This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

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An American National Standard

Standard Specification for Face Guards for Youth Baseball[1]

This standard is issued under the fixed designation F910; 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

In baseball, or similar sports, where the force of a pitched, hit, or deflected ball can cause facial injury, there is a need for head, facial, eye, and teeth protection. After careful consideration of the mechanisms and forces involved in this context, this specification for eye and facial protective equipment has been prepared.

The impact test is designed to approximate the impact of a direct perpendicular blow from a baseball traveling at 30 m/s (67.1 mph). These speeds have been confirmed by actual measurements on baseballs thrown by youth league pitchers. Performance and design requirements developed on this basis are intended to minimize injury and to prolong the useful life of the equipment. However, because of complex interactions of variables such as ball speed, direction and point of impact, and particularly, individual differences in reaction to impact forces, it must be kept in mind that some injuries, even some serious injuries, are still possible.

1. Scope

1.1 This specification covers protective face guards for sports such as youth baseball (batters and baserunners).

1.2 This type of face guard is designed to be attached to a pre-existing helmet.

1.3 The equipment covered by this specification is intended to reduce hazards of injury to the face, including eyes and mouth, due to impacts from baseballs or softballs.

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

1.5 The following precautionary caveat pertains only to the test method portion, Section 5, of this specification: *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. General Requirements

2.1 *Materials:*

2.1.1 The design of the face guards and the choice of materials shall be such as to combine mechanical strength and durability consistent with the intended use of the equipment.

2.1.2 Materials coming into contact with the wearer's face shall not be a type known to cause skin irritation or disease, and shall not undergo significant loss of strength, flexibility, or other physical change as a result of contact with perspiration, oil, or grease from the wearer's head or skin.

2.2 *Finishes*—All points shall be well finished, and free of sharp edges or other irregularities that would present potential hazards of scratching and cutting the user or an opposing player.

2.3 *Padding*—Where padded chin straps are used, the padding material shall be attached to the device in such a way as to cover all the hard surfaces that come into contact with the chin. The method of securing padding shall maintain the padding material in position under normal conditions of heat, cold, moisture, or force distortion by the wearer. Any adhesive used to attach the padding to the face guard shall be of such a type as to cause no deterioration or stress of the face guard material.

2.4 *Attachment System*—Face guards shall be attached to the helmet in such a way as to avoid reduction of the degree of protection offered by the helmet or the combination of helmet

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

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and guard. The protection offered by the helmet or guard shall be considered impaired if there is visual evidence of stress to the helmet or guard or any disengagement of the guard following the tests as set forth in 5.3 or while in use.

3. Performance Requirements

3.1 All testing shall be done with the face guard mounted on a helmet of a make or model specified by the face guard manufacturer and placed on a headform as specified in 5.1.1.

3.2 *Impact Requirements:*

3.2.1 When testing in accordance with Section 5, the following applies:

3.2.1.1 The wire face guard shall be deemed a failure if any weld completely separates or if any fractures in the wire between any two welds occur on any specimen as a result of impact.

3.2.1.2 The plastic face guard shall be deemed a failure if any full-thickness cracks or fractures occur on any specimen as a result of impact.

3.2.1.3 The protection by the face guard shall be deemed a failure if the face guard becomes disengaged from the helmet during testing in accordance with 5.3.

3.2.2 Neither the ball nor the face guard may contact Zone A of Fig. 4. The ball may not contact Zone B, but the face guard may contact Zone B as the result of deflection by the ball. No paste shall be left on the ball (from Zone A or B) or on any part of the face guard (from Zone A) as a result of the impact specified in 5.3.1. Paste residue transferred from "no contact areas" as determined above and in Fig. 4 will constitute a failure. The paste can be colored using a food coloring or other suitable material in order to apply different colors to Zone A and Zone B so that areas of facial contact are more easily distinguishable when examining the ball and face guard.

4. Sample Preparation

4.1 Test only face guards as offered for sale and only when attached to an appropriate helmet.

4.2 Condition face guards at the temperatures of 36 ± 2°C (97 ± 4°F) and at 10 ± 2°C (50 ± 4°F) for a minimum period of 4 h prior to test. The face guard will be tested within 3 min from removal from the conditioning environment. The face guard/helmet assemblies may be returned to the conditioning environment in order to meet this requirement. Prior to the resumption of testing, specimens must remain in the conditioning environment for a minimum of 15 min for each period up to 5 min long that they are out of the conditioning environment.

4.3 Assemble face guards to the helmets in accordance with instructions provided. (See 7.1.)

5. Impact Test Method

5.1 *Apparatus for Impact Tests:*

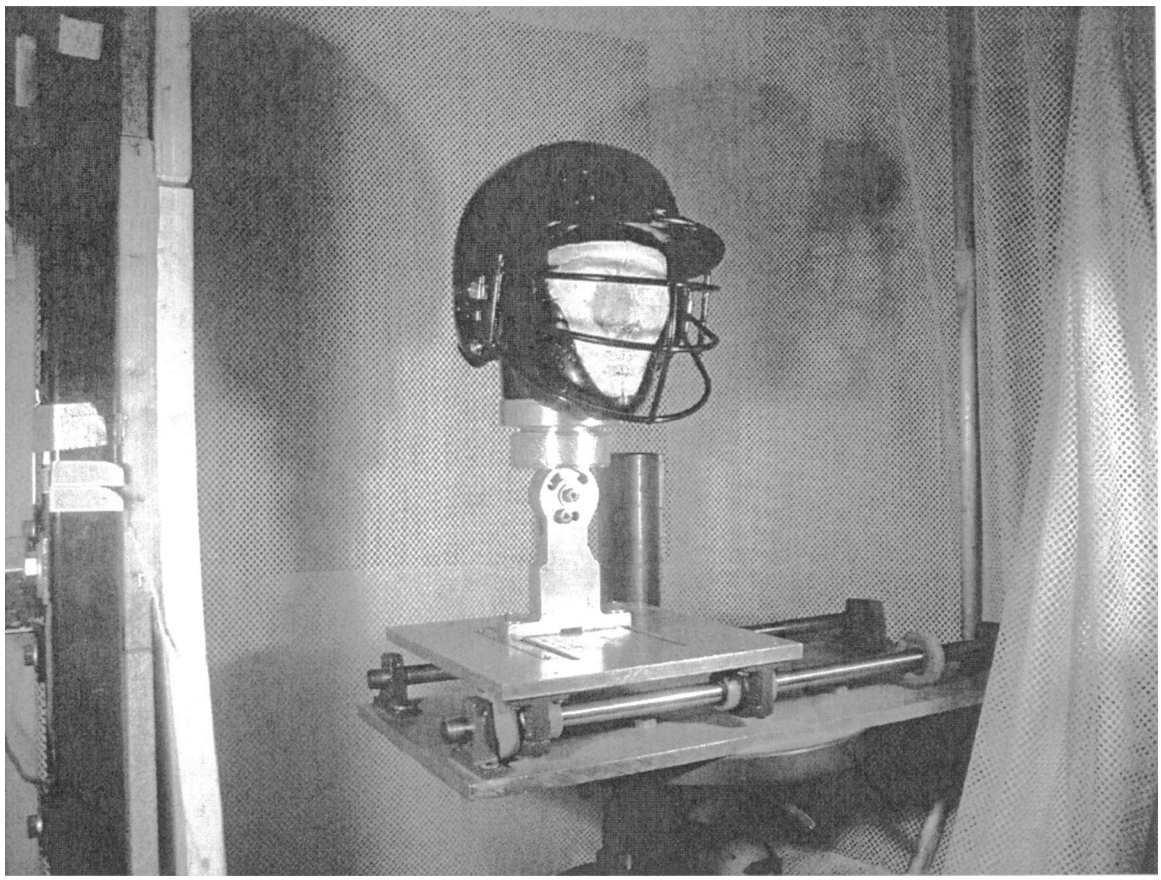

FIG. 1 Face Guard and Helmet on Headform

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