



Standard Terminology Relating to Safety and Traction for Footwear¹

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1. Scope

1.1 This terminology standard covers terminology used in safety and traction for footwear and related material.

1.2 Words adequately defined in standard dictionaries are not included. Included are words that are particular to this industry.

NOTE 1—The following standards are currently under the jurisdiction of ASTM Committee F13 on Safety and Traction for Footwear and are included in 2.1: Test Methods **F489**, **F609**, and **F694**; Practices **F695** and **F1637**; and Guides **F802** and **F1240**.

2. Referenced Documents

2.1 *ASTM Standards*:²

D5859 Test Method for Determining the Traction of Footwear on Painted Surfaces Using the Variable Incidence Tester (Withdrawn 2005)³

F489 Test Method for Using a James Machine (Withdrawn 2005)³

F609 Test Method for Using a Horizontal Pull Slipmeter (HPS)

F694 Test Method for Heel-Attaching Strength of Women's Shoes (Withdrawn 2008)³

F695 Practice for Ranking of Test Data Obtained for Measurement of Slip Resistance of Footwear Sole, Heel, and Related Materials

F802 Guide for Selection of Certain Walkway Surfaces When Considering Footwear Traction (Withdrawn 2012)³

F1240 Guide for Ranking Footwear Bottom Materials on Contaminated Walkway Surfaces According to Slip Resistance Test Results

F1637 Practice for Safe Walking Surfaces

F1694 Guide for Composing Walkway Surface Investigation, Evaluation and Incident Report Forms for Slips, Stumbles, Trips, and Falls

F2508 Practice for Validation, Calibration, and Certification of Walkway Tribometers Using Reference Surfaces

3. Terminology

adhesion, *n*—the tendency of one surface to adhere to another surface prior to movement due to dwell time, as well as other factors.

arch, *n*—the bony framework of the foot extending from the heel to the toes and sustained by the muscles and ligaments in the form of an arch. Also, the bottom curve of a shoe last from heel to ball.

barefoot, *adv or adj*—with the feet uncovered or unclothed; without shoes or stockings.

bollard, *n*—a thick, low, short, post, often of iron or steel and usually used in series, provided for the purpose of excluding or diverting motor vehicles from a road, lawn, or path. **F1637**

breast, *n*—the forward or front face of a shoe heel.

calibration, *n*—the set of operations that establishes, under specified conditions, the relationship between the values obtained by a walkway tribometer and the corresponding supplier reference values. **F2508**

carpet, *n*—permanently secured fibrous floor covering.

¹ This terminology is under the jurisdiction of ASTM Committee F13 on Pedestrian/Walkway Safety and Footwear and is the direct responsibility of Subcommittee F13.91 on Editorial and Terminology.

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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.

³ The last approved version of this historical standard is referenced on www.astm.org.

DISCUSSION—

Area rugs, mats, and runners are not considered to be carpet for the purpose of this practice. **F1637**

clean, *n*—free from visible or tactile contamination.

coating, *n*—a layer of any substance intentionally applied to a surface to modify its functional or decorative characteristics.

coefficient-of-friction (COF or μ), *n*—a dimensionless number: the ratio of two forces acting at the interface of two contacting solid bodies. The force used in the numerator is parallel to the surfaces and the force used in the denominator is perpendicular (normal) to the surfaces. See also *dynamic coefficient of friction*.

coefficient of friction (COF), *n*—the ratio of the horizontal component of force (parallel to the walkway surface and passing through the tester center of gravity) required to overcome the friction to the normal component of the vertical force (weight) of the object. **D5859**

coefficient of friction, *n*—the ratio of the frictional force to the force, usually gravitational, acting perpendicular to the two surfaces in contact. This coefficient is a measure of the relative difficulty with which the surface of one material will slide over an adjoining surface of itself, or of another material. The static or starting coefficient of friction (μ_s) is related to the force measured to begin movement of the surfaces relative to each other. The kinetic or sliding coefficient of friction (μ_k) is related to the force measured in sustaining this movement. **F489**

contaminant, *n*—any substance between and not a part of either of the two surfaces; *contaminant, contaminating, contamination*.

contamination, *n*—any undesirable solid or liquid material that rests upon a surface or exists between two mating surfaces; *contaminant, contaminating*.

contra lateral, *adj*—located, occurring, or acting on the opposite side of the body.

cross slope, *n*—the slope of a pedestrian walkway that is perpendicular to the direction of travel. **F1637**

dwelt time, *n*—the duration of time beginning at the instant a tribometer's test foot is placed upon the surface to be tested, and ending at the instant a shear force is applied to the sensor.

dynamic coefficient of friction (DCOF), *n*— a coefficient of friction, μ_d , obtained during relative translation between two contacting solid bodies; used interchangeably with *kinetic coefficient of friction*.

element, *n*—an identifiable part of an architectural component, for example, a stair handrail, tread, riser, or landing. **F1637**

fair, *adj*—a smooth transition between adjacent surfaces. **F1637**

fall, *n*—undesirable descent due to the force of gravity, usually from a standing posture or during ambulation, to a lower level, usually the ground or floor.

fit, *n*—the ability of the shoe or hosiery to conform to the size, width, shape, and proportion of the foot.

floor surface, *n*—See *walkway surface*.

footwear, *n*—wearing apparel for the feet (such as shoes, boots, slippers, or overshoes), excluding hosiery.

footwear, *n*—shoes, including boots, sandals, slippers, or foul weather gear such as overshoes and rubbers, or a combination thereof. **F1637**

foreseeable pedestrian path, *n*—any place where a pedestrian could reasonably be expected to walk. **F1637**

foxing, *n*—a piece of material applied to the upper or extending around the outsole of a boot or shoe.

friction, *n*—resistance to the relative motion of one body sliding, rolling, or flowing over another with which it is in contact.

friction, *n*—the resistance developed between the physically contacting surfaces of two bodies when there is a movement or attempted movement of one body relative to the other parallel to the plane of contact. **D5859**

friction, *n*—the resisting force that arises when a surface of one substance slides, or tends to slide, over an adjoining surface of itself or another substance. Between surfaces of solids in contact there may be two kinds of friction: (1) the resistance opposing the force required to start to move one surface over another, and (2) the resistance opposing the force required to move one surface over another at a variable, fixed, or predetermined speed. **F489**

heel, *n*—a solid part of a shoe or boot projecting downward and attached to or forming the back part of the sole under the heel of the foot.

heel breast, *n*—the forward or front face of a shoe heel.