



Designation: D6465 – 99 (Reapproved 2024)

Standard Guide for Selecting Aerospace and General Purpose Adhesives and Sealants¹

This standard is issued under the fixed designation D6465; 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 guide is intended to assist design engineers, manufacturing/industrial engineers, and production managers in selecting the best-fit adhesive/sealant or bonding/sealing process. The guide takes into account environmental pollution prevention and occupational health and safety factors in a selection process.

1.2 This guide is not to be considered as a database of acceptable materials. It will guide the engineers and managers through the adhesive/sealant material selection process, calling for engineers to customize their selection based on the bonding or sealing performance requirements for the specified application. A comprehensive selection process will allow for the establishment of a more efficient production process, and may eliminate unnecessary process steps. A total life cycle cost analysis or performance/cost of implementation study is recommended to compare the available alternatives.

1.3 This guide is for aerospace and general purpose operations. It is not intended to be used for automotive, carpet, construction, electronics, medical/dental, optical, or structural and nonstructural wood applications. Note that this guide is not specifically for these applications, but the general methodology may be used in the selection process for these applications.

1.4 *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 establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *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.*

¹ This guide is under the jurisdiction of ASTM Committee D14 on Adhesives and is the direct responsibility of Subcommittee D14.60 on Adhesive Material Classification System.

Current edition approved Sept. 1, 2024. Published September 2024. Originally approved in 1999. Last previous edition approved in 2016 as D6465 – 99 (2016). DOI: 10.1520/D6465-99R24.

2. Referenced Documents

2.1 ASTM Standards:²

- D56 Test Method for Flash Point by Tag Closed Cup Tester
- D896 Practice for Resistance of Adhesive Bonds to Chemical Reagents
- D897 Test Method for Tensile Properties of Adhesive Bonds
- D903 Test Method for Peel or Stripping Strength of Adhesive Bonds
- D905 Test Method for Strength Properties of Adhesive Bonds in Shear by Compression Loading
- D907 Terminology of Adhesives
- D950 Test Method for Impact Strength of Adhesive Bonds
- D1002 Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal)
- D1062 Test Method for Cleavage Strength of Metal-to-Metal Adhesive Bonds
- D1084 Test Methods for Viscosity of Adhesives
- D1144 Practice for Determining Strength Development of Adhesive Bonds
- D1146 Test Method for Blocking Point of Potentially Adhesive Layers
- D1151 Practice for Effect of Moisture and Temperature on Adhesive Bonds
- D1183 Practices for Resistance of Adhesives to Cyclic Laboratory Aging Conditions
- D1184 Test Method for Flexural Strength of Adhesive Bonded Laminated Assemblies
- D1310 Test Method for Flash Point and Fire Point of Liquids by Tag Open-Cup Apparatus
- D1337 Practice for Storage Life of Adhesives by Viscosity and Bond Strength
- D1338 Practice for Working Life of Liquid or Paste Adhesives by Consistency and Bond Strength
- D1780 Practice for Conducting Creep Tests of Metal-to-Metal Adhesives
- D1781 Test Method for Climbing Drum Peel for Adhesives

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