



Z-Fill Connector Mate-Demate Cycling Tests

Z-AXIS Connector Company

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Purpose: The purpose of mate-demate testing was to investigate the suitability of Z-Axis Connectors for use in non-permanent connections and to provide data to support a specification for mate-demate cycling life.

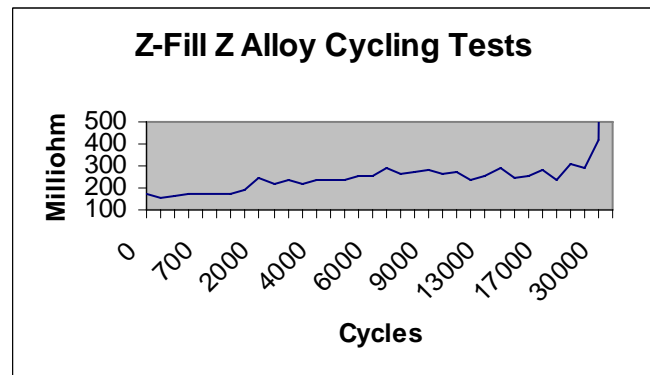
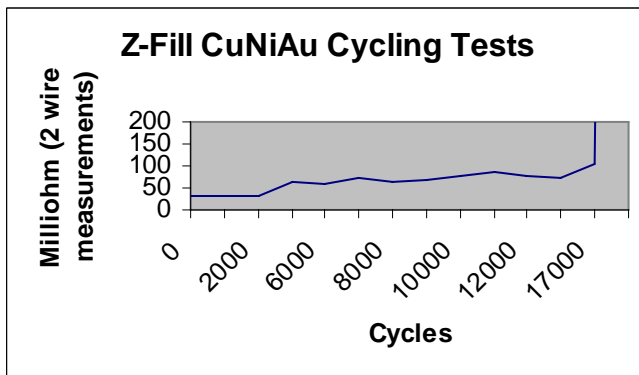
Equipment:

- Zfill-023 Au and Z-Alloy Connectors
- 2062-0002-003 Test Boards
- HS-226 Holder Shell
- 4 wire resistance meter
- 2046-0001-000 actuation fixture



Results:

Data: Browse to <http://www.zaxisconnector.com/Elastomeric-Connector-Cycling-Test.aspx> for tabulated measurements.



Discussion: The experimental fixturing was developed to match a standard board to board connection application. The boards were cycled vertically with the aid of mechanical guides to maintain orthogonality. The connector dimensions were 26.4 L x 2.8 H x 1 W (mm) and the board contacts were 2.5 L x .635 W on a 12.7 (mm) pitch. In real world applications, there will be angular forces that could act to reduce durability. Also, as Z-Axis connectors are typically part of a custom system, contact metallurgy, physical dimensions, and environmental conditions should be considered for their affect on longevity. Two wire measurements were used for the Au plated connectors; four wire measurements would reduce the resistance by 15-20 milliohms.

Conclusion: Pending a larger population of test points and using a de-rating factor of 40%, it is reasonable to expect Z-Fill Au connectors to last for over 10,000 cycles and Z-Fill Z-Alloy connectors to last for over 18,000.