

AS 5100.4:2017

Bridge design

Part 4: Bearings and deck joints

Amendment No. 1

Revised text amendment

Publishing and Approval Dates

Council of Standards Australia Approval: 1 December 2023

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Summary

This Amendment applies to the following elements:

- Preface
- Clauses 7.5, 12.6.3, 13.1A, 13.2, 14.3, 15.2, 17, 19.3.4, D4.2

Amendment details

AS 5100.4:2017 is amended as follows. The amendments should be inserted in the locations as instructed.

Element	Instruction/New text
Preface	<i>Delete</i> second last paragraph.
Cl 7.5	- First paragraph, <i>delete</i> “0.005 radians at ULS for all other bearings” and <i>replace</i> with “0.01 radians at ULS for all other bearings”. - After Item (b), <i>add</i> the following: The design and dimensions of all associated plane sliding surfaces shall accommodate the specified ULS movements, increased by 25 mm for each direction of movement.
Cl 12.6.3	<i>Delete</i> “In the determination of ϵ_{sh} the deflections due to earthquake and braking need not be considered.” - After “(b) $A_{eff} \geq 0.8A_r$ for plain pads and bearing strips.”, <i>add</i> the following: In the determination of ϵ_{sh} and A_{eff} the deflections due to earthquake and braking need not be considered.
Cl 13.1A (new)	After Clause 13.1, <i>add</i> the following: 13.1A High performance pot bearings Subject to the approval of the relevant authority, high performance pot bearings may be used if all of the following apply: - The high performance pot bearing has an ETA certificate issued in accordance with the procedures adopted by the European Organization for Technical Assessment. - The maximum ULS pressure on the rubber pad does not exceed 90 MPa. - A POM chain internal seal is provided in the pot in accordance with EN 1337-5. - ASM is used on sliding contact surfaces.

Element	Instruction/New text
	(e) Calculations demonstrating the adequacy of the design and fabrication of the bearings are provided.
CI 13.2	1 <i>Delete</i> items (a), (b), and (c) and <i>replace</i> with the following: (a) In compression, to the maximum ULS compressive load. (b) In shear, to the maximum ULS lateral shear load (vector sum in the case of fixed bearings) in conjunction with the maximum concurrent ULS compressive load. (c) In shear, to the maximum ULS lateral shear load (vector sum in the case of fixed bearings) in conjunction with the minimum concurrent ULS compressive load.
CI 14.3	2 In paragraph after (d), <i>delete</i> “PTFE” and <i>replace</i> with “sliding surface”. <i>Delete</i> (a), (b), and (c) and <i>replace</i> with the following: (a) In compression, to the maximum ULS compressive load. (b) In shear, to the maximum ULS lateral shear load (vector sum in the case of fixed bearings) in conjunction with the maximum concurrent ULS compressive load. (c) In shear, to the maximum ULS lateral shear load (vector sum in the case of fixed bearings) in conjunction with the minimum concurrent ULS compressive load.
CI 15.2	After last paragraph, <i>add</i> the following: The ASM shall have an accumulated sliding distance capacity of at least 50 km, unless otherwise specified by the relevant authority. NOTE: The accumulated sliding distance is the total sliding distance from all movement cycles.
CI 17	Item (b), <i>delete</i> “The thickness” and <i>replace</i> with “The maximum thickness”.
CI 19.3.4	<i>Delete</i> first paragraph and <i>replace</i> with the following: Deck joints shall be designed to accommodate ULS movements, with the following exceptions: (a) For strip seal joints, the movements due to braking loads may be ignored. (b) For other types of deck joints, the movements due to serviceability limit state braking load shall be combined with the ULS movements from other effects.
CI D4.2	<i>Delete</i> Item (c) and <i>replace</i> with the following: (c) Load the bearings in compression with 0.4 times the rated load at zero shear and zero rotation.