

NATIONAL ANNEX
TO STANDARD
SFS-EN 1993-1-9 EUROCODE 3: DESIGN OF STEEL STRUCTURES.
Part 1-9: Fatigue

Preface

This national annex is used together with Standard SFS - EN 1993-1-9: 2005.

This national annex sets out:

- a) The national parameters for the following paragraphs in Standard SFS-EN 1993-1-9 where national selection is permitted:

- 1.1(2) Note 1
- 1.1(2) Note 2
- 2(2)
- 2(4)
- 3(2) Note 2
- 3(7)
- 5(2) Note 2
- 6.1(1)
- 6.2(2)
- 7.1(3) Note 2
- 7.1(5)
- 8(4) Note 2

1.1 Scope

1.1(2), Note 1

Tolerances and execution in general, see clause 1.1.1 of National Annex of Standard SFS-EN 1993-1-1.

1.1(2), Note 2

Additional inspection requirements, see clause 3(2) Note 2.

2 Basic requirements and methods

2(2)

Additional requirements for determining specific fatigue loading models are not given.

2(4)

Additional requirements for determining fatigue strength from tests are not given.

3 Assessment methods

3(2), Note 2

Following rules should be followed in the inspection programmes.

- a) Damage tolerant design should ensure that when damage occurs due to accidental action, deterioration of material, corrosion or fatigue, the remaining structure can sustain at least an used combination of actions without failure beyond an agreed extent, until the damage can be detected and the damaged structure can be repaired or replaced.
- b) The combination of actions to be considered and the extent of failure to be accepted should be agreed between the client, the designer and the competent authority and recorded in the project specification. When the damage tolerant concept is used, the project specification should include information concerning the methods of inspection and inspection intervals to be used as well as the procedure to be followed when the structure has reached the end of its service life.
- c) To ensure sufficient robustness, provisions should be made for inspection and maintenance at appropriate intervals that comply with the safety requirements. Guidance for the use, maintenance and inspection of the fatigue loaded structure should be given in the use and maintenance document of the fatigue loaded structure or of the building. Guidance for the use, maintenance and inspection of the fatigue loaded structure should be given to the owner of the structure during the final approval of the structure.
- d) All structural parts of a fatigue loaded structure, including all connections, should be sufficiently accessible for appropriate inspection and maintenance. The real possibilities of making the required inspections should be taken into account when the partial safety factors according to damage tolerant concept are chosen.

3(7)

The recommended values of Table 3.1 should be used. Usually safe life method is used.

5 Calculation of stresses

5(2), Note 2

Rules according to Standard SFS-EN 1993-1-5 should be used in the calculation of stresses for class 4 sections.

6.1 General

6.1(1)

No additional information is given.

6.2 Design value of nominal stress range

6.2(2)

Supplementary information is not given.

7.1 General

7.1(3), Note 2

Verification of a fatigue strength category for a particular application is permitted, if the rules in the Note 1 is applied.

7.1(5)

Additional details are not given.

8 Fatigue verification

8(4), Note 2

Annex A may be used.