms.

Product Tested: MicroMaTch. Paddleboard. (93.07.13)

Col. Group	Lot	Test
-1-: 1	5	Termination Resistance Initial.
-2-: 1	5	Climatic Sequence.

	-1-	-2-
01	2,13	2,14
02	2,16	2,16
03	2,27	2,28
04	2,33	2,33
05	2,22	2,23
06	2,36	2,35
07	2,32	2,31
08	2,34	2,35
09	2,23	2,23
10	2,37	2,38
11	2,30	2,36
12	2,34	2,38
13	2,28	2,34
14	2,34	2,35
15	2,28	2,31
16	2,36	2,37
17	2,23	2,25
18	2,45	2,48
19	2,31	2,30
20	2,29	2,30

Max.:	2,45	2,48
Min.:	2,13	2,14
Mean:	2,29	2,31



 Product: Micro-MaTch. Paddleboard. Pn.0-215570-6.

Test 1 : Termination Resistance Initial. I.D.connection.

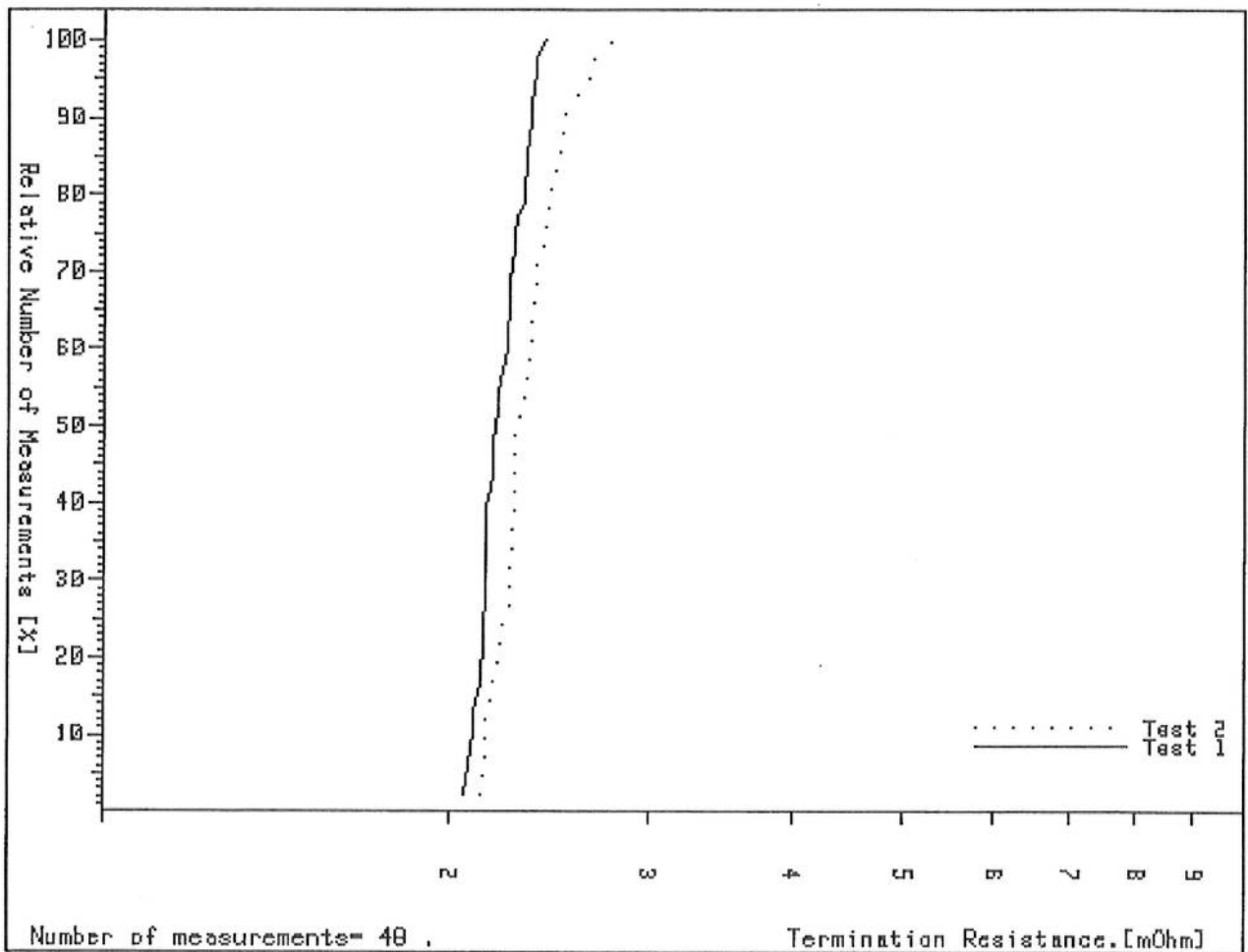
Test 2 : After 10 Thermal Shocks of -55 / +105°C.

Group : 2

Lot : 1-8

----- All values in milliohms -----

	Test 1	Test 2	delta R
Max. :	2,43	2,79	0,54
Min. :	2,06	2,13	-0,06
Mean :	2,22	2,35	0,13
StDv :	0,10	0,15	0,14





 Termination Resistances in milliOhms.

 Product Tested: Micro-MaTch. Paddleboard. Pn.0-215570-6.

Col.	Group	Lot	Test
-1-:	2	1-8	Termination Resistance Initial. I.D.connection.
-2-:	2	1-8	After 10 Thermal Shocks of -55 / +105°C.
		-1-	-2-
01		2,06	2,27
02		2,22	2,27
03		2,19	2,20
04		2,39	2,39
05		2,14	2,36
06		2,39	2,39
07		2,15	2,28
08		2,15	2,65
09		2,26	2,26
10		2,37	2,52
11		2,19	2,33
12		2,33	2,52
13		2,07	2,43
14		2,16	2,16
15		2,24	2,18
16		2,34	2,46
17		2,21	2,44
18		2,28	2,69
19		2,08	2,36
20		2,15	2,16
21		2,20	2,19
22		2,36	2,48
23		2,11	2,29
24		2,35	2,54
25		2,14	2,27
26		2,21	2,35
27		2,16	2,15
28		2,27	2,32
29		2,18	2,22
30		2,38	2,51
31		2,09	2,34
32		2,25	2,79
33		2,15	2,16
34		2,26	2,29
35		2,13	2,13
36		2,29	2,46
37		2,10	2,23
38		2,14	2,29
39		2,13	2,13
40		2,30	2,29
41		2,19	2,23
42		2,26	2,26
43		2,10	2,30
44		2,33	2,42
45		2,25	2,26
46		2,43	2,67
47		2,16	2,39
48		2,34	2,36
Max.:		2,43	2,79
Min.:		2,06	2,13
Mean:		2,22	2,35

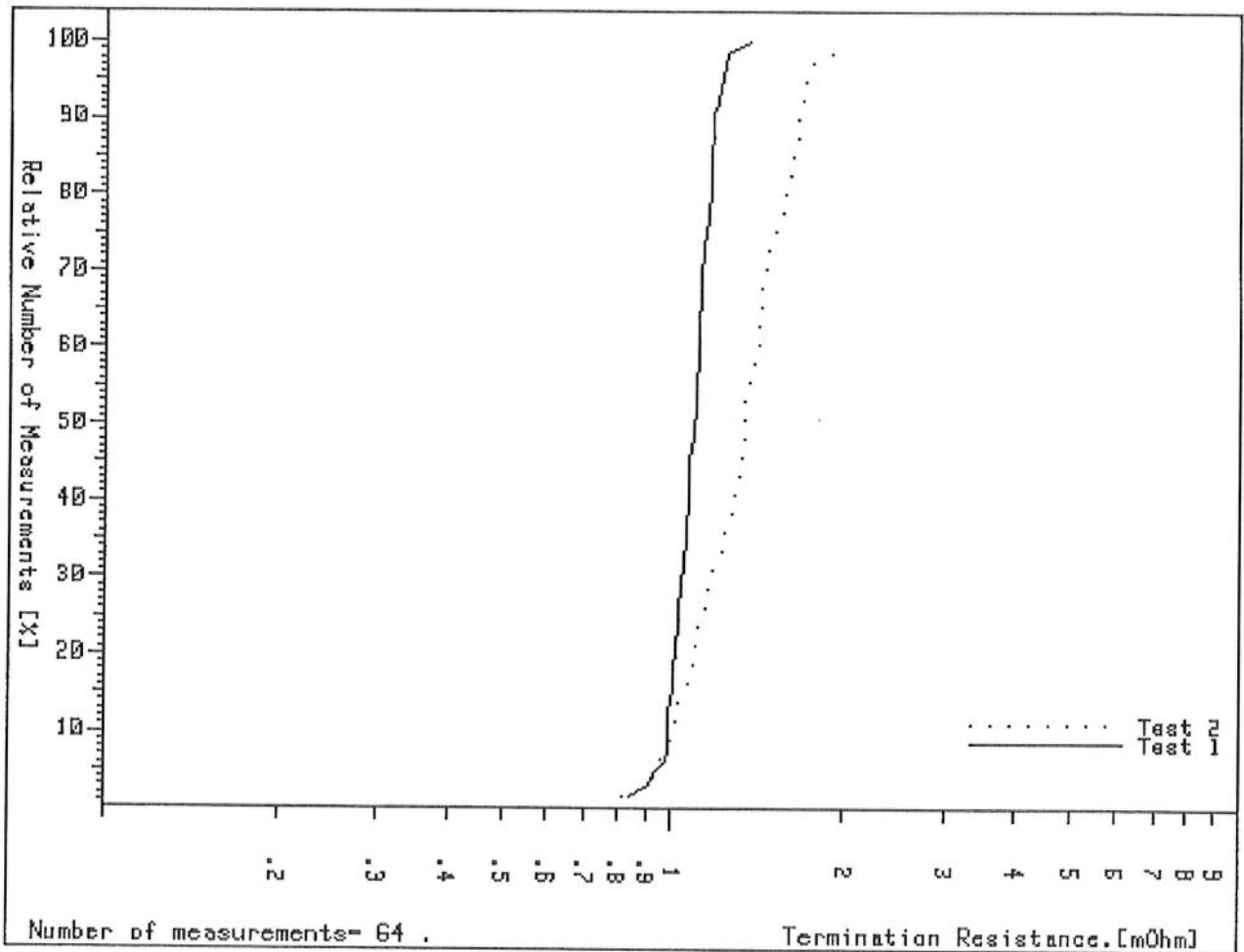


 Product: Micro-MaTch. Paddleboard. Pn.2-215570-0.

Test 1 : Termination Resistance Initial.
 Test 2 : Resistance to Soldering Heat:260°C for 10 Sec.
 Group : 4
 Lot : 1 - 4

----- All values in milliOhms -----

	Test 1	Test 2	delta R
Max. :	1,36	1,94	0,82
Min. :	0,84	0,82	-0,33
Mean :	1,09	1,34	0,25
StDv :	0,09	0,25	0,26





Termination Resistances in milliOhms.

Product Tested: Micro-MaTch. Paddleboard. Pn.2-215570-0.

Col. Group	Lot	Test
-1-: 4	1	Termination Resistance Initial.
-2-: 4	2	Termination Resistance Initial.
-3-: 4	3	Termination Resistance Initial.
-4-: 4	4	Termination Resistance Initial.

	-1-	-2-	-3-	-4-
01	1,13	1,16	1,04	1,12
02	0,93	1,11	0,91	1,10
03	1,10	1,05	1,01	0,98
04	1,12	1,07	1,04	1,16
05	0,99	0,99	1,00	1,06
06	1,06	1,07	1,03	1,17
07	1,05	1,18	1,11	1,11
08	1,15	1,16	1,11	1,16
09	1,06	1,09	1,01	1,07
10	1,03	1,07	1,12	0,84
11	1,21	0,99	1,13	1,10
12	1,08	1,22	0,99	1,20
13	1,01	1,16	1,02	1,07
14	1,03	1,14	1,15	1,12
15	1,10	1,23	1,02	1,11
16	1,17	1,36	1,09	1,25
Max.:	1,21	1,36	1,15	1,25
Min.:	0,93	0,99	0,91	0,84
Mean:	1,08	1,13	1,05	1,10



Termination Resistances in milliOhms.

Product Tested: Micro-MaTch. Paddleboard. Pn.2-215570-0.

Col. Group	Lot	Test
-1-: 4	1	Resistance to Soldering Heat:260°C for 10 Sec.
-2-: 4	2	Resistance to Soldering Heat:260°C for 10 Sec.
-3-: 4	3	Resistance to Soldering Heat:260°C for 10 Sec.
-4-: 4	4	Resistance to Soldering Heat:260°C for 10 Sec.

	-1-	-2-	-3-	-4-
01	1,69	1,33	1,74	1,94
02	1,68	1,51	1,10	1,71
03	1,45	1,47	1,15	1,42
04	1,58	1,59	1,42	1,13
05	1,53	1,61	1,34	1,02
06	1,42	1,89	1,06	1,29
07	1,46	1,23	1,39	1,09
08	1,61	1,65	1,37	0,93
09	1,35	1,31	1,41	0,97
10	1,15	1,64	1,01	1,09
11	1,14	1,33	1,17	1,21
12	1,43	1,03	0,93	1,03
13	1,28	1,58	1,23	1,32
14	1,31	1,10	0,82	1,26
15	1,33	1,66	1,10	1,43
16	1,66	1,46	0,96	1,32

Max.:	1,69	1,89	1,74	1,94
Min.:	1,14	1,03	0,82	0,93
Mean:	1,44	1,46	1,20	1,26



All values represented in NEWTONS.

Product Tested: Micro-MaTch. Paddleboard. Pn.2-215570-0.

Col. Group	Lot	Test
-1-: 5	1-5	Axial tensile strength: Initial / Final.
-2-: 5	1-5	Axial tensile strength: Initial / Final.
	-1-	-2-
01	336	328
02	352	339
03	352	346
04	358	340
05	316	322
Max.:	358	346
Min.:	316	322
Mean:	342,8	335,0



All values represented in Centi-NEWTONS.

Product Tested: Micro-MaTch. Paddleboard. (93.07.13)

Col. Group	Lot	Test
-1-: 6	Ins.	Connector Ins./Extr. force in P.C.B.
-2-: 6	Extr.	Connector Ins./Extr. force in P.C.B.
	-1-	-2-
01	7403	3677
02	7282	3576
03	7301	3253
04	8488	3202
05	6689	3312
06	7980	3630
07	7749	3408
08	7019	3450
09	7206	3487
10	7032	2761
Max.:	8488	3677
Min.:	6689	2761
Mean:	7414,9	3375,6

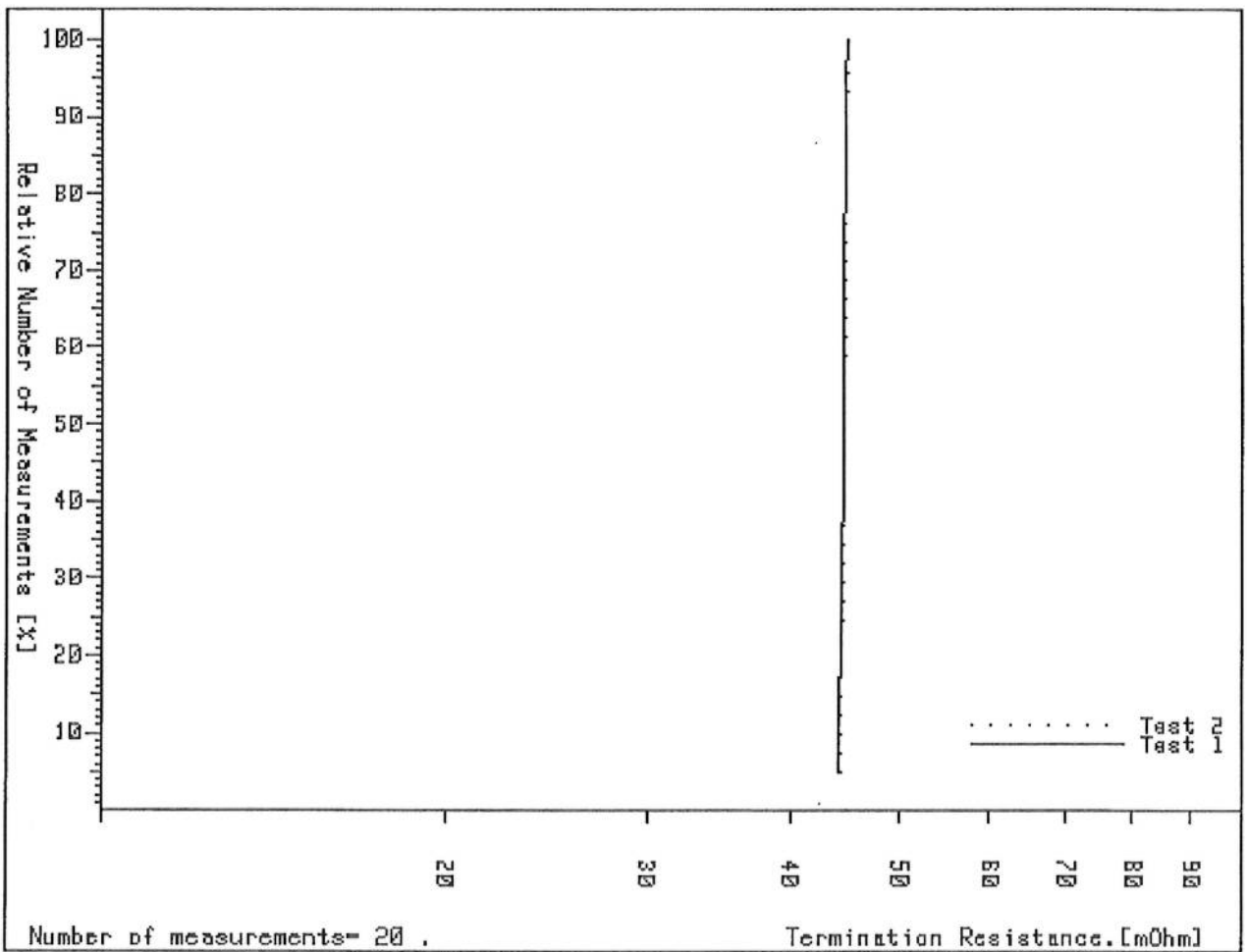


 Product: MicroMaTch. SMC-MOW. (93.07.10).

Test 1 : Termination Resistance Initial.
 Test 2 : 500 Hours Heat Age and Current cycling.
 Group : 7
 Lot : 1

----- All values in milliohms -----

	Test 1	Test 2	delta R
Max. :	44,99	45,04	0,30
Min. :	44,19	44,35	-0,03
Mean :	44,61	44,70	0,09
StDv :	0,23	0,20	0,08





Termination Resistances in milliOhms.

Product Tested: MicroMaTch. SMC-MOW. (93.07.10).

Col. Group	Lot	Test
-1-: 7	1	Termination Resistance Initial.
-2-: 7	1	500 Hours Heat Age and Current cycling.

	-1-	-2-
01	44,72	44,82
02	44,79	44,84
03	44,55	44,55
04	44,86	44,89
05	44,69	44,78
06	44,66	44,64
07	44,94	45,03
08	44,73	44,71
09	44,99	45,04
10	44,68	44,74
11	44,19	44,35
12	44,44	44,74
13	44,72	44,77
14	44,37	44,56
15	44,31	44,41
16	44,62	44,76
17	44,53	44,62
18	44,21	44,36
19	44,43	44,53
20	44,75	44,93

Max.:	44,99	45,04
Min.:	44,19	44,35
Mean:	44,61	44,70

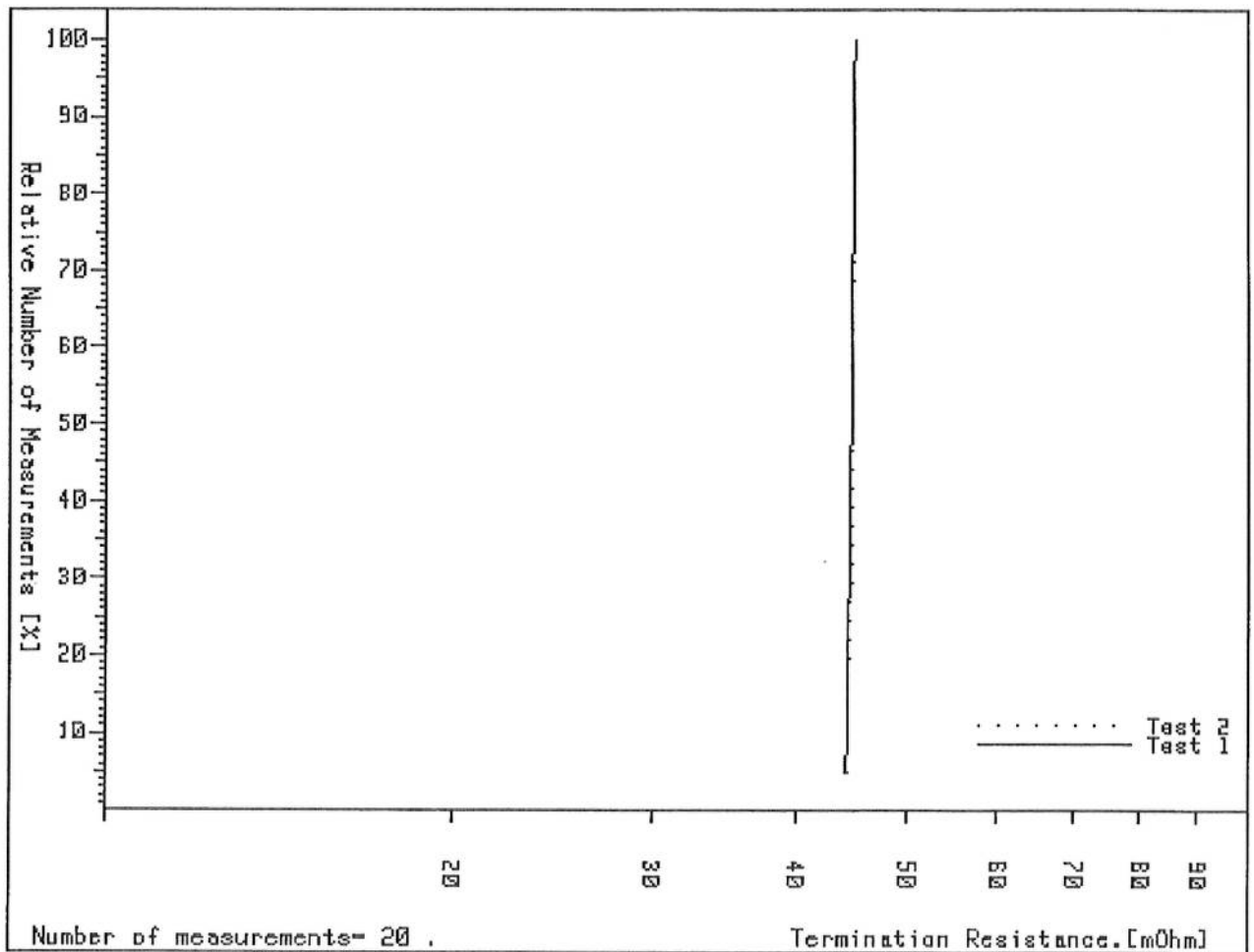


Product: MicroMaTch. SMC-MOW. (93.07.10).

Test 1 : Termination Resistance Initial.
 Test 2 : 500 Hours Heat Age and Current cycling.
 Group : 7
 Lot : 2

All values in milliohms

	Test 1	Test 2	delta R
Max. :	45,27	45,59	0,32
Min. :	44,21	44,34	-0,09
Mean :	44,78	44,88	0,10
StDv :	0,26	0,29	0,08





 Termination Resistances in milliOhms.

 Product Tested: MicroMaTch. SMC-MOW. (93.07.10).

Col. Group	Lot	Test
-1-: 7	2	Termination Resistance Initial.
-2-: 7	2	500 Hours Heat Age and Current cycling.

	-1-	-2-
01	44,95	45,08
02	44,99	45,14
03	44,73	44,89
04	44,99	45,10
05	44,82	44,98
06	44,81	44,87
07	45,03	45,15
08	44,87	44,90
09	45,03	45,13
10	44,75	44,76
11	44,21	44,34
12	45,27	45,59
13	44,75	44,82
14	44,51	44,64
15	45,02	44,93
16	44,71	44,80
17	44,53	44,63
18	44,39	44,47
19	44,53	44,52
20	44,70	44,79

Max.:	45,27	45,59
Min.:	44,21	44,34
Mean:	44,78	44,88

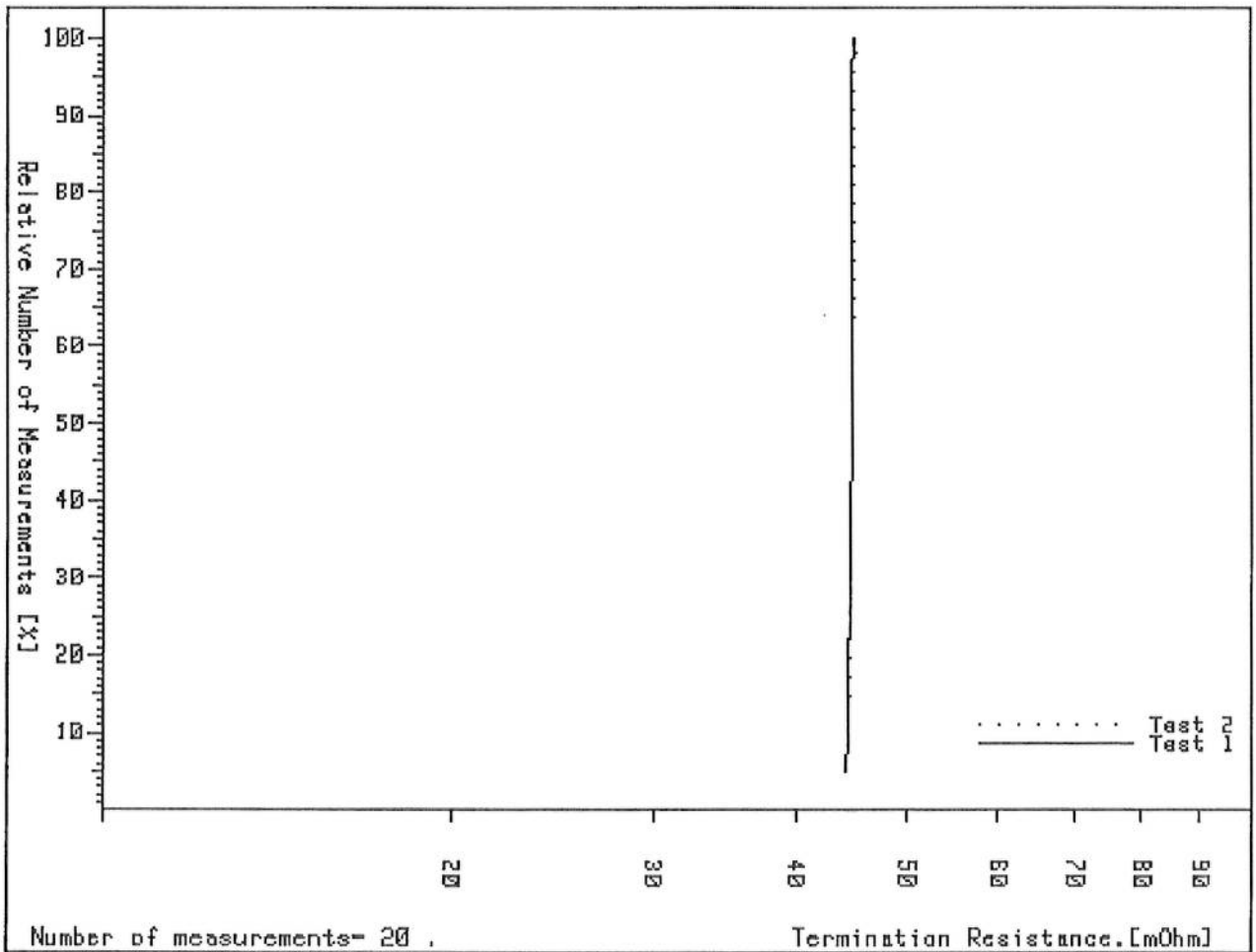


Product: MicroMaTch. SMC-MOW. (93.07.10).

Test 1 : Termination Resistance Initial.
Test 2 : 500 Hours Heat Age and Current cycling.
Group : 7
Lot : 3

----- All values in milliohms -----

	Test 1	Test 2	delta R
Max. :	45,14	45,24	0,18
Min. :	44,15	44,20	0,04
Mean :	44,73	44,84	0,11
StDv :	0,25	0,26	0,04





 Termination Resistances in milliOhms.

 Product Tested: MicroMaTch. SMC-MOW. (93.07.10).

Col. Group	Lot	Test
-1-: 7	3	Termination Resistance Initial.
-2-: 7	3	500 Hours Heat Age and Current cycling.
	-1-	-2-
01	44,84	44,99
02	44,96	45,08
03	44,64	44,73
04	45,14	45,24
05	44,76	44,92
06	44,86	44,90
07	44,97	45,10
08	44,91	44,97
09	44,91	45,08
10	44,90	44,99
11	44,15	44,20
12	44,60	44,70
13	44,87	44,96
14	44,56	44,73
15	44,46	44,54
16	44,85	44,98
17	44,54	44,67
18	44,34	44,46
19	44,52	44,61
20	44,79	44,95
Max.:	45,14	45,24
Min.:	44,15	44,20
Mean:	44,73	44,84

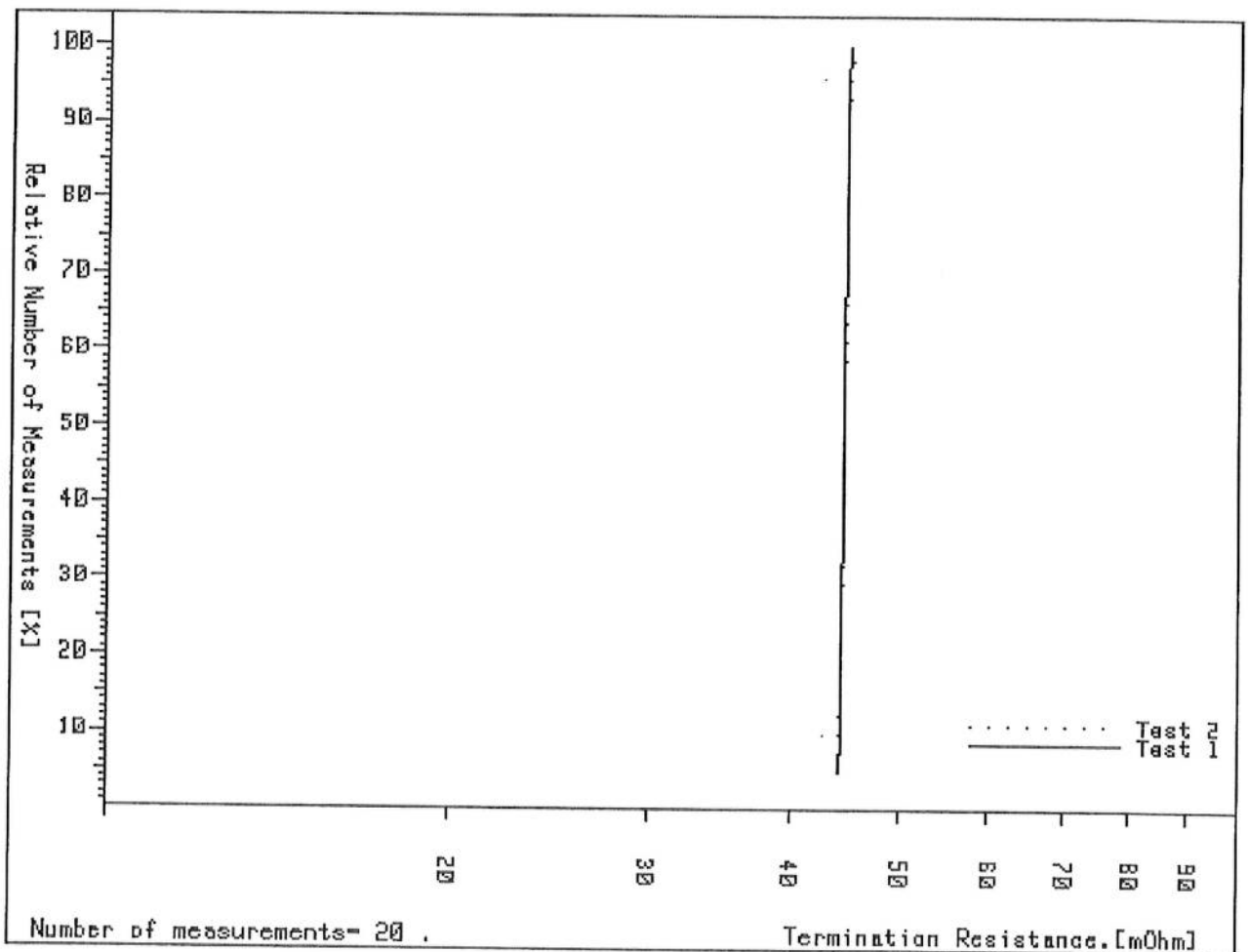


Product: MicroMaTch. SMC-MOW. (93.07.10).

Test 1 : Termination Resistance Initial.
 Test 2 : 500 Hours Heat Age and Current cycling.
 Group : 7
 Lot : 4

All values in milliohms

	Test 1	Test 2	delta R
Max. :	45,17	45,25	0,12
Min. :	44,26	44,17	-0,40
Mean :	44,68	44,69	0,01
StDv :	0,23	0,26	0,11





 Termination Resistances in milliOhms.

 Product Tested: MicroMaTch. SMC-MOW. (93.07.10).

Col. Group	Lot	Test
-1-: 7	4	Termination Resistance Initial.
-2-: 7	4	500 Hours Heat Age and Current cycling.
	-1-	-2-
01	44,97	45,07
02	44,73	44,80
03	44,67	44,78
04	44,82	44,91
05	44,90	44,90
06	44,74	44,71
07	45,17	45,25
08	44,76	44,78
09	44,96	44,90
10	44,67	44,64
11	44,57	44,17
12	44,68	44,55
13	44,63	44,66
14	44,52	44,64
15	44,26	44,27
16	44,49	44,50
17	44,32	44,40
18	44,53	44,59
19	44,40	44,39
20	44,83	44,86
Max.:	45,17	45,25
Min.:	44,26	44,17
Mean:	44,68	44,69

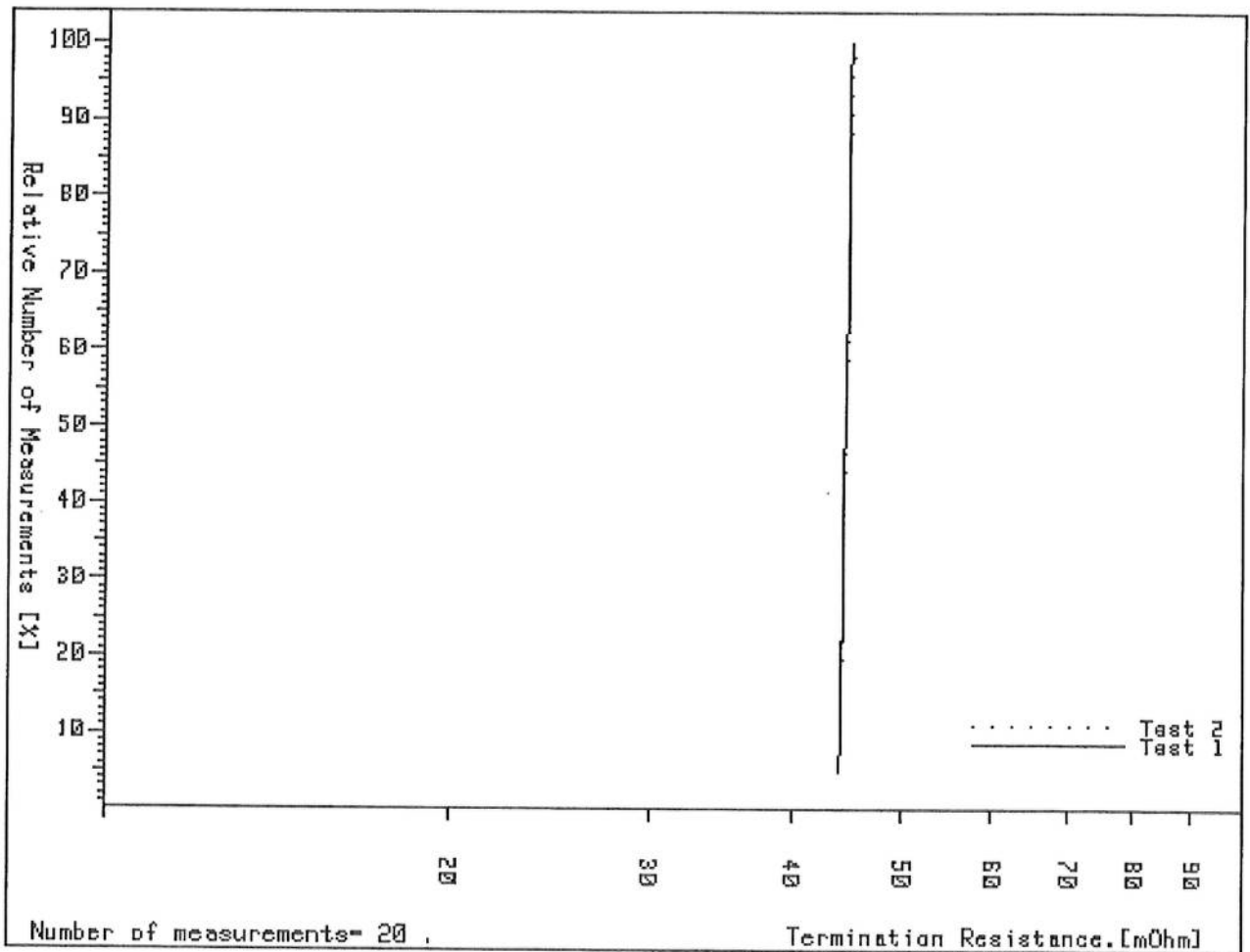


Product: MicroMaTch. SMC-MOW. (93.07.10).

Test 1 : Termination Resistance Initial.
 Test 2 : 500 Hours Heat Age and Current cycling.
 Group : 7
 Lot : 5

All values in milliohms

	Test 1	Test 2	delta R
Max. :	45,14	45,27	0,14
Min. :	44,03	44,07	0,01
Mean :	44,58	44,66	0,08
StDv :	0,29	0,31	0,04





 Termination Resistances in milliOhms.

 Product Tested: MicroMaTch. SMC-MOW. (93.07.10).

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Col. Group   Lot      Test
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-1-: 7       5        Termination Resistance Initial.
-2-: 7       5        500 Hours Heat Age and Current cycling.
-----
```

	-1-	-2-
01	44,81	44,93
02	44,67	44,74
03	44,44	44,53
04	44,85	44,94
05	44,89	45,00
06	44,77	44,83
07	44,88	44,99
08	44,76	44,81
09	45,14	45,27
10	44,83	44,86
11	44,18	44,23
12	44,57	44,68
13	44,37	44,41
14	44,33	44,47
15	44,03	44,07
16	44,51	44,61
17	44,30	44,38
18	44,20	44,29
19	44,37	44,38
20	44,65	44,76

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Max.:        45,14      45,27
Min.:        44,03      44,07
Mean:        44,58      44,66
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