



Standard Test Methods for Evaluating Design and Performance Characteristics of Fitness Equipment¹

This standard is issued under the fixed designation F2571; 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.

INTRODUCTION

The goal of these tests is to provide reliable and repeatable methods for the evaluation of fitness equipment. The equipment users must recognize, however, that conformance to a standard will not necessarily prevent injuries. Like other physical activities, exercise involving fitness equipment involves the risk of injury, particularly if the equipment is not maintained or used properly.

1. Scope

1.1 These test methods specify procedures and apparatus used for testing and evaluating fitness equipment for compliance to Specification **F2276**. Both design and operational parameters will be evaluated. Where possible and applicable, accepted test methods from other recognized bodies will be used and referenced.

1.2 It is the intent of this standard to specify test methods for fitness products for use by individuals age 13 and above.

1.3 *Requirements*—Fitness Equipment is to be tested for all of the following parameters:

- 1.3.1 Stability.
- 1.3.2 Edge and Corner Sharpness.
- 1.3.3 Tube Ends and Holes.
- 1.3.4 Function of Adjustments and Locking Mechanisms.
- 1.3.5 Handgrip Design and Retention.
- 1.3.6 Foot Supports.
- 1.3.7 Load Development and Transmitting Systems.
- 1.3.8 Chain and Gear Drive Design.
- 1.3.9 Entrapment Zones and Guarding.
- 1.3.10 Loading:
 - 1.3.10.1 Intrinsic Loading.
 - 1.3.10.2 Extrinsic Loading.
 - 1.3.10.3 Handlebar Loading.
 - 1.3.10.4 Endurance Loading.
- (1) Seat frame endurance loading.
- 1.3.11 Switch and switch actuation mechanism endurance.

¹ These test methods are under the jurisdiction of ASTM Committee **F08** on Sports Equipment, Playing Surfaces, and Facilities and are the direct responsibility of Subcommittee **F08.30** on Fitness Products.

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- 1.3.12 Electrical Guarding.
- 1.3.13 Maximum Surface Temperature.
- 1.3.14 Documentation and Warnings Verification.

1.4 The values stated in SI units are to be regarded as the standard. The values in parentheses are for information only.

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

2. Referenced Documents

2.1 ASTM Standards:²

F1749 Specification for Fitness Equipment and Fitness Facility Safety Signage and Labels
F2276 Specification for Fitness Equipment

2.2 European Standards:³

EN 957-1 Stationary Training Equipment - Part 1: General Safety Requirements and Test Methods

2.3 UL Standards:⁴

UL 1439 Standard for Safety Test for Sharpness of Edges on Equipment
UL 1647 Motor-Operated Massage and Exercise Machines
UL 60335 Standard for Safety of Household and Similar Electrical Appliances

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 European Committee for Standardization (CEN), 36 rue de Stassart, B-1050, Brussels, Belgium, <http://www.cenorm.be>.

⁴ Available from Underwriters Laboratories (UL), 333 Pfingsten Rd., Northbrook, IL 60062-2096, <http://www.ul.com>.