



HARWIN

Test Report Summary

HT01703

Contact Resistance after Aging of
Datamate (M80 Series) Connectors

1. Introduction

1.1. Description and Purpose

The Harwin Datamate (M80 Series) connector is manufactured to the requirements of BS9525-F0033. The following tests were carried out to test Datamate connector assemblies for contact resistance before and after artificial aging, with periods of 3 years and 15 years.

1.2. Conclusion

The following data has been collated from Harwin test reports 404 and 452. All nine connector samples show that they are performing within the BS9525-F0033 contact resistance requirements. The contacts artificially aged by three years also show good resistance levels and perform well within the 20mΩ requirement. The final test, using samples aged up to fifteen years, produced very low resistance ratings; also remaining within specification.

2. Test Method, Requirements and Results

2.1. Specification Parameters.

Initial Contact Resistance as specified in BS9525-F0033 is 20mΩ, irrespective of age.

2.2. List of Test Samples

All samples used were PCB connector assemblies with throughboard termination:

- **1-6** = Datamate L-Tek: M80-8911205 Female mated to M80-8691222 Male
- **7** = Datamate J-Tek: M80-4100642 Female mated to M80-5010642 Male
- **8** = Datamate J-Tek: M80-4101442 Female mated to M80-5011442 Male
- **9** = Datamate J-Tek: M80-4102042 Female mated to M80-5012042 Male

2.3. Test Method and Results.

2.3.1. 3 Year Test

Methodology: Samples were mated and measured for contact resistance. They were then separated, aged for one cycle to IEC 326-2, the equivalent to three years normal storage. They were then re-mated and contact resistance was measured.

Results:

Aging	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Initial	7.5mΩ	6.9mΩ	6.2mΩ	7.5mΩ	7.0mΩ	7.1mΩ
3 years	7.9mΩ	9.1mΩ	7.2mΩ	7.8mΩ	8.2mΩ	7.5mΩ

2.3.2. 3 Year Test

Methodology: As above but aged for a total of 15 years. Contact resistance measured every 3 years.

Results:

Aging	Sample 7	Sample 8	Sample 9
Initial	6.5mΩ	5.8mΩ	5.9mΩ
3 years	9.6mΩ	9.8mΩ	9.9mΩ
6 years	10.5mΩ	10.2mΩ	10.1mΩ
9 years	10.5mΩ	10.0mΩ	10.2mΩ
12 years	10.1mΩ	9.9mΩ	9.8mΩ
15 years	10.9mΩ	10.3mΩ	10.2mΩ