DS/EN 1991-1-7 DK NA:2013

National Annex to
Eurocode 1: Actions on structures -
Part 1-7: General actions – Accidental actions

Foreword

This National Annex (NA) is a revision and consolidation of EN 1991-1-7 DK NA:2007 and DS/EN 1991-1-7 DK NA Addendum:2010 and supersedes these documents as from 2013-10-25. For a transition period until 2014-03-01 the former documents are applicable. In addition to editorial changes, clause 4.3.1 has been technically revised.

Previous versions, addenda and an overview of all National Annexes can be found at www.eurocodes.dk

This NA lays down the conditions for the implementation in Denmark of this Eurocode for construction works in conformity with the Danish Building Act or the building legislation. Other parties can put this NA into effect by referring thereto.

This NA includes:

- an overview of possible national choices and complementary information;
- national choices;
- complementary (non-contradictory) information.

The numbering refers to the clauses where choices are allowed and/or complementary information is given. To the extent possible, the heading/subject is identical to the heading of the clause, but as references are at a more detailed level than the headings, the heading/subject has in several cases been made more explicit.
Overview of possible national choices and clauses containing complementary information

The list below identifies the clauses where national choices are possible and the applicable/not applicable informative annexes. Furthermore, clauses providing complementary information at the end of this document are identified.

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**NOTE**

Unchanged: Recommendations in the Eurocode are followed.
National choices

3.3(2) a) Design of key elements
Key elements are designed on the basis of the National Annex to DS/EN 1990, Annex E (informative).

3.3(2) c) Choice of strategies for limiting the consequences of localised failure
Approaches b) and c) are preferred to approach a) according to the rules of robustness in the National Annex to DS/EN 1990, Annex E (informative).

3.4 (1) Consequences classes
Consequences classes according to the National Annex to DS/EN 1990, Annex B (informative), are used.

3.4 (2) Design approaches for accidental design situations
Structures are designed for identified accidental actions (impact and explosion) using the accidental actions of clauses 4 and 5 and for unidentified accidental actions (robustness) according to the rules of robustness given in the National Annex to DS/EN 1990, Annex E (informative).

4.3.1(1) NOTE 1 Values of vehicle impact forces
Table 4.1 is replaced by the table below, changing the values for "Roads in urban areas" and "Courtyards and parking garages":

Table 4.1 NA  Indicative equivalent static design forces due to vehicular impact on members supporting structures over or adjacent to roadways

<table>
<thead>
<tr>
<th>Category of traffic</th>
<th>Force $F_{dx}^a$ [kN]</th>
<th>Force $F_{dy}^a$ [kN]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorways and country national and main roads</td>
<td>1.000</td>
<td>500</td>
</tr>
<tr>
<td>Country roads in rural area</td>
<td>750</td>
<td>375</td>
</tr>
<tr>
<td>Roads in urban area</td>
<td>750</td>
<td>375</td>
</tr>
<tr>
<td>Courtyards and parking garages with access to:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cars</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>- Lorries $^b$</td>
<td>200</td>
<td>100</td>
</tr>
</tbody>
</table>

$^a$ $x =$ direction of normal travel, $y =$ perpendicular to the direction of normal travel.

$^b$ The term "lorry" refers to vehicles with maximum gross weight greater than 3,5 tonnes.
4.3.1(3) NOTE  Conditions of impact from road vehicles
The recommended impact area is \( a = 0,5 \) m (height) x 1,50 m (width) or the member width.

4.4(1) NOTE Value of impact forces from forklift trucks
The note is replaced by:
"It is recommended that \( F \) is taken as \( 5W \), where \( W \) is the sum of the net weight and hoisting load of a loaded truck (see DS/EN 1991-1.1, Table 6.5), applied at a height of 0,75 m above floor level. However, higher or lower values may be more appropriate in some cases."

5.3 (1)P Procedures for internal explosion
The actions due to explosion specified in Annex D are applied for
- dust explosions in rooms, vessels and bunkers;
- natural gas explosions in rooms.

Annex A (informative) Design for consequences of localised failure in buildings from an unspecified cause
Annex A is not applied. Reference is made to the complementary rules given in Annex E of the National Annex to DS/EN 1990.
Complementary (non-contradictory) information

None