

EUROPEAN STANDARD

EN 1991-1-7:2006/AC

NORME EUROPÉENNE

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English version
Version Française
Deutsche Fassung

Eurocode 1 - Actions on structures - Part 1-7: General actions - Accidental actions

Eurocode 1 - Actions sur les structures -
Partie 1-7: Actions générales - Actions
accidentelles

Eurocode 1 - Einwirkungen auf Tragwerke -
Teil 1-7: Allgemeine Einwirkungen -
Außergewöhnliche Einwirkungen

This corrigendum becomes effective on 17 February 2010 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 17 février 2010 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 17. Februar 2010 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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1) Modifications to Foreword

National Annex, 2nd paragraph, gridline of the list of national choices, 5th, 6th and 7th rows and 1st column, delete "P" from "3.3(2)P" in these three cells.

National Annex, 2nd paragraph, gridline of the list of national choices, 4th row before the end of the gridline and 1st column, add "P" after "4.6.3(4)".

2) Modifications to 1.6

Paragraph (1), Latin upper case letters, definition of F_{dx} , replace "frontal force" with "force on the front side of the supporting structure (frontal force)".

Paragraph (1), Latin upper case letters, definition of F_{dy} , replace "lateral force" with "force on the lateral side of the supporting structure (lateral force)".

Paragraph (1), Latin upper case letters, definition of K_G , delete the whole definition:

"

K_G deflagration index of a gas cloud

".

Paragraph (1), Latin lower case letters, between the definitions of "b" and "h", add the following definition:

"

d distance from the structural element to the centre-line of the road or track

".

Paragraph (1), Latin lower case letters, definition of s, replace "distance from structural element to centre-line of road or track" with "distance from the structural element to the point where the vehicle leaves the trafficked lane".

3) Modifications to 3.3

Paragraph (2), entry a), NOTE 1, replace "An example of the application of A_d is given in A.8." with "Reference is made in A.8.".

Paragraph (2), entry c), NOTE 3, delete "Examples relating to the use of the approaches for buildings are given in Annex A.".

4) Modification to 4.3.1

Paragraph (1), replace NOTE 2 with the following one:

"NOTE 2 The National Annex may prescribe the force as a function of distance s from the structural element to the point where the vehicle leaves the trafficked lane and d the distance from the structural element to the centre-line of the road or track. Information on the effect of the distance s, where applicable, can be found in Annex C."

5) Modification to 4.3.2

Paragraph (1), key of Figure 4.2, replace the definitions for “h”, “h₀” and “h₁” with the following:

“h is the physical clearance between the road surface and the underside of the bridge deck at the impact point

h₀ is the clearance between the road surface and the underside of the bridge deck, below which an impact on the superstructure need to be taken into account without any reduction. The recommended value of h₀ is 5,0 m (+ allowances for vertical sag curve and deflection of the bridge, and expected settlements)

h₁ is the clearance between the road surface and the underside of the bridge deck, above which no impact need to be considered. The recommended value of h₁ is 6,0 m (+ allowances for future re-surfacing, vertical sag curve and deflection of the bridge, and expected settlements).”.

6) Modification to 4.6.1

Paragraph (5), 1st list entry, after “a frontal force F_{dx} ”, add “(in the direction of the normal travel, usually perpendicular to the longitudinal axis of the superstructure (deck))”.

7) Modification to A.4

Paragraph (1), list entry c), NOTE 3, add “, in accordance with 3.3.(1)P” after “adjacent storeys”.

8) Modification to A.5.2

Paragraph (2), Equation (A.3), replace “ T_1 ” with “ T_i ”.

9) Modification to A.6

Paragraph (3), 1st line, replace “1.11.1” with “1.5.11”.

10) Modification to A.7

Paragraph (1), replace “A.4(1)C” with “A.4(1)c”.

11) Modifications to B.4.2

Paragraph (1), 5th line, replace “Figure B.2” with “Figure B.2a”.

Figure B.2, title, replace “Figure B.2” with “Figure B.2a”.

Figure B.2, key, line 1, replace “Clarification:” with “Classification:”.

12) Modifications to B.5

Paragraph (4), line immediately after the list and just before the note, replace “quality index of life” with “life quality index (LQI)”.

Paragraph (5), list entries b), c) and d), replace references to “Figure B.2a” with references to “Figure B.2b”.

Paragraph (5), just after list entry d), add:

Severe					
High					
Medium					
Low					
Very low					
consequences					
probability	very low	low	medium	high	very high

Figure B.2b – Possible presentation diagram for the outcome of a qualitative risk analysis”.

13) Modifications to B.9.2

Paragraph (2), Equation (B.2), replace symbol “p” with “P”.

7th and 8th lines, replace “of the J^{th} damage state of the structure given the I^{th} hazard and $PS_k|D_j$ ” with “of the j^{th} damage state of the structure given the i^{th} hazard and $P(S_k|D_j)$ ”.

14) Modifications to B.9.3.2

Paragraph (2), Equation (B.4), replace symbol “a” with “φ”.

Paragraph (2), Equation (B.5), replace the equation with “ $F = \sqrt{mkv_r^2} = \sqrt{mk(v_0^2 - 2as)}$ ”.

Paragraph (2), Equation (B.5), definition of “k”, add “spring” before “stiffness”.

15) Modification to B.9.4

Paragraph (1), NOTE, 1st line, replace “4.5.12” with “4.5.1.2”.

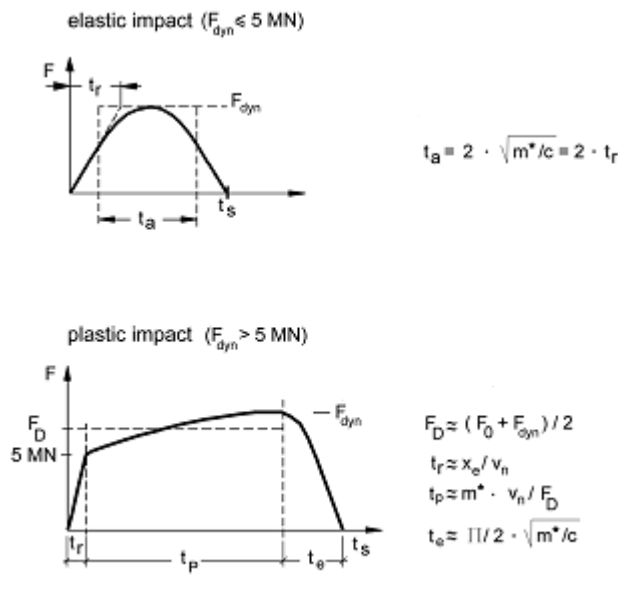
16) Modifications to C.3

Paragraph (1), Equation (C.6), replace “ $v_r = \sqrt{(v_0^2 - 2 a s)}$ ” with “ $v_r = \sqrt{v_0^2 - 2as}$ ”.

Paragraph (2), Table C.1, 3rd column, 7th row, replace “Raleigh” with “Rayleigh”.

17)Modification to C.4.3

Paragraph (6), replace the whole Figure C.3 with the figure below:



Key:

- t_r elastic elapsing time [s];
- t_p plastic impact time [s];
- t_e elastic response time [s];
- t_a equivalent impact time [s];
- t_s total impact time [s] for plastic impact $t_s = t_r + t_p + t_e$;
- c elastic stiffness of the ship (= 60 MN/m);
- F_0 elastic-plastic limit force = 5 MN;
- x_e elastic deformation ($\approx 0,1 \text{ m}$);
- v_n a) the sailing speed v_r , for frontal impact;
 b) velocity of the colliding ship normal to the impact point $v_n = v_r \sin \alpha$ for lateral impact;

For frontal impact the mass m^* to be taken into account is the total mass of the colliding ship/barge; for lateral impact: $m^* = (m_1 + m_{hydr})/3$, where m_1 is the mass of the directly colliding ship or barge and m_{hydr} is the hydraulic added mass.

Figure C.3 - Load-time function for ship collision, respectively for elastic and plastic ship response".

18)Modifications to C.4.4

Delete the whole Paragraph (1) and replace the numbers of the subsequent paragraphs so that they are correctly renumbered from "(1)" onwards (i.e. replace Paragraph number "(2)" with "(1)", and then Paragraph numbers "(3)" with "(2)", "(4)" with "(3)", "(5)" with "(4)" and "(6)" with "(5)").

Paragraph (2), replace " $E_{imp} = \frac{1}{2} m_x v_0^2$ " with " $E_{imp} = \frac{1}{2} m_x v_r^2$ ".

Paragraph (2), Equation (C.11), key, replace:

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" v_0 is the initial speed of the vessel, $v_0 = 5\text{ m/s}$ (in harbours: $2,5\text{ m/s}$)"

with:

" v_r is the sailing speed (impact velocity) of the vessel, $v_r = 5\text{ m/s}$ (in harbours: $2,5\text{ m/s}$)".

Paragraph (4), Equation (C.12), replace " P_{bow} " with " F_{bow} ".

Paragraph (5), Equation (C.13), replace " $T_0 \approx 1.67 \frac{s_{\text{max}}}{V_0}$ " with " $T_0 \approx 1.67 s_{\text{max}} / v_r$ ".

Paragraph (6), replace "design velocity v_{rd} " with "sailing speed (impact velocity) v_r ".

19) Modification to D.1

Paragraph (1), NOTE 3, 1st line, replace "ISO 1684-a" with "ISO 6184-1".

20) Modifications to D.3

Paragraph (1), key of the equations, definition of " p_0 ", add ")" between "fuel" and ";".

Paragraph (1), key of the equations, replace " C_1 " with " c_1 " and replace " C_2 " with " c_2 ".

Paragraph (2), Equation (D.10), end of the definition of p_0 , replace the first semi-colon with ")".