

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Amendment No. 1
to
AS/NZS 4422:1996
Playground surfacing—Specifications, requirements and test method

REVISED TEXT

The 1996 edition of AS/NZS 4422 is amended as follows; the amendment(s) should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Foreword, Clauses 4.1, 4.3, 6.2, 6.4.1, Paragraphs A1, A2.1, A2.2(a), A4.1.1, A4.1.2, A4.2.3, A4.3.1, A4.3.2, A5.1, A6(f), A6(h), A6(i), A6(k) and A6(m).

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Page 3 Foreword

In Paragraph 5, sentences 2 and 3 *replace* 'g' with ' g_{max} '

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Page 4 Clause 4.1

Replace 'g' with ' g_{max} '

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Page 4 Clause 4.1, Note

Replace 'maximum g' with ' g_{max} '

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Page 5 Clause 4.3

Replace 'g' with ' g_{max} '

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Page 6 Clause 6.2

Replace 'g' with ' g_{max} '

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Page 6 Clause 6.4.1

Replace 'g' with ' g_{max} '

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Page 8 Paragraph A1

Replace 'g' with ' g_{max} '

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Page 8 Paragraph A2.1

Add 'The headform shall be positioned and dropped so that all impacts occur on the crown.'

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Page 8 Paragraph A2.2(a)

Delete 'spherical'.

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Page 9 Paragraph A4.1.1

Replace 'g' with ' $g_{\max}$ '

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Page 9 Paragraph A4.1.2

Replace 'g' with ' $g_{\max}$ '

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Page 10 Paragraph A4.2.3

Replace 'g' with ' $g_{\max}$ '

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Page 10 Paragraph A4.3.1

Replace 'g' with ' $g_{\max}$ '

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Page 11 Paragraph A4.3.2

Replace 'g' with ' $g_{\max}$ '

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Page 11 Paragraph A5.1

Delete the existing Paragraph and *replace* with:

A5.1 HIC Calculate the Head Injury Criteria (HIC) for each time/acceleration curve from the equation:

$$\text{HIC} = \left[\left(\frac{\int_{t_1}^{t_2} a \, dt}{t_2 - t_1} \right)^{2.5} (t_2 - t_1) \right]_{\max}$$

for all time intervals (t_1, t_2) with a sampling frequency ≥ 8000 Hz in accordance with ISO 6487 between t_{start} and t_{end} .

where

t_{start} = the time at the start of an impact event when the acceleration of the headform equals or exceeds zero

t_{end} = the time at the end of an impact event when the acceleration of the headform first equals or falls below zero

a = the acceleration experienced by the headform and expressed in g (acceleration due to gravity)

t_1, t_2 = two intermediate values of t (t is the time in seconds) between t_{start} and t_{end} such that the function for calculating HIC is maximized.

NOTES:

- 1 This procedure is only valid for impact events with a total duration of more than 3 ms i.e. ($t_{\text{end}} - t_{\text{start}} > 3$ ms).
 - 2 Further information on HIC can be obtained from ASTM: F 1292-96, *Impact Attenuation of Surface Systems under and around Playground Equipment*.
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Page 11 Paragraph A6(f)

Replace 'g' with ' $g_{\max}$ '
