

**AS 5100.3:2017**  
**Bridge design**  
**Part 3: Foundation and soil-supporting structures**  
**Amendment No. 1**  
**Revised text amendment**

**Publishing and Approval Dates**

Council of Standards Australia Approval: 8 November 2023

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**Summary**

This Amendment applies to the following elements:

- Global change
- Preface
- Clauses 1.1, 1.2, 1.4, 1.5, 6.4.2.1, 7.1, 7.3.4, 7.6.4, 7.6.5, A2.2, A3.2.3, A3.2.6.2
- Tables 7.3.3(B), 7.6.5, 8.3.1(A), 8.3.1(B)
- Bibliography

**Amendment Details**

AS 5100.3:2017 is amended as follows. The amendments should be inserted in the locations as instructed.

| <b>Element</b>       | <b>Instruction / New text</b>                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Global change</b> | <i>Replace “anchorage” with “anchor” and “anchorages” with “anchors” in all instances, except in Clauses 6.4.2.2(c) and 7.3.4(p).</i>                                                                                                                                                                                                                                                                               |
| <b>Preface</b>       | <p>1 <i>Delete</i> Item (i) and <i>replace</i> with the following:</p> <p>(i) <i>Definitions and notations</i> Brought into line with current Standards Australia practice. The term “anchorage” has been replaced with the term “anchor” in all instances, except in Clauses 6.4.2.2(c) and 7.3.4(p). Definitions for these terms have been added to Clause 1.4.</p> <p>2 <i>Delete</i> second last paragraph.</p> |
| <b>Cl 1.1</b>        | <p>1 <i>Delete</i> Items (c) and (d) and <i>replace</i> with the following:</p> <p>(c) underground drainage pipes;</p> <p>(d) reinforced soil structures;</p> <p>(e) driven tunnels;</p> <p>(f) chemical or adhesive anchors; and</p> <p>(g) soil nails or rock bolts.</p> <p>2 After Note 6, <i>add</i> the following:</p> <p>NOTE 7 Clause 1.2 provides further guidance on driven tunnels.</p>                   |

| Element    | Instruction / New text                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CI 1.2     | <p>After the last paragraph, <i>add</i> the following:</p> <p>The AS 5100 series is not intended to be used for the design of driven tunnels. If approved by the relevant authority, temporary and permanent concrete/shotcrete tunnel linings may be designed using the provisions in this Standard for soil-supporting structures, in particular Clause 2.3.3(e), together with the guidance described in the <i>ATS Tunnel Design Guideline</i>. Other aspects of driven tunnels including face support or rock bolt support (temporary or permanent) should adopt industry standard design methods such as the methods described in the <i>ATS Tunnel Design Guideline</i>.</p> <p>NOTE: A driven tunnel is a tunnel excavated without removing the overlying rock or soil, and except for shaft connections, open to the surface only at one or both ends during construction (for example tunnels constructed by tunnel boring machine and sequential excavation methods).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CI 1.4     | <p>After entry 1.4.6, <i>add</i> the following:</p> <p><b>1.4.7</b><br/><b>anchor</b><br/>&lt;noun&gt; a device used to restrain a structure by transmitting a tensile force to a loadbearing formation of soil or rock.</p> <p>&lt;verb&gt; to restrain a structure by transmitting a tensile force to a loadbearing formation of soil or rock.</p> <p><b>1.4.8</b><br/><b>anchorage</b><br/>an anchor component at the top of a tendon that transfers the tendon load to the ground or structure.</p> <p>Note 1 to entry: Anchorages comprise the prestressing head, bearing plate or anchorage casting, protective casting, protective cover and all associate seals, fittings and materials.</p> <p>[SOURCE: TfNSW Specification B114]</p> <p><b>1.4.9</b><br/><b>creep limit load</b><br/>load at which failure is deemed to have occurred due to creep.</p> <p>Note 1 to entry: Failure is deemed to have occurred when the load loss due to creep exceeds the limiting values prescribed in Table A5 for a given time period whilst constant extension is maintained during the peak load increment of a test cycle.</p> <p><b>1.4.10</b><br/><b>embedded wall</b><br/>wall that relies primarily on passive earth pressure or lateral restraint for stability.</p> <p>Note 1 to entry: Lateral restraint can be provided by structural elements such as anchors.</p> <p><b>1.4.11</b><br/><b>gravity wall</b><br/>wall that relies primarily on its own weight for stability.</p> |
| CI 1.5     | <ol style="list-style-type: none"> <li>1 Notation table, <i>delete</i> “<math>R_a</math>” and its definition “anchorage resistance”.</li> <li>2 Notation table, <i>delete</i> “<math>R_{ak}</math>” and its definition “characteristic anchorage resistance”.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CI 6.4.2.1 | <p>Item (a), <i>delete</i> second sentence and <i>replace</i> with the following:</p> <p>All square corners shall have a 25 mm chamfer, except that chamfers on the top longitudinal corners of the precast pile as cast may be omitted provided —</p> <ol style="list-style-type: none"> <li>(i) the exposure classification for the installed pile is B2 or less severe; and</li> <li>(ii) the geotechnical investigation results confirm that the medium in which the pile is to be driven into does not include cobbles, boulders or obstructions of similar size.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |