



Designation: ~~B692 – 90 (Reapproved 2012)~~ B692 – 18

Standard Specification for 75 % Silver-25 % Graphite Sliding Contact Material¹

This standard is issued under the fixed designation B692; 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 specification defines the criteria for composition and other requirements for brushes with a nominal silver content of 75 weight % with the balance being substantially graphite.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *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)(SDS) for this product/material as provided by the manufacturer, to establish appropriate safety, health, and environmental practices, and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

B613 Guide for Preparing Specifications for Miniature Brushes of Composite Materials for Sliding Electric Contacts

E18 Test Methods for Rockwell Hardness of Metallic Materials

2.2 *ANSI/NEMA Standard:*

~~E64.1~~ CB-1 Brushes for Electrical Machines³

3. Requirements

3.1 *Chemical Composition* shall be as follows:

Silver	75 ± 3 % (weight)
Graphite	balance
Total metal impurities	1 % max
Percent ash in graphite (ANSI C64.1)	5 % max
Percent ash in graphite (NEMA CB-1)	5 % max

3.2 *Physical Properties*—The following lot average properties must be met. Unless otherwise agreed between the producer and the user, the number of samples shall be five.

3.2.1 *Density*—The minimum acceptable density shall be 4.6 g/cm³ as determined by the measurement and weight method defined by ~~ANSI C64.1~~ NEMA CB-1.

3.2.2 *Shear Strength*:

3.2.2.1 The shear strength for the normal and transverse directions shall be measured for rectangular parallelepipeds and shall be 2000 psi (14 MPa), minimum.

3.2.2.2 The shear strength for the longitudinal shear direction shall be measured for cylinders and shall be 1000 psi (6.9 MPa), minimum.

¹ This specification is under the jurisdiction of ASTM Committee B02 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.05 on Precious Metals and Electrical Contact Materials.

Current edition approved May 1, 2012; Nov. 1, 2018. Published May 2012; January 2019. Originally approved in 1981. Last previous edition approved in 2006; 2012 as B692 – 90 (2006); (2012). DOI: 10.1520/B0692-90R12; 10.1520/B0692-18.

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.

³ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, http://dodssp.daps.dla.mil; National Electrical Manufacturers Association (NEMA), 1300 N. 17th St., Suite 1752, Rosslyn, VA 22209, http://www.nema.org.