



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 F-13 on Safety and Traction for Footwear and are included in 2.1: Test Methods F 489, F 609, and F 694; Practices F 695 and F 1637; and Guides F 802 and F 1240.

2. Referenced Documents

2.1 ASTM Standards:

F 489 Test Method for Using a James Machine²

F 609 Test Method for Using a Horizontal Pull Slipmeter (HPS)²

F 694 Test Method for Heel-Attaching Strength of Women's Shoes²

F 695 Practice for Evaluation of Test Data Obtained for Measurement of Slip Resistance of Footwear Sole, Heel, or Related Materials²

F 802 Guide for Selection of Certain Walkway Surfaces When Considering Footwear Traction²

F 1240 Guide for Categorizing Results of Footwear Slip Resistant Measurements on Walkway Surfaces With an Interface of Various Foreign Substances²

F 1637 Practice for Safe Walking Surfaces²

3. Terminology

arch, *n*—an inner portion of a shoe resembling an arch in form or function.

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

breast, *n*—the fore part or the heel of a shoe next to the shank; the front face of a shoe heel.

clean—free from visible or tactile contamination.

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

coefficient-of-friction (COF or μ)—a dimensionless number:

¹ This terminology is under the jurisdiction of ASTM Committee F13 on Safety and Traction for Footwear and is the direct responsibility of Subcommittee F13.91 on Terminology.

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² Annual Book of ASTM Standards, Vol 15.07.

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*.

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

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

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

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

fall—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—the degree to which an article of hosiery or footwear conforms to the shape of the foot upon which it is worn.

floor surface—See *walkway surface*.

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

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.

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 seat, *n*—the part of a shoe to which the heel is attached.

hosiery—any covering of the foot not intended for ground contact during ambulation, such as socks, stockings, etc.

ipsilateral, *adj*—located, occurring, or acting on the same side of the body.

mudguard, *n*—a strip of material applied to a shoe upper just above the sole intended as a protection against dampness or as an ornament.

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pedestrian—a person using legs or leg surrogates (for example, prosthetic limbs, crutches, etc.) as the principal mechanism for locomotion.

quarter, n—one side of the upper of a shoe or boot from heel to vamp.

surface characteristics—a set of terms considered to be the minimum needed to precisely describe the condition of a surface especially regarding slip resistance (material, contamination, slope, texture, hardness, coating, temperature).

upper, n—the parts of a shoe or boot that are above the sole.

walkway surface—a structure intended to be used by a person attempting to walk.

4. Acronyms

COF—coefficient of friction

DCOF—dynamic coefficient of friction

SCOF—static coefficient of friction

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