

USB Type-C ENGINEERING CHANGE NOTICE

Title: Extraction force

Applied to: Universal Serial Bus Type-C Cable and Connector Specification Release 1.1, April 3, 2015

Brief description of the functional changes:
Remove the requirement for extraction force at 1,000 cycle count Move the initial measurement to the sixth extraction. Change test measurements to the 6 th , 32 nd , and 10,001 th extraction.

Benefits as a result of the changes:
Reduce the wear of the plug and increase the possibility of compliance of the plug manufacturer's with the specification.

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
None

An analysis of the hardware implications:
This ECR changes the initial measurement and second measurement for extraction force requirements to better reflect user perception of the connector performance. Existing tooling for compliant parts is not affected.

An analysis of the software implications:
None

An analysis of the compliance testing implications:
The initial and second extraction force measurements are moved to a different mating cycle.

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Actual Change

(a). Section 3.8.1.2, Page 94

From Text:

3.8.1.2 Extraction Force (EIA 364-13)

The connector extraction force shall be within the range of 8 N to 20 N up to 1,000 mating cycles and within the range of 6 N to 20 N after the specified insertion/extraction or durability cycles (at a maximum rate of 12.5 mm (0.492”) per minute). This requirement does not apply when the connectors are used in a mechanical docking application.

To Text:

3.8.1.2 Extraction Force (EIA 364-13)

The initial connector extraction force shall be within the range of 8 N to 20 N, measured after a preconditioning of five insertion/extraction cycles (i.e., the sixth extraction). After an additional twenty-five insertion/extraction cycles, the extraction force shall be measured again (i.e., the thirty-second extraction) and the extraction force shall be within:

- a) 33 % of the initial reading, and
- b) within the range of 8 N to 20 N.

The extraction force shall be up to 1,000 mating cycles and within the range of 6 N to 20 N after ~~the specified 10,000~~ insertion/extraction ~~or durability~~ cycles. The extraction force (at a measurement shall be performed at a maximum speed of 12.5 mm (0.492”) per minute). ~~This~~ The extraction force requirement does not apply when the connectors are used in a mechanical docking application.