TEST REPORT

PRODUCT ENGINEERING LABORATORY	RL.	130629	Rev. 1

Material / Parts description:	PN:	Drawing Issue
Amplivar Splice 7 Serrations	**280007-2**	**M**

Requester:	Dept:
Henry Canteri	CSI

Customer:	Supplier:
WEG	**TE - BRAZIL**

Confidentiality:

( )	1- CONFIDENTIAL	(X)	REQUESTER
( )	2- TYCO RESTRICTED	(X)	DM-TEC
(X)	3- ADDRESSED CUSTOMER	( )	
( )			

Purpose:	General information:
1 - Informative	Informative test for costumer WEG Motores (Brazil) evaluation. WEG wants to test the alternative use for the product as specified in the "Sample Identification" session from this test report.

Test(s):	Specification (s):
Please, view page 2.	Has no specification. Procedure in accordance to requester definition.

Conclusion:

Informative test report.

May 3, 2013		
Date	Executed by	Responsible
	JÉSUS V. DE OLIVEIRA PRETO LABORATORY ENGINEER	PAULO SÉRGIO DE ALMEIDA LABORATORY COORDINATOR

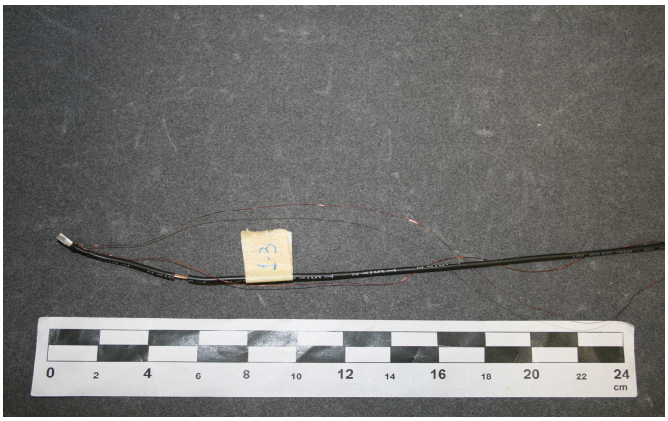
Summary:

1 General

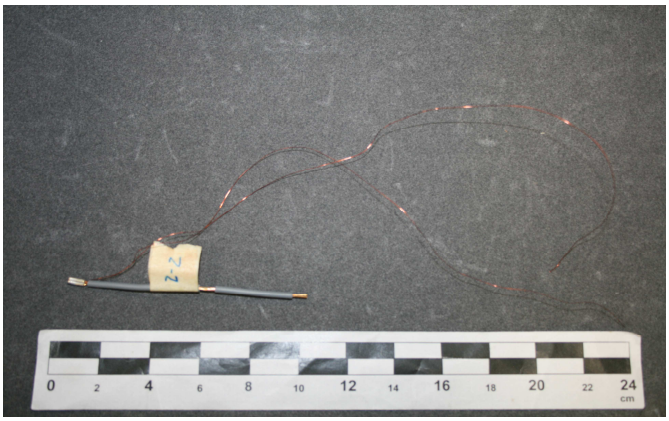
Tests performed at Bragança Paulista electrical components test laboratory. Period: April, 2013.

1.1 Samples Identification

Sample Group	Samples	Part Number	Description
I - Thermal Shock	1~40	280007-2	1~5: 1 X 20 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire 6~10: 1 X 18 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire 11~15: 2 X 20 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 16~20: 2 X 18 AWG Copper Wire + 1 X Ø 0,20mm Aluminum Magnetic wire 21~25: 1 X 22 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 26~30: 1 X 20 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 31~35: 1 X 18 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 36~40: 1 X 22 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire
II - Traction Force	41~80	280007-2	41~45: 1 X 20 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire 46~50: 1 X 18 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire 51~55: 2 X 20 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 56~60: 2 X 18 AWG Copper Wire + 1 X Ø 0,20mm Aluminum Magnetic wire 61~65: 1 X 22 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 66~70: 1 X 20 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 71~75: 1 X 18 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 76~80: 1 X 22 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire
III - Crimping Picture	81~88	280007-2	81: 1 X 20 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire 82: 1 X 18 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire 83: 2 X 20 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 84: 2 X 18 AWG Copper Wire + 1 X Ø 0,20mm Aluminum Magnetic wire 85: 1 X 22 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 86: 1 X 20 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 87: 1 X 18 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire 88: 1 X 22 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire

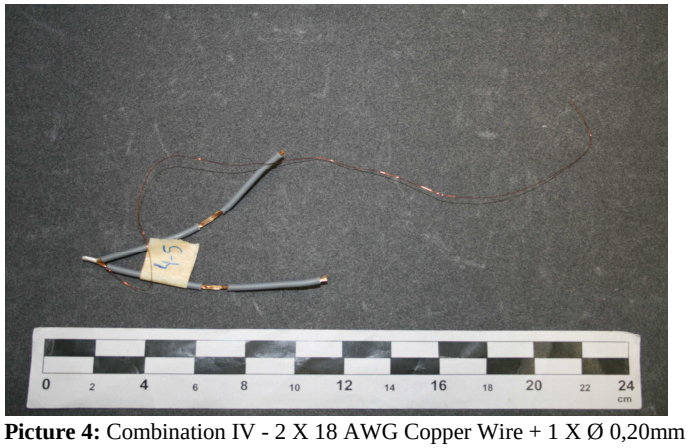


Picture 1: Combination I - 1 X 20 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire

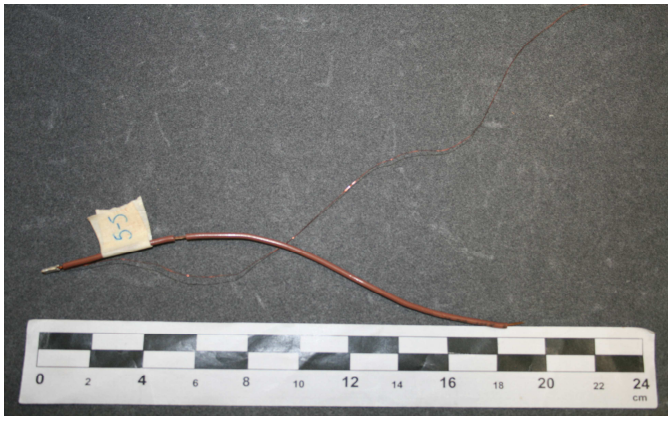


Picture 2: Combination II - 1 X 18 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire

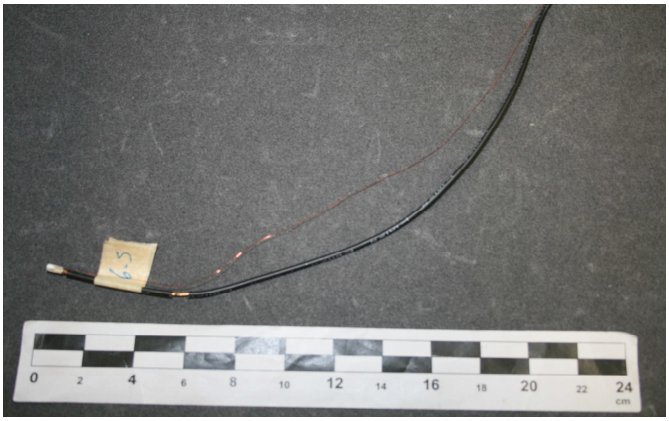
Picture 3: Combination III - 2 X 20 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire



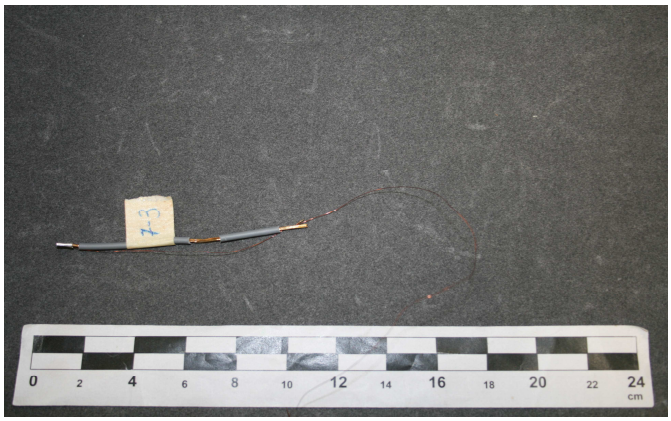
Picture 4: Combination IV - 2 X 18 AWG Copper Wire + 1 X Ø 0,20mm Aluminum Magnetic wire



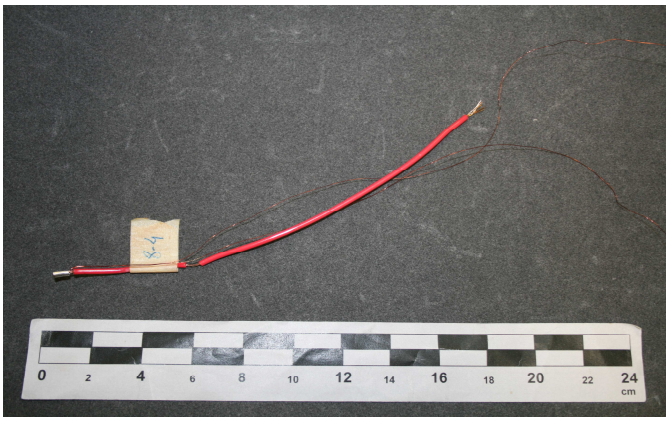
Picture 5: Combination V - 1 X 22 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire



Picture 6: Combination VI - 1 X 20 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire



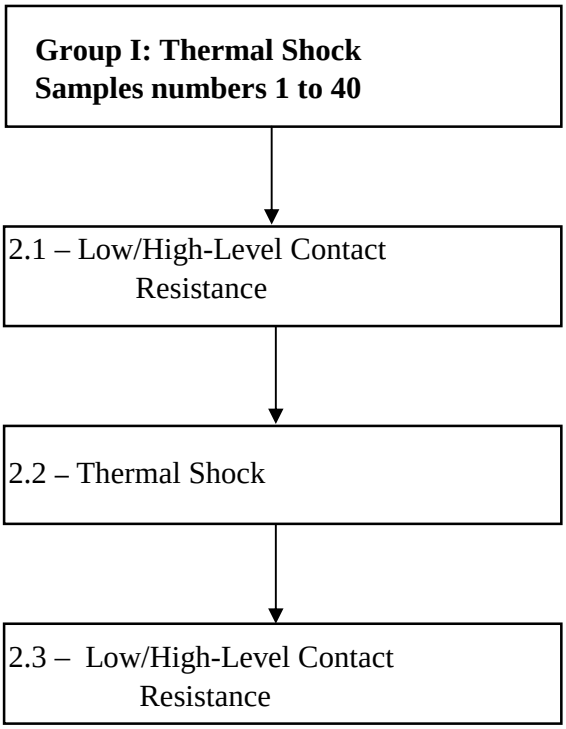
Picture 7: Combination VII - 1 X 18 AWG Copper Wire + 1 X Ø 0,16mm Aluminum Magnetic wire



Picture 8: Combination VIII - 1 X 22 AWG Copper Wire + 1 X Ø 0,20mm + 1 X Ø 0,16mm Aluminum Magnetic wire

2 - Group I: Thermal Shock

Sequence:



2.1 – Low/High - Level Contact Resistance

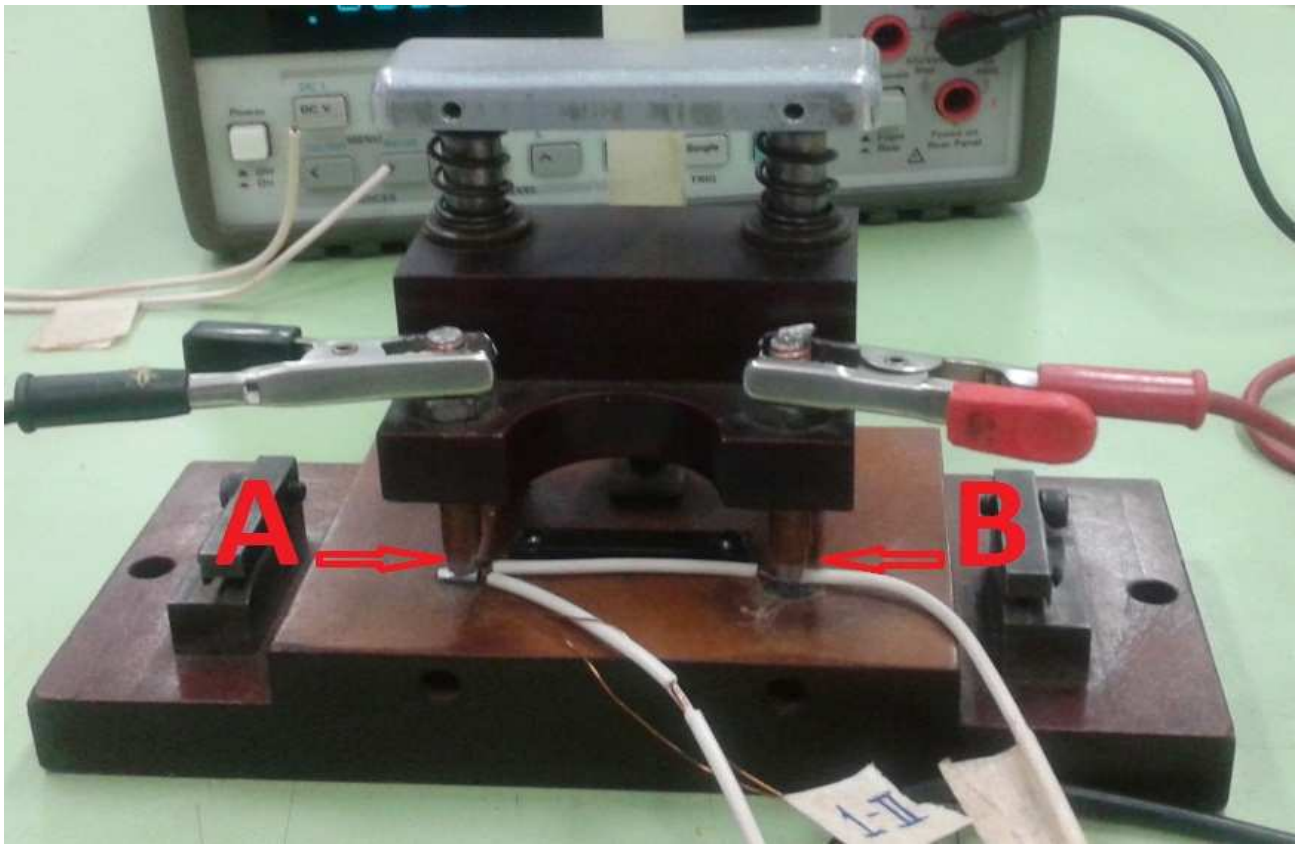
Samples
40 parts, numbers 1 to 40.

Equipments
HP Digital Multimeter Model 34401A, TE reference Nr. 93-339033-031.
Agilent Power Supply, Model E3641A, TE reference Nr. 93-339036-019.
HP Power Supply, Model 6571A, TE reference Nr. 93-339036-021.

Specification
No specification.

Requirements
Just informative.

Procedures
Subject specimens to 100 milliamperes maximum and 50 millivolts maximum open circuit voltage to low-level contact resistance test and 1 ampere to high-level contact resistance test. Measure the tension drop between A and B points, as shown in Picture 9



Picture 9: Low/High Level Contact Resistance measurement points

Results

For a better visualization, results will be shown in item 2.3

2.2 – Thermal Shock

Samples

Same used in item 2.1

Equipments

Fanem Ovem Incubator, Model 320E, TE reference Nr. 92-339031-1065.

Indrel Industrial Freezer, Model IULT 364 D, TE reference 93-339032-008

Specification

No specification.

Requirements

Just informative.

Procedures

Subject specimens to 25 cycles between -60 and 150ºC with 30 minutes of dwells at extreme temperatures

Transition time: ≤ 1m

Results

For a better visualization, results will be shown in item 2.3

2.3 – Low/High - Level Contact Resistance

Samples
Same used in item 2.1

Equipments
HP Digital Multimeter Model 34401A, TE reference Nr. 93-339033-031.
Agilent Power Supply, Model E3641A, TE reference Nr. 93-339036-019.
HP Power Supply, Model 6571A, TE reference Nr. 93-339036-021.

Specification

No specification.

Requirements
Just informative.

Procedures

Same from item 2.1

Results

Low-Level Contact Resistance (100mA)

Combination I

Before Thermal Shock

Voltage Drop (mV)			
Sample	20AWG Copper Wire	Ø 0,16mm Aluminum Magnetic Wire	Ø 0,20mm Aluminum Magnetic Wire
1	0,015	0,090	0,021
2	0,010	0,044	0,097
3	0,016	0,091	0,040
4	0,016	0,099	0,108
5	0,022	0,072	0,018

After Thermal Shock

Voltage Drop (mV)			
Sample	20AWG Copper Wire	Ø 0,16mm Aluminum Magnetic Wire	Ø 0,20mm Aluminum Magnetic Wire
1	0,025	0,035	0,085
2	0,015	0,081	0,060
3	0,017	0,042	0,042
4	0,035	0,079	0,018
5	0,010	0,082	0,120

Note: Discounted the specific wire resistance. 0,250mV for 20AWG Copper Wire, 4,48mV for Ø 0,16mm and 2,96mV for Ø 0,20mm Aluminum Magnetic Wires

Variation

Average Variation (mV)		
20AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)	Ø 0,20mm Aluminum Wire (mV)
0,009	0,034	0,059

Combination II

Before Thermal Shock

Voltage Drop (mV)			
Sample	18AWG Copper Wire	Ø 0,16mm Aluminum Magnetic Wire	Ø 0,20mm Aluminum Magnetic Wire
6	0,053	0,067	0,036
7	0,100	0,081	0,026
8	0,056	0,019	0,028
9	0,089	0,082	0,103
10	0,070	0,058	0,076

After Thermal Shock

Voltage Drop (mV)			
Sample	18AWG Copper Wire	Ø 0,16mm Aluminum Magnetic Wire	Ø 0,20mm Aluminum Magnetic Wire
6	0,085	0,072	0,050
7	0,067	0,048	0,109
8	0,102	0,020	0,090
9	0,040	0,022	0,063
10	0,070	0,014	0,101

Variation

Average Variation (mV)		
18AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)	Ø 0,20mm Aluminum Wire (mV)
0,032	0,029	0,045

Note: Discounted the specific wire resistance. 0,195mV for 18AWG Copper Wire, 4,48mV for Ø 0,16mm and 2,96mV for Ø 0,20mm Aluminum Magnetic Wires

Combination III

Before Thermal Shock

Voltage Drop (mV)			
Sample	20AWG Copper Wire - 1	20AWG Copper Wire - 2	Ø 0,16mm Aluminum Magnetic Wire
11	0,019	0,015	0,085
12	0,028	0,016	0,059
13	0,015	0,023	0,099
14	0,012	0,035	0,093
15	0,014	0,013	0,018

After Thermal Shock

Voltage Drop (mV)			
Sample	20AWG Copper Wire - 1	20AWG Copper Wire - 2	Ø 0,16mm Aluminum Magnetic Wire
11	0,015	0,034	0,019
12	0,024	0,015	0,049
13	0,019	0,017	0,092
14	0,016	0,034	0,100
15	0,015	0,013	0,012

Note: Discounted the specific wire resistance. 0,250mV for 20AWG Copper Wire and 4,48mV for Ø 0,16mm Aluminum Magnetic Wire

Variation

Average Variation (mV)		
20AWG Copper wire (mV)	20AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)
0,003	0,005	0,019

Combination IV

Before Thermal Shock

Voltage Drop (mV)			
Sample	18AWG Copper Wire - 1	18AWG Copper Wire - 2	Ø 0,20mm Aluminum Magnetic Wire
16	0,059	0,064	0,028
17	0,032	0,103	0,102
18	0,049	0,033	0,016
19	0,033	0,075	0,088
20	0,022	0,098	0,085

After Thermal Shock

Voltage Drop (mV)			
Sample	18AWG Copper Wire - 1	18AWG Copper Wire - 2	Ø 0,20mm Aluminum Magnetic Wire
16	0,104	0,028	0,020
17	0,094	0,006	0,058
18	0,015	0,035	0,077
19	0,098	0,083	0,103
20	0,078	0,018	0,031

Variation

Average Variation (mV)		
18AWG Copper wire (mV)	18AWG Copper wire (mV)	Ø 0,20mm Aluminum Wire (mV)
0,052	0,045	0,036

Note: Discounted the specific wire resistance. 0,195mV for 18AWG Copper Wire and 2,96mV for Ø 0,20mm Aluminum Magnetic Wire

Combination V

Before Thermal Shock

Voltage Drop (mV)		
Sample	22AWG Copper Wire	Ø 0,16mm Aluminum Magnetic Wire
21	0,012	0,097
22	0,081	0,074
23	0,029	0,059
24	0,051	0,087
25	0,060	0,010

After Thermal Shock

Voltage Drop (mV)		
Sample	22AWG Copper Wire	Ø 0,16mm Aluminum Magnetic Wire
21	0,012	0,039
22	0,021	0,070
23	0,065	0,013
24	0,077	0,064
25	0,011	0,038

Variation

Average Variation (mV)	
22AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)
0,034	0,032

Note: Discounted the specific wire resistance. 0,330mV for 22AWG Copper Wire and 4,48mV for Ø 0,16mm Aluminum Magnetic Wire

Combination VI

Before Thermal Shock

Voltage Drop (mV)		
Sample	20AWG Copper Wire	Ø 0,16mm Aluminum Magnetic Wire
26	0,023	0,020
27	0,034	0,057
28	0,013	0,059
29	0,028	0,094
30	0,034	0,033

After Thermal Shock

Voltage Drop (mV)		
Sample	20AWG Copper Wire	Ø 0,16mm Aluminum Magnetic Wire
26	0,019	0,091
27	0,014	0,063
28	0,029	0,086
29	0,010	0,067
30	0,025	0,020

Variation

Average Variation (mV)	
20AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)
0,013	0,029

Note: Discounted the specific wire resistance. 0,250mV for 20AWG Copper Wire and 4,48mV for Ø 0,16mm Aluminum Magnetic Wire

Combination VII

Before Thermal Shock

Voltage Drop (mV)		
Sample	18AWG Copper Wire	Ø 0,16mm Aluminum Magnetic Wire
31	0,089	0,028
32	0,021	0,012
33	0,103	0,027
34	0,071	0,077
35	0,102	0,050

After Thermal Shock

Voltage Drop (mV)		
Sample	18AWG Copper Wire	Ø 0,16mm Aluminum Magnetic Wire
31	0,060	0,076
32	0,025	0,064
33	0,027	0,056
34	0,090	0,072
35	0,068	0,046

Variation

Average Variation (mV)	
18AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)
0,032	0,028

Note: Discounted the specific wire resistance. 0,330mV for 18AWG Copper Wire and 4,48mV for Ø 0,16mm Aluminum Magnetic Wire

Combination VIII

Before Thermal Shock

Voltage Drop (mV)			
Sample	22AWG Copper Wire - 1	Ø 0,16mm Aluminum Magnetic Wire	Ø 0,20mm Aluminum Magnetic Wire
36	0,063	0,076	0,028
37	0,047	0,019	0,110
38	0,025	0,082	0,030
39	0,036	0,071	0,024
40	0,058	0,037	0,045

After Thermal Shock

Voltage Drop (mV)			
Sample	22AWG Copper Wire - 1	Ø 0,16mm Aluminum Magnetic Wire	Ø 0,20mm Aluminum Magnetic Wire
36	0,087	0,099	0,081
37	0,034	0,075	0,041
38	0,016	0,074	0,117
39	0,045	0,072	0,071
40	0,028	0,027	0,012

Variation

Average Variation (mV)		
22AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)	Ø 0,20mm Aluminum Wire (mV)
0,017	0,020	0,058

Note: Discounted the specific wire resistance. 0,330mV for 22AWG Copper Wire, 4,48mV for Ø 0,16mm and 2,96mV for Ø 0,20mm Aluminum Magnetic Wires

High-Level Contact Resistance (1A)

Combination I

Before Thermal Shock

Voltage Drop (mV)			
Sample	20AWG Copper Wire	Ø 0,16mm Aluminium Magnetic Wire	Ø 0,20mm Aluminium Magnetic Wire
1	0,230	0,840	0,670
2	0,150	0,920	0,510
3	0,120	0,960	0,680
4	0,170	0,430	0,520
5	0,200	0,750	0,150

After Thermal Shock

Voltage Drop (mV)			
Sample	20AWG Copper Wire	Ø 0,16mm Aluminium Magnetic Wire	Ø 0,20mm Aluminium Magnetic Wire
1	0,120	0,540	0,410
2	0,270	0,510	1,000
3	0,260	0,270	0,370
4	0,160	0,560	0,780
5	0,290	0,510	0,280

Variation

Average Variation (mV)		
20AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)	Ø 0,20mm Aluminum Wire (mV)
0,094	0,354	0,290

Note: Discounted the specific wire resistance. 2,50mV for 20AWG Copper Wire, 44,80mV for Ø 0,16mm and 29,60mV for Ø 0,20mm Aluminum Magnetic Wires

Combination II

Before Thermal Shock

Voltage Drop (mV)			
Sample	18AWG Copper Wire	Ø 0,16mm Aluminium Magnetic Wire	Ø 0,20mm Aluminium Magnetic Wire
6	0,430	0,300	0,380
7	1,000	0,700	0,980
8	0,420	0,740	0,250
9	0,660	0,760	0,970
10	0,470	0,900	1,040

After Thermal Shock

Voltage Drop (mV)			
Sample	18AWG Copper Wire	Ø 0,16mm Aluminium Magnetic Wire	Ø 0,20mm Aluminium Magnetic Wire
6	0,560	0,930	1,150
7	0,580	1,000	1,160
8	0,350	0,880	0,420
9	0,690	0,670	0,380
10	0,740	0,940	0,170

Variation

Average Variation (mV)		
18AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)	Ø 0,20mm Aluminum Wire (mV)
0,184	0,240	0,516

Note: Discounted the specific wire resistance. 1,95mV for 18AWG Copper Wire, 44,80mV for Ø 0,16mm and 29,60mV for Ø 0,20mm Aluminum Magnetic Wires

Combination III

Before Thermal Shock

Voltage Drop (mV)			
Sample	20AWG Copper Wire - 1	20AWG Copper Wire - 2	Ø 0,16mm Aluminium Magnetic Wire
11	0,240	0,340	0,500
12	0,280	0,190	0,330
13	0,260	0,110	0,240
14	0,280	0,310	0,390
15	0,100	0,190	0,650

After Thermal Shock

Voltage Drop (mV)			
Sample	20AWG Copper Wire - 1	20AWG Copper Wire - 2	Ø 0,16mm Aluminium Magnetic Wire
11	0,160	0,180	0,130
12	0,140	0,100	1,000
13	0,220	0,170	0,860
14	0,350	0,260	0,100
15	0,100	0,320	0,660

Variation

Average Variation (mV)		
20AWG Copper wire (mV)	20AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)
0,066	0,098	0,392

Note: Discounted the specific wire resistance. 2,50mV for 20AWG Copper Wire and 44,80mV for Ø 0,16mm Aluminum Magnetic Wire

Combination IV

Before Thermal Shock

Voltage Drop (mV)			
Sample	18AWG Copper Wire - 1	18AWG Copper Wire - 2	Ø 0,20mm Aluminium Magnetic Wire
16	0,500	0,740	0,210
17	0,250	0,840	0,480
18	0,090	0,980	0,910
19	1,030	0,960	0,930
20	0,860	0,510	0,490

After Thermal Shock

Voltage Drop (mV)			
Sample	18AWG Copper Wire - 1	18AWG Copper Wire - 2	Ø 0,20mm Aluminium Magnetic Wire
16	0,380	0,120	0,880
17	1,050	1,020	1,120
18	0,590	0,880	0,830
19	0,530	0,850	0,570
20	0,400	0,730	0,420

Variation

Average Variation (mV)		
18AWG Copper wire (mV)	18AWG Copper wire (mV)	Ø 0,20mm Aluminum Wire (mV)
0,476	0,246	0,364

Note: Discounted the specific wire resistance. 1,95mV for 18AWG Copper Wire and 29,60mV for Ø 0,20mm Aluminum Magnetic Wire

Combination V

Before Thermal Shock

Voltage Drop (mV)		
Sample	22AWG Copper Wire	Ø 0,16mm Aluminium Magnetic Wire
21	0,110	0,460
22	0,110	0,320
23	0,230	0,390
24	0,860	0,740
25	0,550	0,870

After Thermal Shock

Voltage Drop (mV)		
Sample	22AWG Copper Wire	Ø 0,16mm Aluminium Magnetic Wire
21	0,330	0,530
22	0,630	0,820
23	0,870	0,130
24	0,230	1,000
25	0,310	0,380

Variation

Average Variation (mV)	
22AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)
0,450	0,316

Note: Discounted the specific wire resistance. 3,30mV for 22AWG Copper Wire and 44,80mV for Ø 0,16mm Aluminum Magnetic Wire

Combination VI

Before Thermal Shock

Voltage Drop (mV)		
Sample	20AWG Copper Wire	Ø 0,16mm Aluminium Magnetic Wire
26	0,310	0,890
27	0,170	0,560
28	0,110	0,100
29	0,110	0,150
30	0,310	0,910

After Thermal Shock

Voltage Drop (mV)		
Sample	20AWG Copper Wire	Ø 0,16mm Aluminium Magnetic Wire
26	0,350	0,530
27	0,330	0,860
28	0,290	0,560
29	0,100	0,350
30	0,200	0,210

Variation

Average Variation (mV)	
20AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)
0,100	0,404

Note: Discounted the specific wire resistance. 2,50mV for 20AWG Copper Wire and 44,80mV for Ø 0,16mm Aluminum Magnetic Wire

Combination VII

Before Thermal Shock

Voltage Drop (mV)		
Sample	18AWG Copper Wire	Ø 0,16mm Aluminium Magnetic Wire
31	0,360	0,860
32	0,690	0,870
33	0,740	0,300
34	0,170	0,790
35	0,850	0,280

After Thermal Shock

Voltage Drop (mV)		
Sample	18AWG Copper Wire	Ø 0,16mm Aluminium Magnetic Wire
31	1,010	0,150
32	0,240	0,420
33	0,440	0,670
34	0,360	0,150
35	0,830	0,650

Variation

Average Variation (mV)	
18AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)
0,322	0,508

Note: Discounted the specific wire resistance. 3,30mV for 18AWG Copper Wire and 44,80mV for Ø 0,16mm Aluminum Magnetic Wire

Combination VIII

Before Thermal Shock

Voltage Drop (mV)			
Sample	22AWG Copper Wire - 1	Ø 0,16mm Aluminium Magnetic Wire	Ø 0,20mm Aluminium Magnetic Wire
36	0,330	0,520	0,620
37	0,290	0,400	0,460
38	0,250	0,400	0,970
39	0,310	0,200	1,040
40	0,150	1,000	0,670

After Thermal Shock

Voltage Drop (mV)			
Sample	22AWG Copper Wire - 1	Ø 0,16mm Aluminium Magnetic Wire	Ø 0,20mm Aluminium Magnetic Wire
36	0,860	0,330	0,830
37	0,140	0,500	0,260
38	0,820	0,770	0,820
39	0,520	0,170	0,200
40	0,570	0,800	0,330

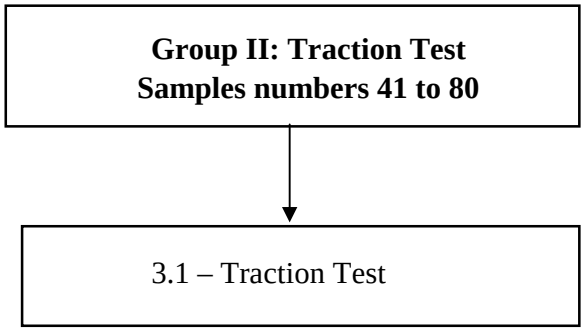
Variation

Average Variation (mV)		
22AWG Copper wire (mV)	Ø 0,16mm Aluminum Wire (mV)	Ø 0,20mm Aluminum Wire (mV)
0,376	0,178	0,348

Note: Discounted the specific wire resistance. 3,30mV for 22AWG Copper Wire, 44,80mV for Ø 0,16mm and 29,60mV for Ø 0,20mm Aluminum Magnetic Wires

3 - Group II: Traction Test

Sequence:



3.1 - Traction Test

Samples
40 parts, numbers 41 to 80.

Equipments
Instron Traction Machine, TE reference NR. 92.339017-085

Specification
No specification.

Requirements
Crimping traction resistance shall be greater than 70% of wire traction resistance.

Procedures
Submit specimens to traction until reaches the breaking point and record the peak force.

Picture 10: Traction Force Test

Results

Combination I

Breaking Force [N]						
Sample	Ø 0,16mm Wire + Connector	Ø 0,20mm Wire + Connector	Only Ø 0,16mm Wire	Only Ø 0,20mm Wire	Percent (Ø 0,16mm)	Percent (Ø 0,20mm)
41	5,69	8,29	5,90	8,55	96,44%	96,96%
42	5,85	8,45	5,90	8,55	99,15%	98,83%
43	5,62	8,47	5,90	8,55	95,25%	99,06%
44	5,58	8,52	5,90	8,55	94,58%	99,65%
45	5,70	8,26	5,90	8,55	96,61%	96,61%

Combination II

Breaking Force [N]						
Sample	Ø 0,16mm Wire + Connector	Ø 0,20mm Wire + Connector	Only Ø 0,16mm Wire	Only Ø 0,20mm Wire	Percent (Ø 0,16mm)	Percent (Ø 0,20mm)
46	5,52	8,43	5,90	8,55	93,56%	98,60%
47	5,80	8,43	5,90	8,55	98,31%	98,60%
48	5,71	8,42	5,90	8,55	96,78%	98,48%
49	5,52	8,30	5,90	8,55	93,56%	97,08%
50	5,58	8,25	5,90	8,55	94,58%	96,49%

Combination III

Breaking Force [N]			
Sample	Ø 0,16mm Wire + Connector	Only Ø 0,16mm Wire	Percent (Ø 0,16mm)
51	5,77	5,90	97,80%
52	5,75	5,90	97,46%
53	5,87	5,90	99,49%
54	5,71	5,90	96,78%
55	5,60	5,90	94,92%

Combination IV

Breaking Force [N]			
Sample	Ø 0,20mm Wire + Connector	Only Ø 0,20mm Wire	Percent (Ø 0,20mm)
56	8,17	8,55	95,56%
57	8,55	8,55	100,00%
58	8,21	8,55	96,02%
59	8,28	8,55	96,84%
60	8,25	8,55	96,49%

Combination V

Breaking Force [N]			
Sample	Ø 0,16mm Wire + Connector	Only Ø 0,16mm Wire	Percent (Ø 0,16mm)
61	5,64	5,90	95,59%
62	5,69	5,90	96,44%
63	5,76	5,90	97,63%
64	5,68	5,90	96,27%
65	5,90	5,90	100,00%

Combination VI

Breaking Force [N]			
Sample	Ø 0,16mm Wire + Connector	Only Ø 0,16mm Wire	Percent (Ø 0,16mm)
66	5,52	5,90	93,56%
67	5,69	5,90	96,44%
68	5,51	5,90	93,39%
69	5,89	5,90	99,83%
70	5,53	5,90	93,73%

Combination VII

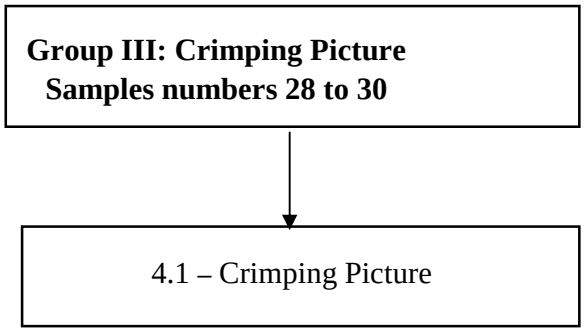
Breaking Force [N]			
Sample	Ø 0,16mm Wire + Connector	Only Ø 0,16mm Wire	Percent (Ø 0,16mm)
71	5,89	5,90	99,83%
72	5,82	5,90	98,64%
73	5,52	5,90	93,56%
74	5,57	5,90	94,41%
75	5,87	5,90	99,49%

Combination VIII

Breaking Force [N]						
Sample	Ø 0,16mm Wire + Connector	Ø 0,20mm Wire + Connector	Only Ø 0,16mm Wire	Only Ø 0,20mm Wire	Percent (Ø 0,16mm)	Percent (Ø 0,20mm)
76	5,63	8,29	5,90	8,55	95,42%	96,96%
77	5,77	8,22	5,90	8,55	97,80%	96,14%
78	5,75	8,54	5,90	8,55	97,46%	99,88%
79	5,85	8,47	5,90	8,55	99,15%	99,06%
80	5,73	8,30	5,90	8,55	97,12%	97,08%

4 - Group III: Crimping Picture

Sequence:



4.1 – Crimping Picture

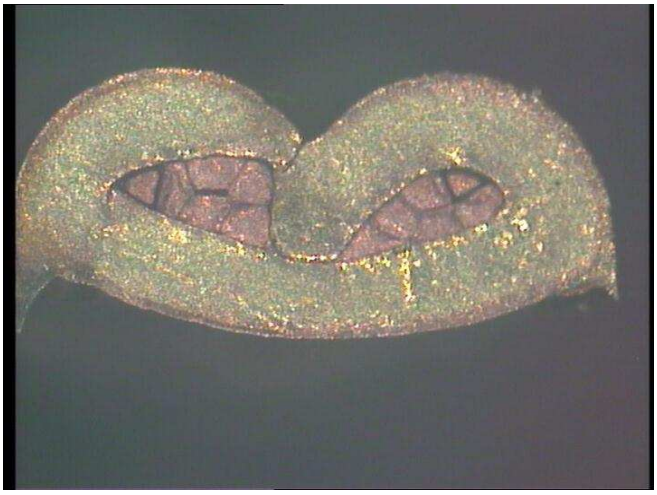
Samples
8 parts, numbers 81 to 88.

Equipments
Zeiss Microscope, Model Stemi 2000-C

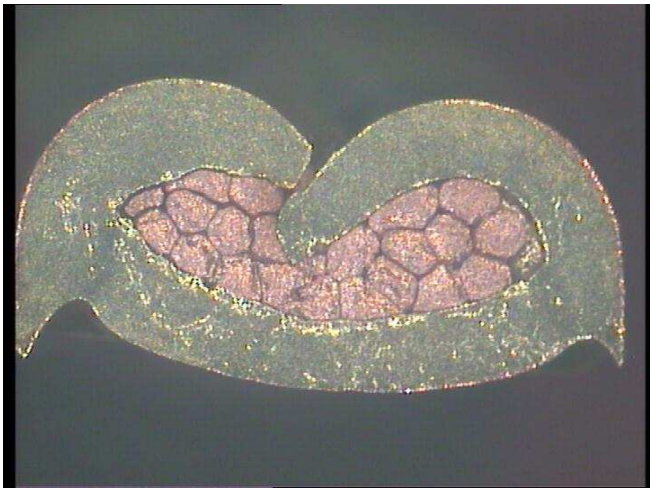
Specification
No specification

Requirements
Informative test.

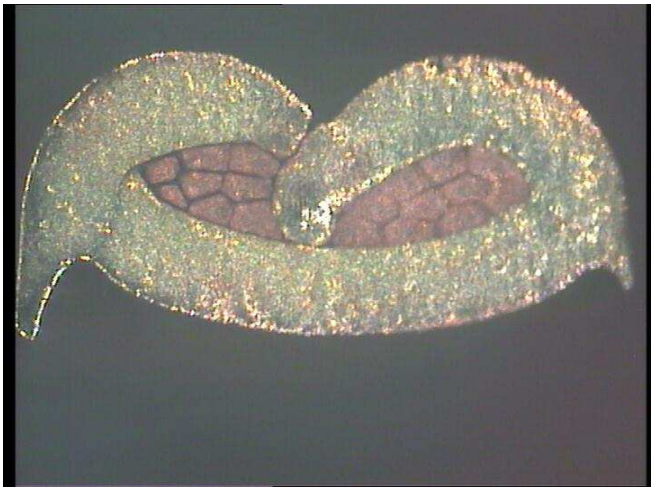
Combination I



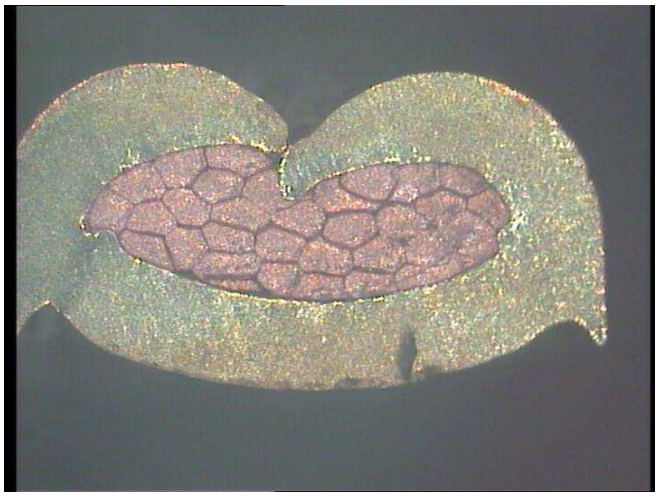
Combination II



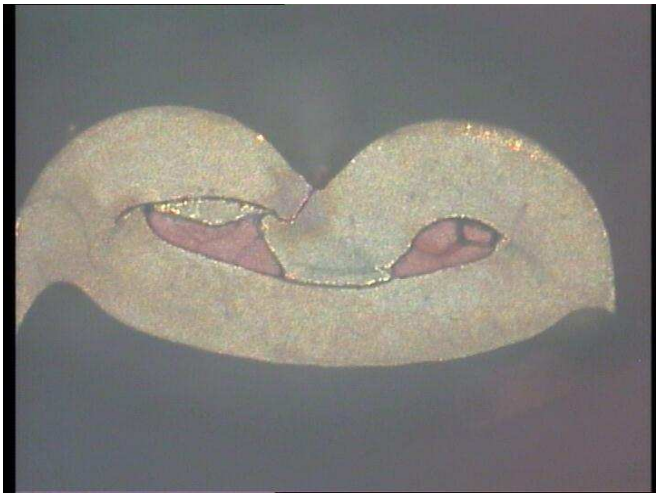
Combination III



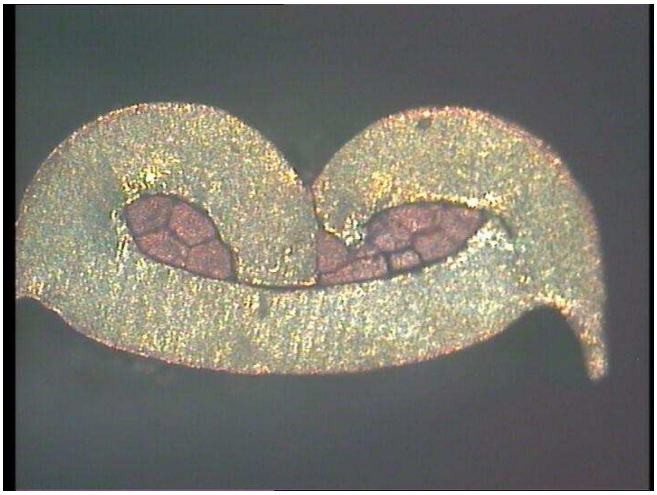
Combination IV



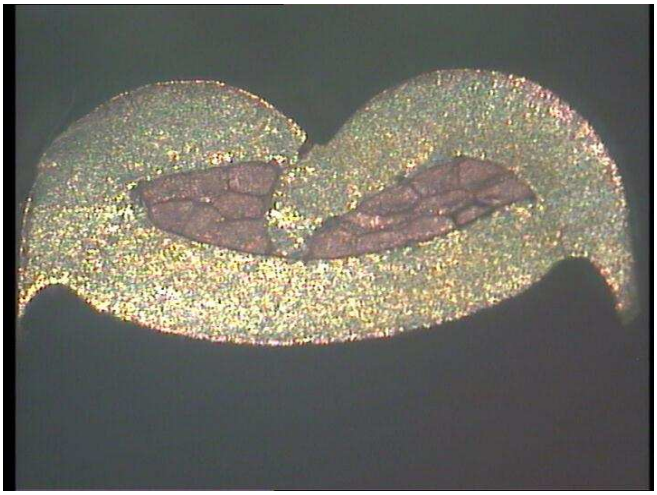
Combination V



Combination VI



Combination VII



Combination VII