

# How many g's can your brain take?

## Code of Federal Regulations

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### Title 49 - Transportation

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Title: Section 571.218 - Standard No. 218; Motorcycle helmets.

Context: Title 49 - Transportation. Subtitle B - Other Regulations Relating to Transportation (Continued).

CHAPTER V - NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION. PART 571 - FEDERAL MOTOR VEHICLE SAFETY STANDARDS. Subpart B - Federal Motor Vehicle Safety Standards.

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#### § 571.218 Standard No. 218; Motorcycle helmets.

[Link to an amendment published at 76 FR 28160, May 13, 2011.](#)

S1. *Scope.* This standard establishes minimum performance requirements for helmets designed for use by motorcyclists and other motor vehicle users.

S2. *Purpose.* The purpose of this standard is to reduce deaths and injuries to motorcyclists and other motor vehicle users resulting from head impacts.

S3. *Application.* This standard applies to all helmets designed for use by motorcyclists and other motor vehicle users.

S4. *Definitions.*

*Basic plane* means a plane through the centers of the right and left external ear openings and the lower edge of the eye sockets (Figure 1) of a reference headform (Figure 2) or test headform.

*Helmet positioning index* means the distance in inches, as specified by the manufacturer, from the lowest point of the brow opening at the lateral midpoint of the helmet to the basic plane of a reference headform, when the helmet is firmly and properly positioned on the reference headform.

*Midsagittal plane* means a longitudinal plane through the apex of a reference headform or test headform that is perpendicular to the basic plane (Figure 3).

*Reference headform* means a measuring device contoured to the dimensions of one of the three headforms described in Table 2 and Figures 5 through 8 with surface markings indicating the locations of the basic, mid-sagittal, and reference planes, and the centers of the external ear openings.

*Reference plane* means a plane above and parallel to the basic plane on a reference headform or test headform (Figure 2) at the distance indicated in Table 2.

*Retention system* means the complete assembly by which the helmet is retained in position on the head during use.

*Test headform* means a test device contoured to the dimensions of one of the three headforms described in Table 2 and Figures 5 through 8 with surface markings indicating the locations of the basic, mid-sagittal, and reference planes.

S5. *Requirements.* Each helmet shall meet the requirements of S5.1, S5.2, and S5.3 when subjected to any conditioning procedure specified in S6.4, and tested in accordance with S7.1, S7.2, and S7.3.

S5.1 *Impact attenuation.* When an impact attenuation test is conducted in accordance with S7.1, all of the following requirements shall be met:

- (a) Peak accelerations shall not exceed 400g;
- (b) Accelerations in excess of 200g shall not exceed a cumulative duration of 2.0 milliseconds; and
- (c) Accelerations in excess of 150g shall not exceed a cumulative duration of 4.0 milliseconds.