
SERIES NG 2100
BRIDGE BEARINGS

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BRIDGE BEARINGS

NG 2101 General

1 A bearing schedule should be included either on a drawing or in Appendix 21/1.

2 (05/01) The advice given in the Guidance Clauses of BS 5400 : Part 9 : Section 9.2 : 1983 (except sub-Clauses 7.2(b) and (c) which are included in the Specification) should be used, together with the following:

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7.2 (a) paragraph 1, line 6

Delete 'to the satisfaction of the Engineer'.

7.2 (a)(3) line 3

Delete 'or when required by the Engineer' and insert "in Appendix 21/1".

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7.2 Insert additional sub-clause as follows:

“(d) *Number of tests required.* These tests should be inserted in the bridge bearing schedule. Unless otherwise required by a special feature of the design, the number and type of acceptance tests should be as follows:

(1) *Bearings other than elastomeric bearings.* One complete bearing of each type should be subjected to a combined vertical and horizontal load test at the serviceability limit state. A load test to ultimate limit state need only be carried out when the design of the bearing or any of its components, made from materials other than structural steel, is governed by an ultimate criterion; design of structural steel components of a bearing need not be verified by load tests at ultimate limit state. Well attested and documented evidence of previous independently supervised tests on similar bearings may be accepted as an alternative to the specified tests.

(2) *Laminated elastomeric bearings.* A 'quick production test' should be carried out for each bearing. One in every twenty bearings of the same type should be subjected to shear stiffness tests. In addition, where the vertical deflection of the bearing under load is critical to the design of the structure, compressive stiffness tests should be carried out on one in every twenty bearings of the same type.”

8.3 (a) paragraph 4, line 2

Delete 'by the Engineer provided he allows for the relaxed tolerances in his design' and insert "provided that the relaxed tolerances are allowable within the design".

paragraph 4, line 6

Delete 'by the Engineer'.

3 Where proprietary bearings are to be used, the Contractor should design the bearings. A Bridge Bearing Schedule shall be provided and a statement included thereon that "The bearings shall be designed in accordance with the requirements of Standard BD 20".

Where bearing design is not covered by BD 20 any particular requirements for the bearings should be included in Appendix 21/1.

NG SAMPLE APPENDIX 21/1: BRIDGE BEARING SCHEDULE

[Notes to compiler:

- 1 This schedule is to be prepared in accordance with that in BS 5400 Section 9.1 : 1983 Table 9 as implemented by Standard BD 20. If considered preferable the schedule can be placed on a Drawing and Appendix 21/1 would cross-refer.*
- 2 This schedule should state the bearing design requirements, including method of fixing, where design is to be carried out by the Contractor (see NG 2101). Appendix 1/11 should cross-refer.*
- 3 List the bearings which are not required to comply with Clause 2101 and state the requirements to be complied with.*
- 4 (05/01) Steel components of bearings are to have their surface preparation and protection requirements stated in Appendix 19/1 individually for different treatments. See Protective Systems sub-Clause of NG 1911.12. Where surface preparation and corrosion protection is not to be as given in the 1900 Series the requirements should be given including those for the protection of aluminium alloy and ferrous components where permanently exposed (2102, 2104).*
- 5 The maximum stress in the bedding mortar at the time of loading should be stated (2103).*
- 6 List the bearings which are to be tested by the Contractor and any special requirements of the tests (2104), and cross-refer with Appendix 1/5.*
- 7 The requirements for quality of material should be given where there is a choice (2104).*
- 8 The requirements for vibration resistant bolts or screws should be given (2104).*
- 9 The requirements for presetting sliding or roller bearings at time of clamping should be given (2104).*
- 10 Tolerances where different from those specified in Clause 2104 should be given.*
- 11 Requirements for installation of bearings should be given (2104).*
- 12 Interchangeability of corresponding parts should be stated (2104).]*