projections on the inner surface shall not exceed 2 mm (0.08 in.) and shall not make contact with the test headform after testing in accordance with § 1203.17.

§1203.6 Labeling and instructions.

(a) Labeling. Each helmet shall be marked so that the following information is legible and easily visible to the user and is likely to remain on the helmet and legible throughout the intended design life of the helmet:

(1) Model designation.

(2) A warning to the user that no helmet can protect against all possible impacts.

(3) A warning that for maximum protection the helmet must be fitted and attached properly to the wearer's head in accordance with the manufacturer's fitting instructions.

(4) A warning to the user that the helmet may, after receiving an impact, be damaged to the point that it is no longer adequate to protect the head against further impacts, and that this damage may not be visible to the user. This label shall also state that a helmet that has sustained an impact should be returned to the manufacturer for competent inspection, or be destroyed and replaced.

(5) A warning to the user that the helmet can be damaged by contact with common substances (for example, certain solvents, cleaners, etc.), and that this damage may not be visible to the user. This label shall also state any recommended cleaning agents and procedures, list any known common substances that damage the helmet, and warn against contacting the helmet with these substances.

(6) The statement "Not For Motor Vehicle Use".

(b) Instructions. Each helmet shall have fitting and positioning instructions, including graphic representation of proper positioning.

§1203.7 Samples for testing.

(a) General. Helmets shall be tested in the condition in which they are offered for sale. They must pass all tests, both with and without any attachments that may be offered by the helmet's manufacturer, and with all possible combinations of such attachments.

(b) Number of samples. Five samples of each size for each model and combination of attachments offered for sale are required to test conformance to this standard. If a helmet fits more than one size of test headform, two additional samples are needed for each additional headform size for the testing described in § 1203.10—Selecting the test headform.

§1203.8 Conditioning environments.

Helmets shall be conditioned to one of the following environments prior to testing in accordance with the test schedule at § 1203.13. The barometric pressure in all conditioning environments shall be 75 to 110 kPa (22.2 to 32.6 inches of Hg). All test helmets shall be stabilized within this ambient range for at least 4 hours prior to further conditioning and testing. Storage or shipment within this ambient range satisfies this requirement.

(a) Ambient condition. The ambient condition of the test laboratory shall be within 17 °C to 27 °C (63 °F to 81 °F), and 20 to 80 percent relative humidity. The ambient test helmet does not need further conditioning.

(b) Low temperature. The helmet shall be kept at a temperature of -16 °C to -13 °C (3 °F to 9 °F) for 4 to 24 hours prior to testing.

(c) High temperature. The helmet shall be kept at a temperature of 47 °C to 53 °C (117 °F to 127 °F) for 4 to 24 hours prior to testing.

(d) Water immersion. The helmet shall be fully immersed "crown" down in potable water at a temperature of 17 °C to 27 °C (63 °F to 81 °F) to a crown depth of 305 mm \pm 25 mm (12 in. \pm 1 in.) for 4 to 24 hours prior to testing.

§1203.9 Test headforms.

The headforms used for testing shall be sizes A, E, J, M, and O, as defined by DRAFT ISO/DIS 6220–1983. Headforms used for impact testing shall be constructed of K–1A magnesium alloy or other functionally equivalent metal and must have no resonant frequencies below 3000 hz.

§1203.10 Selecting the test headform.

A helmet shall be tested on the appropriate size(s) of headform(s) on which it fits. Fit means that it is not physically difficult to put the helmet on the headform, and that the helmet's comfort or fit padding is partially compressed. A complete set of five helmets of each size and model shall be tested on the smallest size test headform on which they fit. Two additional helmets shall be tested on each of the larger headforms the helmets fit. Testing on the larger headform(s) will include at least one peripheral vision test, dynamic retention test, positional stability test, and impact attenuation test (complete set of four impacts) using the conditioning environment that produced the highest g value in the impact attenuation tests on the smallest headform the helmet fit.

§1203.11 Marking the test line.

Prior to testing, the test line shall be determined for each helmet in the following manner.

(a) Position the helmet on the appropriate headform as specified by the manufacturer's head positioning index (HPI), with the brow parallel to the basic plane. Place a 5-kg (11-lb) preload ballast on top of the helmet to set the comfort or fit padding.

(b) Draw a test line on the outer surface of the helmet coinciding with the intersection of the surface of the helmet with the impact line planes defined from the reference headform as shown in:

(1) Figure 4 to this part for helmets intended for adults and for children 5 years of age and older.

(2) Figure 5 for helmets intended for children under 5 years of age.

(c) The center of the impact sites shall be selected at any point on the helmet on or above the test line.

§1203.12 Test requirements.

(a) Peripheral vision. The helmet shall allow unobstructed vision through a minimum of 105° to the left and right sides of the midsagittal plane when measured in accordance with § 1203.14 of this standard.

(b) Positional stability. The helmet shall not release from the test headform when tested in accordance with § 1203.15 of this standard.

(c) Dynamic strength of retention system. The retention system shall remain intact without elongating more than 30 mm (1.2 in.) when tested in accordance with § 1203.16 of this standard.

(d) Impact attenuation criteria. (1) For bicycle helmets intended for adults and children 5 years and older. The peak acceleration of any impact shall not exceed 300 g when the helmet is tested in accordance with § 1203.17 of this standard.

(2) For bicycle helmets intended for children under 5 years. The peak acceleration of any impact shall not exceed 250 g when the helmet is tested in accordance with § 1203.17 of this standard.

§1203.13 Test schedule.

(a) One of the set of five helmets shall be tested for peripheral vision in accordance with § 1203.14 of this standard.

(b) Helmet samples 1 through 4 shall be conditioned in the ambient, high temperature, low temperature, and water immersion environments, respectively. Helmet 5 shall be conditioned in the ambient condition.

(c) Testing must begin within 2 minutes after the helmet is removed