



TEST SUMMARY

Micro-Fit (3.0) Dual Row Connector System (Wire to Wire & Wire to Board – Gold Plating)

1.0 SCOPE

This Test Specification covers the 3.00 mm (.118 inch) centerline (pitch) connector series terminated with 20-30 AWG wire using crimp technology and gold plating on the contact interfaces.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND PART NUMBER(S)

- Micro-Fit (3.0) Receptacle : 43025
- Micro-Fit (3.0) Plug : 43020
- Micro-Fit (3.0) Female Crimp Terminal : 43030
- Micro-Fit (3.0) Male Crimp Terminal : 43031
- Micro-Fit (3.0) Right Angle & Vertical Headers : 43045
- Micro-Fit (3.0) Female Crimp Terminal With Lubricant: 45773 (43030 with Environmental Lube)

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate sales drawings for information on dimensions, materials, plating, and markings.

2.3 PRODUCT SPECIFICATION TITLE AND DOCUMENT NUMBER

Product Specification : Micro-Fit (3.0) Document Number : PS-43045

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

3.1 TESTING PROCEDURES, SEQUENCES, AND SPECIFICATIONS

- NPS-25298-2
- EIA-364-65A
- EIA-364-1000.01
- MIL-STD-202 METHOD 213
- MIL-STD-202 METHOD 204

3.2 OTHER DOCUMENTS AND SPECIFICATIONS

None

4.0 QUALIFICATION

Laboratory conditions and sample selection are in accordance with **EIA-364** and **NPS-25298-2**.

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| <u>REVISION:</u> A | <u>ECR/ECN INFORMATION:</u> EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | <u>TITLE:</u> TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | <u>SHEET No.</u> 1 of 12 |
| <u>DOCUMENT NUMBER:</u> TS-43045-002 | <u>CREATED / REVISED BY:</u> SOUSEK 05/14/04 | <u>CHECKED BY:</u> SCHMIDT 06/21/07 | <u>APPROVED BY:</u> SMITH 06/29/07 |



TEST SUMMARY

5.0 PERFORMANCE RESULTS

5.1 ELECTRICAL PERFORMANCE RESULTS

WIRE TO WIRE CONFIGURATION

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|------|--------------------------------|--------------------------------|----------------------|-------------------------------|----------|----------|
| 1A | CONTACT RESISTANCE (LOW LEVEL) | Initial ** | --- | 17.84 mΩ | 17.69 mΩ | 18.34 mΩ |
| | | After Vibration Δ mΩ | 10 milliohms MAXIMUM | 0.05 mΩ | -0.49 mΩ | 0.46 mΩ |
| | | | No Discontinuity | Discontinuity < 1 microsecond | | |
| | | After Mechanical Shock Δ mΩ | 10 milliohms MAXIMUM | 0.12 mΩ | -0.41 mΩ | 0.48 mΩ |
| | | | No Discontinuity | Discontinuity < 1 microsecond | | |

NOTE : ** A PORTION OF THE MEASUREMENT VALUE IS ATTRIBUTED TO THE BULK RESISTANCE OF THE WIRE USED IN SAMPLE PREPARATION.

WIRE TO BOARD CONFIGURATION

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|------|--------------------------------|--------------------------------|----------------------|-------------------------------|----------|----------|
| 1B | CONTACT RESISTANCE (LOW LEVEL) | Initial | --- | 9.85 mΩ | 9.66 mΩ | 10.02 mΩ |
| | | After Vibration Δ mΩ | 10 milliohms MAXIMUM | -0.07 mΩ | -0.21 mΩ | 0.00 mΩ |
| | | | No Discontinuity | Discontinuity < 1 microsecond | | |
| | | After Mechanical Shock Δ mΩ | 10 milliohms MAXIMUM | -0.02 mΩ | -0.15 mΩ | 0.09 mΩ |
| | | | No Discontinuity | Discontinuity < 1 microsecond | | |

NOTE : SEE APPENDIX "A" FOR TEST SEQUENCE "1" DESCRIPTION

| | | | |
|---|---|--|---------------------------------------|
| REVISION: A | ECR/ECN INFORMATION: EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | TITLE: TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | SHEET No. 2 of 12 |
| DOCUMENT NUMBER: TS-43045-002 | CREATED / REVISED BY: SOUSEK 05/14/04 | CHECKED BY: SCHMIDT 06/21/07 | APPROVED BY: SMITH 06/29/07 |



TEST SUMMARY

5.1 ELECTRICAL PERFORMANCE RESULTS (continued)

WIRE TO WIRE CONFIGURATION

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|------|--------------------------------|-------------------------------|----------------------|----------|----------|----------|
| 2A | Contact Resistance (Low Level) | Initial ** | --- | 17.84 mΩ | 17.70 mΩ | 17.98 mΩ |
| | | After Thermal Shock Δ mΩ | 10 milliohms MAXIMUM | 0.05 mΩ | -0.02 mΩ | 0.21 mΩ |
| | | After Cyclic Humidity Δ mΩ | 10 milliohms MAXIMUM | 0.04 mΩ | -0.08 mΩ | 0.64 mΩ |

NOTE : ** A PORTION OF THE MEASUREMENT VALUE IS ATTRIBUTED TO THE BULK RESISTANCE OF THE WIRE USED IN SAMPLE PREPARATION.

WIRE TO BOARD CONFIGURATION

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|------|--------------------------------|-------------------------------|----------------------|----------|----------|---------|
| 2B | Contact Resistance (Low Level) | Initial | --- | 5.01 mΩ | 4.83 mΩ | 5.36 mΩ |
| | | After Thermal Shock Δ mΩ | 10 milliohms MAXIMUM | -0.01 mΩ | -0.15 mΩ | 0.16 mΩ |
| | | After Cyclic Humidity Δ mΩ | 10 milliohms MAXIMUM | -0.02 mΩ | -0.15 mΩ | 0.19 mΩ |

ITEM 2C AND 2D:

ALL OF THE SAMPLES USED IN THE SEQUENCE "2" (GROUP 2) INSULATION RESISTANCE AND DIELECTRIC WITHSTANDING VOLTAGE TESTING PASSED WITHOUT FAILURE (WIRE TO WIRE AND WIRE TO BOARD).

NOTE : SEE APPENDIX "A" FOR TEST SEQUENCE "2" DESCRIPTION

| | | | |
|---|---|--|---------------------------------------|
| REVISION: A | ECR/ECN INFORMATION: EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | TITLE: TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | SHEET No. 3 of 12 |
| DOCUMENT NUMBER: TS-43045-002 | CREATED / REVISED BY: SOUSEK 05/14/04 | CHECKED BY: SCHMIDT 06/21/07 | APPROVED BY: SMITH 06/29/07 |



TEST SUMMARY

5.1 ELECTRICAL PERFORMANCE RESULTS (continued)

WIRE TO WIRE CONFIGURATION

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|-----------|--------------------------------|-----------------------------|----------------------|----------|----------|----------|
| 3A | Contact Resistance (Low Level) | Initial ** | --- | 17.84 mΩ | 17.64 mΩ | 19.99 mΩ |
| | | After Thermal Aging Δ mΩ | 10 milliohms MAXIMUM | 0.07 mΩ | -1.09 mΩ | 0.16 mΩ |

NOTE : ** A PORTION OF THE MEASUREMENT VALUE IS ATTRIBUTED TO THE BULK RESISTANCE OF THE WIRE USED IN SAMPLE PREPARATION.

WIRE TO BOARD CONFIGURATION

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|-----------|--------------------------------|-----------------------------|----------------------|---------|----------|---------|
| 3B | Contact Resistance (Low Level) | Initial | --- | 4.98 mΩ | 4.87 mΩ | 5.20 mΩ |
| | | After Thermal Aging Δ mΩ | 10 milliohms MAXIMUM | 0.03 mΩ | -0.03 mΩ | 0.10 mΩ |

SEE APPENDIX "A" FOR TEST SEQUENCE "3" DESCRIPTION

| | | | |
|---|---|--|---------------------------------------|
| REVISION: A | ECR/ECN INFORMATION: EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | TITLE: TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | SHEET No. 4 of 12 |
| DOCUMENT NUMBER: TS-43045-002 | CREATED / REVISED BY: SOUSEK 05/14/04 | CHECKED BY: SCHMIDT 06/21/07 | APPROVED BY: SMITH 06/29/07 |



TEST SUMMARY

5.1 ELECTRICAL PERFORMANCE RESULTS (continued)

43030 FEMALE CRIMP TERMINAL

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|---|--------------------------------|--------------------------------|----------------------|---------|----------|---------|
| 4A L o t 1 | Contact Resistance (Low Level) | Initial | --- | 3.27 mΩ | 3.15 mΩ | 3.41 mΩ |
| | | After Thermal Age Δ mΩ | 10 milliohms MAXIMUM | 0.02 mΩ | -0.01 mΩ | 0.04 mΩ |
| | | After Tensile Strength Δ mΩ | 10 milliohms MAXIMUM | 0.02 mΩ | -0.02 mΩ | 0.04 mΩ |

43031 MALE CRIMP TERMINAL

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|---|--------------------------------|--------------------------------|----------------------|---------|---------|---------|
| 4B L o t 1 | Contact Resistance (Low Level) | Initial | --- | 3.31 mΩ | 3.17 mΩ | 3.40 mΩ |
| | | After Thermal Age Δ mΩ | 10 milliohms MAXIMUM | 0.02 mΩ | 0.00 mΩ | 0.04 mΩ |
| | | After Tensile Strength Δ mΩ | 10 milliohms MAXIMUM | 0.02 mΩ | 0.00 mΩ | 0.05 mΩ |

NOTE : SEE APPENDIX "A" FOR TEST SEQUENCE "4" DESCRIPTION

| | | | |
|---|---|--|---------------------------------------|
| REVISION: A | ECR/ECN INFORMATION: EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | TITLE: TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | SHEET No. 5 of 12 |
| DOCUMENT NUMBER: TS-43045-002 | CREATED / REVISED BY: SOUSEK 05/14/04 | CHECKED BY: SCHMIDT 06/21/07 | APPROVED BY: SMITH 06/29/07 |



TEST SUMMARY

5.1 ELECTRICAL PERFORMANCE RESULTS (continued)

43030 FEMALE CRIMP TERMINAL

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|---|--------------------------------|-----------------------------|----------------------|---------|----------|---------|
| 4A L o t 2 | Contact Resistance (Low Level) | Initial | --- | 3.45 mΩ | 3.24 mΩ | 3.74 mΩ |
| | | After Thermal Age Δ mΩ | 10 milliohms MAXIMUM | 0.00 mΩ | -0.01 mΩ | 0.02 mΩ |
| | | After Gas Tightness Δ mΩ | 10 milliohms MAXIMUM | 0.01 mΩ | 0.00 mΩ | 0.05 mΩ |

43031 MALE CRIMP TERMINAL

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|---|--------------------------------|-----------------------------|----------------------|---------|----------|---------|
| 4B L o t 2 | Contact Resistance (Low Level) | Initial | --- | 3.48 mΩ | 3.25 mΩ | 3.73 mΩ |
| | | After Thermal Age Δ mΩ | 10 milliohms MAXIMUM | 0.01 mΩ | -0.01 mΩ | 0.03 mΩ |
| | | After Gas Tightness Δ mΩ | 10 milliohms MAXIMUM | 0.02 mΩ | -0.01 mΩ | 0.05 mΩ |

NOTE : SEE APPENDIX "A" FOR TEST SEQUENCE "4" DESCRIPTION

| | | | |
|---|---|--|---------------------------------------|
| REVISION: A | ECR/ECN INFORMATION: EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | TITLE: TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | SHEET No. 6 of 12 |
| DOCUMENT NUMBER: TS-43045-002 | CREATED / REVISED BY: SOUSEK 05/14/04 | CHECKED BY: SCHMIDT 06/21/07 | APPROVED BY: SMITH 06/29/07 |



TEST SUMMARY

5.1 ELECTRICAL PERFORMANCE RESULTS (continued)

NOTE: The following Mixed Flowing Gas Testing results are for the MicroFit Female Crimp Terminal 45773 series (43030 series terminal with environmental lube applied).

WIRE TO WIRE CONFIGURATION

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|-----------|--------------------------------|-------------------------------|----------------------|----------|----------|----------|
| 5A | Contact Resistance (Low Level) | Initial ** | --- | 18.16 mΩ | 18.03 mΩ | 18.59 mΩ |
| | | After Durability Δ mΩ | 10 milliohms MAXIMUM | -0.12 mΩ | -0.67 mΩ | 0.03 mΩ |
| | | After Unmated 5 days Δ mΩ | 10 milliohms MAXIMUM | -0.05 mΩ | -0.57 mΩ | 0.65 mΩ |
| | | After Unmated 10 days Δ mΩ | 10 milliohms MAXIMUM | 0.05 mΩ | -1.10 mΩ | 1.05 mΩ |
| | | After Mated 15 days Δ mΩ | 10 milliohms MAXIMUM | 0.04 mΩ | -0.12 mΩ | 0.24 mΩ |
| | | After Mated 20 days Δ mΩ | 10 milliohms MAXIMUM | -0.01 mΩ | -0.99 mΩ | 2.57 mΩ |
| | | After Durability Δ mΩ | 10 milliohms MAXIMUM | -0.22 mΩ | -2.58 mΩ | 0.50 mΩ |

NOTE : ** A PORTION OF THE MEASUREMENT VALUE IS ATTRIBUTED TO THE BULK RESISTANCE OF THE WIRE USED IN SAMPLE PREPARATION.

WIRE TO BOARD CONFIGURATION

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|-----------|--------------------------------|-------------------------------|----------------------|----------|----------|---------|
| 5B | Contact Resistance (Low Level) | Initial | --- | 5.24 mΩ | 5.09 mΩ | 5.42 mΩ |
| | | After Durability Δ mΩ | 10 milliohms MAXIMUM | -0.01 mΩ | -0.32 mΩ | 0.24 mΩ |
| | | After Unmated 5 days Δ mΩ | 10 milliohms MAXIMUM | 0.03 mΩ | -0.30 mΩ | 1.03 mΩ |
| | | After Unmated 10 days Δ mΩ | 10 milliohms MAXIMUM | 0.00 mΩ | -0.36 mΩ | 0.18 mΩ |
| | | After Mated 15 days Δ mΩ | 10 milliohms MAXIMUM | 0.09 mΩ | -0.33 mΩ | 0.58 mΩ |
| | | After Mated 20 days Δ mΩ | 10 milliohms MAXIMUM | 0.04 mΩ | -0.29 mΩ | 0.42 mΩ |
| | | After Durability Δ mΩ | 10 milliohms MAXIMUM | 0.11 mΩ | -0.11 mΩ | 0.39 mΩ |

NOTE : SEE APPENDIX "A" FOR TEST SEQUENCE "5" DESCRIPTION

| | | | |
|---|---|--|---------------------------------------|
| REVISION: A | ECR/ECN INFORMATION: EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | TITLE: TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | SHEET No. 7 of 12 |
| DOCUMENT NUMBER: TS-43045-002 | CREATED / REVISED BY: SOUSEK 05/14/04 | CHECKED BY: SCHMIDT 06/21/07 | APPROVED BY: SMITH 06/29/07 |



TEST SUMMARY

6.1 MECHANICAL PERFORMANCE RESULTS

| ITEM | DESCRIPTION | TREATMENT | REQUIREMENT | MEAN | MINIMUM | MAXIMUM |
|------|------------------------------|-------------------|-------------|-------|---------|---------|
| 3C | Contact Normal Force (grams) | Initial | 275 g Min | 443 g | 413 g | 466 g |
| | | After Thermal Age | 275 g Min | 292 g | 285 g | 297 g |

NOTE : SEE APPENDIX "A" FOR TEST SEQUENCE "3" DESCRIPTION

| | | | |
|---|---|--|---------------------------------------|
| REVISION: A | ECR/ECN INFORMATION: EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | TITLE: TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | SHEET No. 8 of 12 |
| DOCUMENT NUMBER: TS-43045-002 | CREATED / REVISED BY: SOUSEK 05/14/04 | CHECKED BY: SCHMIDT 06/21/07 | APPROVED BY: SMITH 06/29/07 |



TEST SUMMARY

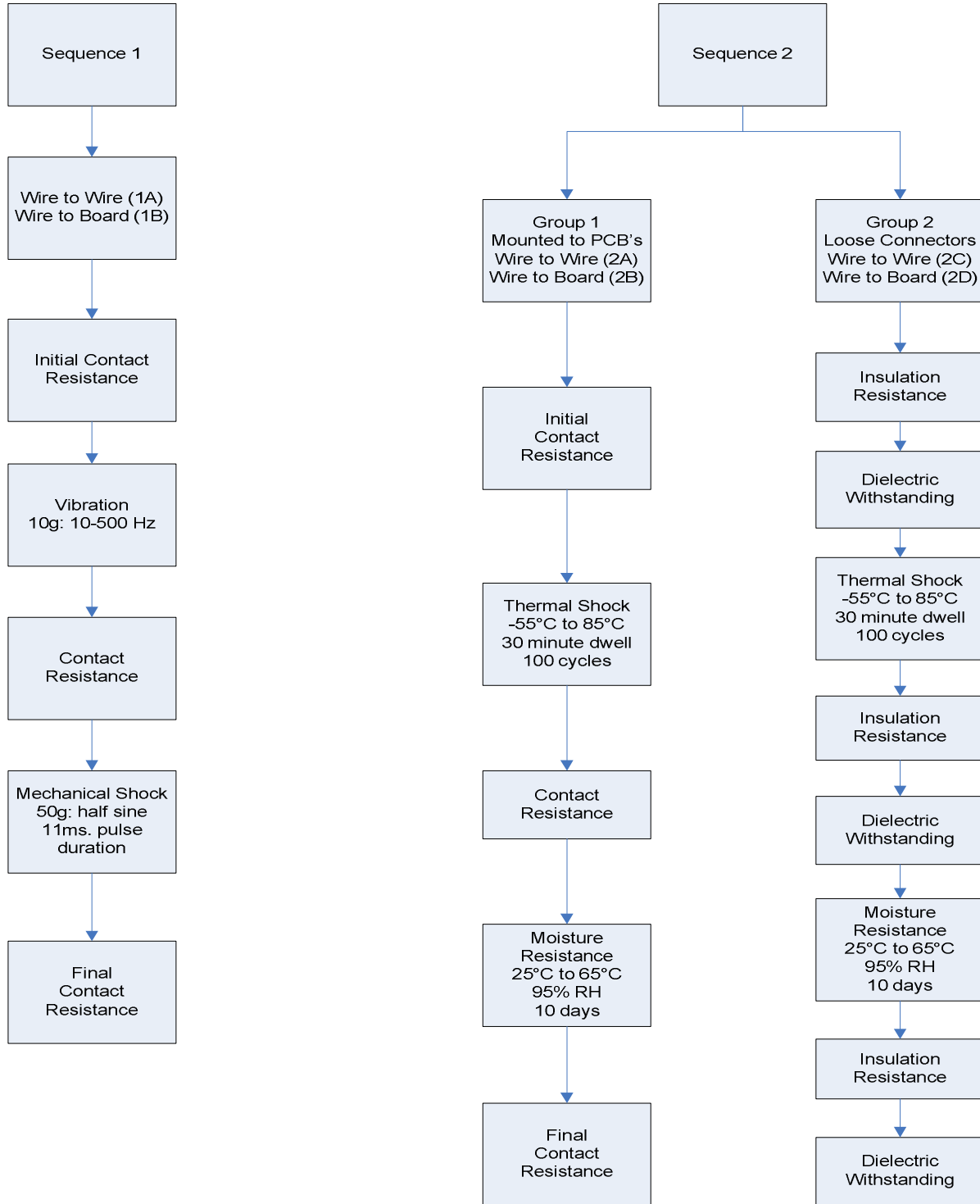
APPENDIX A TEST SEQUENCES

| | | | |
|--|--|---|--|
| <u>REVISION:</u> A | <u>ECR/ECN INFORMATION:</u> EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | <u>TITLE:</u> TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | <u>SHEET No.</u> 9 of 12 |
| <u>DOCUMENT NUMBER:</u> TS-43045-002 | <u>CREATED / REVISED BY:</u> SOUSEK 05/14/04 | <u>CHECKED BY:</u> SCHMIDT 06/21/07 | <u>APPROVED BY:</u> SMITH 06/29/07 |



TEST SUMMARY

A.1 TEST SEQUENCES

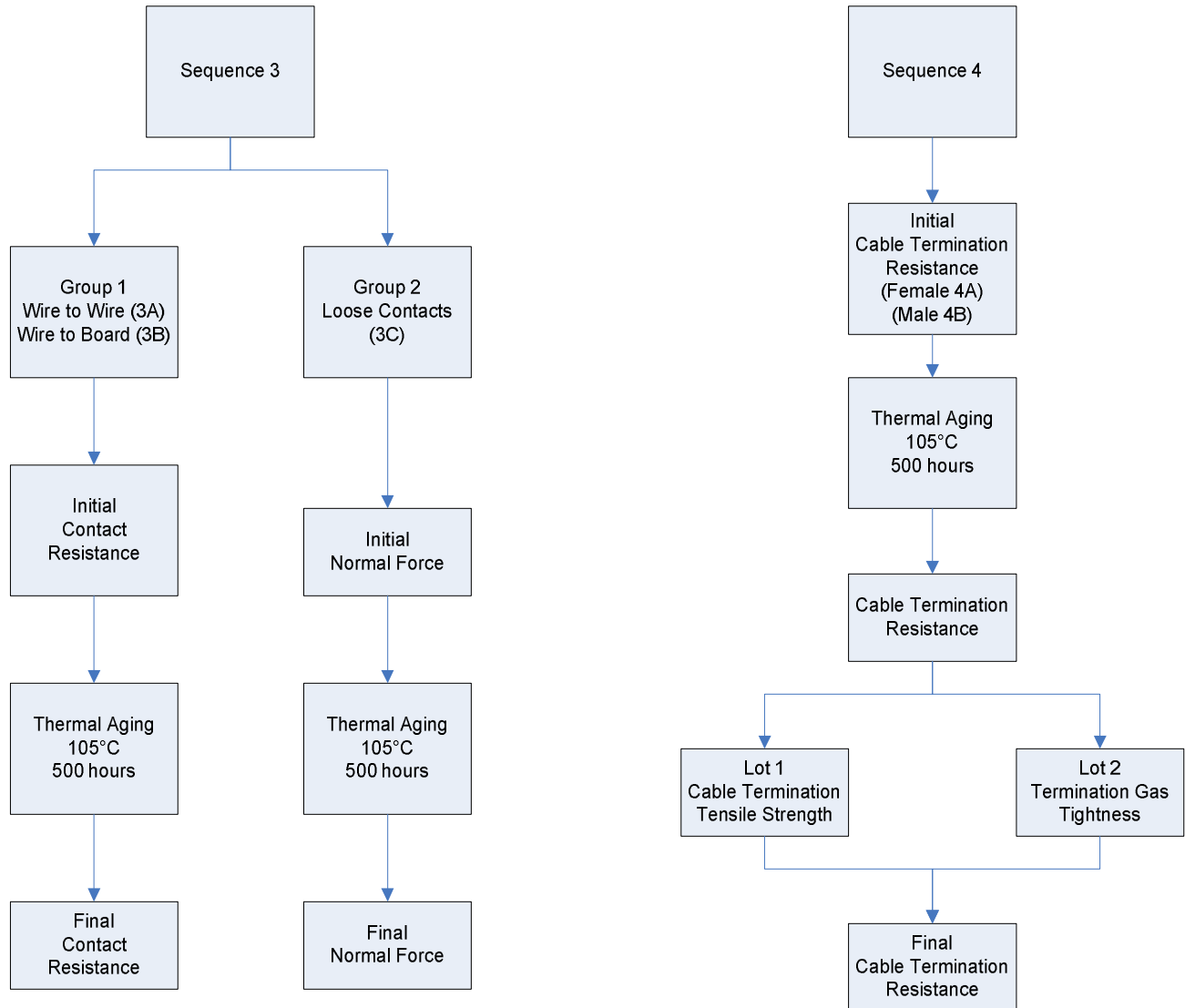


| | | | |
|---|---|--|---------------------------------------|
| REVISION: A | ECR/ECN INFORMATION: EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | TITLE: TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | SHEET No. 10 of 12 |
| DOCUMENT NUMBER: TS-43045-002 | CREATED / REVISED BY: SOUSEK 05/14/04 | CHECKED BY: SCHMIDT 06/21/07 | APPROVED BY: SMITH 06/29/07 |



TEST SUMMARY

A.1 TEST SEQUENCES (continued)

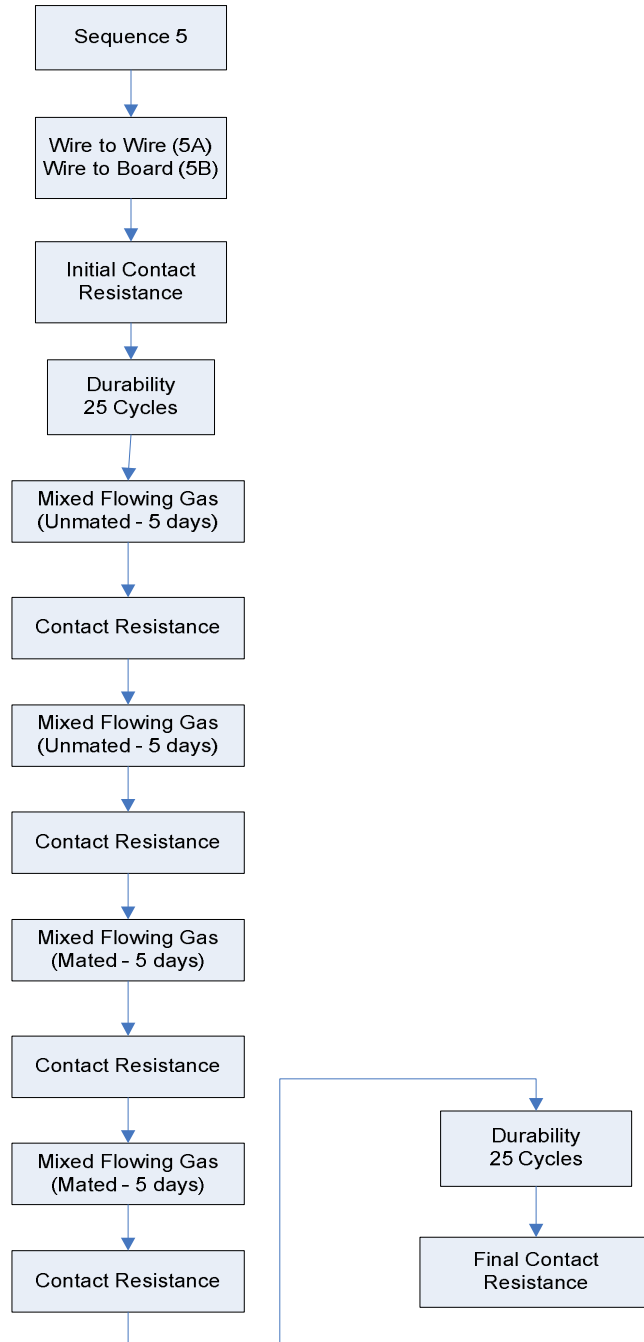


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|---|---|--|---------------------------------------|
| REVISION: A | ECR/ECN INFORMATION: EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | TITLE: TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | SHEET No. 11 of 12 |
| DOCUMENT NUMBER: TS-43045-002 | CREATED / REVISED BY: SOUSEK 05/14/04 | CHECKED BY: SCHMIDT 06/21/07 | APPROVED BY: SMITH 06/29/07 |



TEST SUMMARY

A.1 TEST SEQUENCES (continued)



| | | | |
|---|---|--|---------------------------------------|
| REVISION: A | ECR/ECN INFORMATION: EC No: UCP2007-2916 DATE: 2007 / 06 / 29 | TITLE: TEST SUMMARY MICRO-FIT (3.0) DUAL ROW CONNECTORS (GOLD) | SHEET No. 12 of 12 |
| DOCUMENT NUMBER: TS-43045-002 | CREATED / REVISED BY: SOUSEK 05/14/04 | CHECKED BY: SCHMIDT 06/21/07 | APPROVED BY: SMITH 06/29/07 |