



Standard Performance Requirements for Plastic Chairs for Outdoor Use¹

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1. Scope

1.1 These requirements establish nationally recognized performance requirements for Class A (residential) and Class B (nonresidential) plastic chairs intended for outdoor use.

1.2 These requirements do not address conditions that affect the performance of the chair beyond the manufacturing site.

1.3 These requirements are not applicable to chaises, multi-positional chairs, upholstered chairs, or other types of furniture.

1.4 These requirements cover the physical performance of product regarding the aspects of outdoor weathering, impact, static load, and rear leg testing.

1.5 Products may be manufactured from recycled plastics as long as the performance requirements are met.

1.6 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.7 *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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

D 638 Test Method for Tensile Properties of Plastics²

D 2565 Practice for Xenon Arc Exposure of Plastics Intended for Outdoor Applications³

D 4329 Practice for Fluorescent UV Exposure of Plastics⁴

D 5033 Guide for the Development of ASTM Standards Relating to Recycling and Use of Recycled Plastics⁴

G 23 Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials⁵

3. Terminology

3.1 Definition:

3.1.1 *plastic chair, n*—for the purposes of these requirements, a molded, upright piece of furniture with or without arms, having a back in a fixed position with no moving parts, intended for seating one person, and having a seat height not less than 15 in. (381 mm) and not greater than 19 in. (483 mm); for a chair with arms, having a seat width not less than 16 in. (406 mm) and not greater than 30 in. (762 mm); and for a chair without arms, having a seat width not less than 14 in. (356 mm) and not greater than 30 in. (as shown in Fig. 1).

3.1.1.1 *Discussion*—Class A (residential) plastic chairs are intended for use by the customer in and around the home.

3.1.1.2 *Discussion*—Class B (nonresidential) plastic chairs are intended for use by the customer in all other areas, including those defined as Class A.

4. Significance and Use

4.1 Tests and criteria as outlined determine the overall usability and stability of chairs in an environment simulating the conditions of use.

4.2 Tests simulate two types of surfaces:

4.2.1 Smooth surfaces such as linoleum, wet pool decks, etc. The glass testing base (Fig. 2) is used to simulate this surface.

4.2.2 Rough surfaces such as wooden decks, outdoor grassed areas, etc. The plywood testing base (Fig. 3) is used to simulate this surface.

5. Apparatus

5.1 *Plastic Chairs*, which have been inspected and met a manufacturer's internal quality standards.

5.2 *One Heavy-Weight Canvas or Leather Bag*, 16 ± 0.2 in. (406 ± 4 mm) in diameter, which shall be measured prior to testing to determine stretching, having a total measurement not to exceed 17.5 in. (445 mm) and filled with steel or lead shot (0.09 to 0.12 in. (2.3 to 3.0 mm) in diameter) to a total weight of 150 ± 1.5 lb (68 ± 0.7 kg). The bag shall be fitted with a safety cable to prevent it from hitting the glass testing base but should not interfere with the test.

5.3 *One Heavy-Weight Canvas or Leather Bag*, identical to the bag in 5.2; however, the weight is increased by addition to the bag of 150 ± 1.5 lb (68 ± 0.7 kg) of either (1) additional

¹ These performance requirements are under the jurisdiction of ASTM Committee F15 on Consumer Products and are the direct responsibility of Subcommittee F15.33 on Outdoor Plastic Lawn Furniture.

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² *Annual Book of ASTM Standards*, Vol 08.01.

³ *Annual Book of ASTM Standards*, Vol 08.02.

⁴ *Annual Book of ASTM Standards*, Vol 08.03.

⁵ Discontinued—see 1999 *Annual Book of ASTM Standards*, Vol 14.04.