



Standard Practice for Contact Performance Classification of Electrical Connection Systems¹

This standard is issued under the fixed designation B868; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice provides a uniform method of specifying performance requirements for (or reporting test results of) electrical contact and connection systems. Both conductor and connector system performance may be specified by this practice, separately or in combination.

1.2 This practice may be used for separable or permanent contacts employing metallic conductors and contacts.

1.3 This practice provides methods for both signal and power applications.

1.4 This practice does not specify the sample preparation or test sequences required for determining contact performance. It is the responsibility of the user of this practice to determine the applied test sequence(s) appropriate for the application.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to become familiar with all hazards including those identified in the appropriate Material Safety Data Sheet (MSDS) for this product/material as provided by the manufacturer; to establish appropriate safety and health practices, and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

B539 Test Methods for Measuring Resistance of Electrical Connections (Static Contacts)

¹ This practice is under the jurisdiction of ASTM Committee B02 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.11 on Electrical Contact Test Methods.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

B542 Terminology Relating to Electrical Contacts and Their Use

B812 Test Method for Resistance to Environmental Degradation of Electrical Pressure Connections Involving Aluminum and Intended for Residential Applications

2.2 UL Standard:

UL 486B Wire Connectors for Use with Aluminum Conductors, Third Edition, 1991³

3. Terminology

3.1 Terms used in this practice are defined in Terminology **B542** except as noted in 3.2.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *conductor, n*—electrically conductive member carrying current to a contact interface. Examples are wire and cable, busbar, and conductive paths on an etched printed circuit board.

3.2.2 *contact performance, n*—contact interface behavior as indicated by initial electrical resistance and resistance change under the applied test conditions.

4. Summary of Practice

4.1 The prescribed performance specification (or reporting) statement consists of three sections, as follows:

4.1.1 *Performance Classification*, in accordance with this practice (Section 6).

4.1.2 *Variability Index*, determined by sample size and distribution of resistance values measured at end of test, in accordance with this practice (Section 7).

4.1.3 Statement of test method employed to determine performance classification.

4.2 The format for the performance specification (or reporting) statement is as follows:

³ Available from Underwriters Laboratories (UL), 333 Pfingsten Rd., Northbrook, IL 60062-2096, <http://www.ul.com>.