

- 1203.7 Samples for testing.
- 1203.8 Conditioning environments.
- 1203.9 Test headforms.
- 1203.10 Selecting the test headform.
- 1203.11 Marking the test line.
- 1203.12 Test requirements.
- 1203.13 Test schedule.
- 1203.14 Peripheral vision test.
- 1203.15 Positional stability test (roll-off resistance).
- 1203.16 Dynamic strength of retention system test.
- 1203.17 Impact attenuation test.
- 1203.18 Reflectivity. [Reserved]

Subpart B—Certification

- 1203.30 Purpose and scope.
- 1203.31 Effective date.
- 1203.32 Definitions.
- 1203.33 Certification testing.
- 1203.34 Product certification and labeling by manufacturers (including importers).

Subpart C—Recordkeeping

- 1203.40 Effective date.
- 1203.41 Recordkeeping requirements.

Subpart D—Bicycle Helmets Manufactured From March 16, 1995, Through Date That Is 1 Year After The Final Rule Is Issued

- 1203.51 Purpose.
- 1203.52 Scope and effective date.
- 1203.53 Interim safety standards.

Figures to Part 1203

Authority: Secs. 201–207, Pub. L. 103–267, 108 Stat. 726–729, 15 U.S.C. 6001–6006.

Subpart A—The Standard

§ 1203.1 Scope and effective date.

This standard describes test methods and defines minimum performance criteria for protective headgear used by bicyclists. The values stated in International System of Units (“SI”) measurements are the standard. The inch-pound values stated in parentheses are for information only. The standard shall become effective 1 year after publication of the final rule and shall apply to all bicycle helmets manufactured after that date. Bicycle helmets manufactured between March 16, 1995, and the date that is 1 year after publication of the final rule, inclusive, are subject to the requirements of Subpart D, rather than this Subpart A.

§ 1203.2 Purpose.

The purpose and basis of this standard is to reduce the likelihood of serious injury and death to bicyclists resulting from impacts to the head, as provided in 15 U.S.C. 6001–6006.

§ 1203.3 Referenced documents.

The following documents are referenced in this standard.

(a) Draft ISO/DIS Standard 6220–1983—Headforms for Use in the Testing of Protective Helmets.¹

(b) Federal Motor Vehicle Safety Standard 218, Motorcycle Helmets.²

(c) SAE Recommended Practice SAE J211 OCT88, Instrumentation for Impact Tests.³

§ 1203.4 Definitions

(a) Basic plane means an anatomical plane that includes the auditory meatuses (the external ear openings) and the inferior orbital rims (the bottom edges of the eye sockets). The ISO headforms are marked with a plane corresponding to this basic plane (see Figures 1 and 2 to this part).

(b) Bicycle helmet means any headgear that either is marketed as, or has a reasonably foreseeable use as, a device intended to provide protection from head injuries while riding a bicycle.

(c) Comfort or fit padding means resilient lining material used to configure the helmet for a range of different head sizes. This padding has no significant effect on impact attenuation.

(d) Coronal plane is an anatomical plane perpendicular to both the basic and midsagittal planes and containing the midpoint of a line connecting the right and left auditory meatuses. The ISO headforms are marked with a transverse plane corresponding to this coronal plane (see Figures 1 and 2).

(e) Field of vision is the angle of peripheral vision allowed by the helmet when positioned on the reference headform.

(f) Helmet positioning index (HPI) is the vertical distance from the brow of the helmet to the reference plane, when placed on a reference headform. The vertical distance shall be specified by the manufacturer for each size of headform the helmet fits.

(g) Midsagittal plane is an anatomical plane perpendicular to the basic plane and containing the midpoint of the line connecting the notches of the right and left inferior orbital ridges and the midpoint of the line connecting the superior rims of the right and left auditory meatuses. The ISO headforms are marked with a longitudinal plane corresponding to the midsagittal plane (see Figures 1 and 2 to this part).

(h) Modular elastomer programmer (MEP) is a cylindrical pad, typically consisting of a polyurethane rubber, used as a consistent impact medium for the systems check procedure.

(i) Preload ballast is a “bean bag” filled with lead shot placed on the helmet to secure its position on the headform. The mass of the preload ballast is 5 kg (11 lb).

(j) Projection is any part of the helmet, internal or external, that extends beyond the faired surface.

(k) Reference headform is a headform used as a measuring device and contoured in the same configuration as one of the test headforms A, E, J, M, and O defined in DRAFT ISO DIS 6220–1983. The reference headform shall include surface markings corresponding to the basic, coronal, midsagittal, and reference planes (see Figures 1 and 2 to this part).

(l) Reference plane is a plane marked on the ISO headforms at a specified distance above and parallel to the basic plane (see Figure 3 to this part).

(m) Retention system is the complete assembly that secures the helmet in a stable position on the wearer’s head.

(n) Shield means optional equipment for helmets that is used in place of goggles to protect the eyes.

(o) Spherical impactor is a 146 mm (5.75 in.) diameter aluminum sphere, with a mass of 4005 ± 5 g (8.83 ± 1.10 lb), that is specifically machined for mounting onto the ball-arm connector of the drop-test assembly. The impactor is used to check the electronic equipment (see § 1203.17).

(p) Test headform is a solid model in the shape of a human head of sizes A, E, J, M, and O as defined in DRAFT ISO/DIS 6220–1983. Headforms used for the impact attenuation test shall be constructed of K–1A magnesium alloy or functionally equivalent metal. The test headforms shall include surface markings corresponding to the basic, coronal, midsagittal, and reference planes (see Figure 2 to this part).

(q) Test region is the area of the helmet, on and above a specified test line, that is subject to impact testing.

(r) Visor (peak) is optional helmet equipment for protection against sun or glare, and is sometimes used as a rock or dirt deflector.

§ 1203.5 Construction requirements—projections.

Any unfaired projection extending more than 7 mm (0.28 in.) from the helmet’s outer surface shall break away or collapse when impacted with forces equivalent to those produced by the applicable impact-attenuation tests in § 1203.17 of this standard. Rigid

¹ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

² Available from the Department of Transportation, National Highway Traffic Safety Administration, Office of Vehicle Safety Standards, 400 7th St. S.W., Washington D.C. 20590.

³ Available from Society of Automotive Engineers, 400 Commonwealth Dr., Warrendale, PA 15096.