

Australian/New Zealand Standard™

Methods of testing protective helmets

Method 8: Measurement of peak deflection

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CS-097, Testing of Helmets and Visors, to supersede AS/NZS 2512.8:1998, *Methods of testing protective helmets*, Method 8: *Measurement of peak deflection*.

This Standard is republished without technical alteration.

METHOD

1 SCOPE

This Standard sets out a method for measuring the deflection under load of peaks on protective helmets.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS

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| 2512 | Methods of testing protective helmets |
| 2512.1 | Method 1: Definitions and headforms |
| 2512.2 | Method 2: General requirements for the conditioning and preparation of test specimens and laboratory conditions |

3 DEFINITIONS

For the purpose of this Standard, the definitions given in AS/NZS 2512.1 apply.

4 PRINCIPLE

A specified mass is suspended from the peak for a specified time and the resulting deflection is measured. The mass and the time are specified in the Standard relating to the type of helmet under test.

5 APPARATUS

The following apparatus is required:

- Headform complying with AS/NZS 2512.1.
- Mounting stand to secure the headform during the test.
- Means of applying a static force to the helmet to stop rotation.

- (d) Means of suspending the specified mass from the helmet peak, and of ensuring that the subtended angle is $90 \pm 5^\circ$.
- (e) Means of measuring peak deflection.

Typical apparatus is shown in Figure 1.

6 PROCEDURE

The procedure shall be as follows:

- (a) Ensure that the laboratory conditions are as specified in AS/NZS 2512.2.
- (b) Mount the helmet securely on a headform of appropriate size.
- (c) Apply a static force to the apex of the helmet to ensure that the helmet is firmly seated on the headform and that it does not rotate on the headform during testing.
- (d) Suspend the specified mass from the front edge of the peak at a point not greater than 12.5 mm from the centre of the front edge as illustrated in Figure 1. Ensure that the angle subtended by the top of the peak and the specified mass is $90 \pm 5^\circ$ at the beginning of the test.

NOTES:

- 1 This angle may change during testing.
 - 2 It is permissible to drill a small hole in the peak as a means of suspending the mass.
- (e) After the mass has been suspended for the specified time, measure the deflection under load of the front edge of the peak.

7 TEST REPORT

The test report shall include the following:

- (a) Identity of the helmet under test.
- (b) Test mass and the time for which it was suspended from the peak.
- (c) Deflection of the peak, in millimetres.
- (d) Reference to this Australian/New Zealand Standard, i.e. AS/NZS 2512.8.