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An American National Standard

Standard Terminology Relating to Athletic Shoes and Biomechanics¹

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1. Scope

1.1 This terminology defines biomechanical and shoe-related terms for use in the development of standard test methods and specifications for athletic footwear.

1.2 The terms defined in this terminology are appropriate for use by the athletic footwear manufacturers and by biomechanicists in matters concerning athletic shoe technology, test methods, and specifications.

2. Terminology

2.1 Definitions:

abduction—the movement of a body part from the longitudinal (midline) of the body or in reference to fingers and toes, movement away from the midline of hand or foot.

abrasion tester—a machine for determining the quantity of material lost by friction wear under specified conditions.

accelerated aging—the deterioration of a material faster than normal by subjecting the material to conditions specified by the test method being followed.

accelerated life test—method designed to approximate, in a short time, the deteriorating effect of normal, long-term service conditions. (D 1566, D-11)

aging—(1) the effect on materials of exposure to an environment for an interval of time. (2) the process of exposing materials to an environment for an interval of time. (D 883, D-20)

anteroposterior—extending from the front to the rear.

anthropometry—the science of the measurement of the human body and its parts.

arch-footwear—the bottom curve of a shoe last from heel to ball.

arch support—a device of leather, metal, or other material shaped to the contour of the longitudinal arch of the foot and inserted or built in a shoe.

backpart molding—a preparatory shaping operation to heel seat prior to lasting, usually performed on the thermoplastic counters where backpart components are heated on a metal heel form and molded into the backpart heel shape combining counter, upper and lining before the actual lasting operation is performed on the backpart of the shoe.

ball measurement—the line running completely around the foot or last coplanar to the joints of large and small toes.

bench test—a modified service test in which the service conditions are approximated, but the equipment is laboratory equipment and not necessarily identical with that in which the product will be employed.

bottoms—the underface of the shoe sole which extends from the toe to the heel breast. The heel is not a part of the bottom.

california process—this process requires the accurate drafting of patterns, cutting, and stitching of the upper, sock lining, and platform cover. The upper and sock lining are stitched together. The platform cover is stitched to the other two parts in a separate operation. The last is then inserted into the upper. After the last is inserted, the platform is accurately pressed into place.

cast—an impression or mold taken from a person or thing.

cellular plastic—a plastic containing numerous cells, intentionally introduced, interconnecting or not, distributed throughout the mass. (D 883, D-20)

cement construction—a process in which the outsole is attached to the upper by cementing instead of sewing or by other methods. Also known as the compo process, after Compo Industries, Inc., which introduced this method commercially into the U.S. about 1930; also known as cement process and as cemented process.

cinematography—an instrumentation system for filming, measuring, and analyzing movements of the athlete, usually including a computerized digitizer for data analysis.

¹ These definitions are under the jurisdiction of ASTM Committee F08 on Sports Equipment and Facilities and are the direct responsibility of Subcommittee F08.54 on Footwear.

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