Designation: F717 – 10

An American National Standard

Standard Specification for Football Helmets[1]

This standard is issued under the fixed designation F717; 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

This specification addresses shock absorption requirements of football helmets. The acceleration limits described herein were guided by the state-of-the-art technology concerning mechanisms and tolerance of head injury and by the performance of current football helmets, and should not be used as limitations for human tolerance or as limits of acceptance for other test procedures.

In addition to the minimum performance tests and inspection procedures described, it is the intent of this specification that the same acceleration limits apply for velocities lower than that required in the impact test, and at all helmet locations above the reference plane.

Other intentions that were not amenable to testing or inspection are offered as guidelines: (*1*) the chin strap and cup should be attached to the helmet in a manner to enable the helmet to remain in its normal position on the wearer's head during play and impact conditions; (*2*) the physical characteristics of materials used in construction of the helmet should retain their shock-absorbing characteristics under the influence of aging, use, or exposure to typical environmental conditions.

1. Scope

1.1 This specification covers new and reconditioned football helmets intended for use in competitive play and practice with particular reference to shock attenuation requirements.

1.2 This specification establishes shock absorption requirements of complete helmets when tested in accordance with Test Method F429 and establishes requirements for construction, materials, visibility, and labeling.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

F429 Test Method for Shock-Attenuation Characteristics of Protective Headgear for Football

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *reference index*—the manufacturer's recommended dimension from the lowest point of the helmet face opening to the basic plane of a reference headform, both points located on the median plane of the helmet.

3.2 For descriptions of other terms used in this specification, refer to Test Method F429.

4. Materials and Manufacture

4.1 The materials used in those parts of the helmet which contact the head shall not be of a type known to cause irritation or disease. Paints, glues, and finishes used in manufacture shall be compatible with materials used in the helmet shell and shock absorption system.

4.2 The helmet, as tested, shall have no rigid external projections greater than 1.6 mm in height, except for faceguard; chin strap, nose bumper, or sweatband hardware. Any faceguards or faceguard hardware installed on the helmet must be removed prior to testing.

4.2.1 All allowable external projections shall be smooth and rounded so as to minimize the potential of injury.

4.3 Any internal rigid projections that can contact the wearer's head during impact shall be protected by some means of cushioning or force spreading.

4.4 The helmet shall provide peripheral vision clearance of at least 105° to each side of the median plane when the helmet is adjusted to the reference headform with the reference index.

[1] This specification is under the jurisdiction of ASTM Committee F08 on Sports Equipment and Facilitiesand is the direct responsibility of Subcommittee F08.53 on Headgear and Helmets.

Current edition approved Aug. 1, 2010. Published September 2010. Originally approved in 1981. Last previous edition approved in 2006 as F717 – 89 (2006). DOI: 10.1520/F0717-10.

[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.