

Revision log

1 General

This document gives a short description of significant modifications and bug fixes in NovaFrame and NovaDesign. Smaller changes which do not affect the program input or output will not be reflected in this revision log.

2 Revision Log

| Revision | Compile date | New | Corrections |
|----------|--------------|--|---|
| 5-001 | 11.01.2011 | ✓ Traffic load (LM1 and LM2) according to Eurocode-2. | |
| 5-002 | 16.02.2011 | ✓ Calculation of creep factors according to Eurocode-2 ✓ Cement class added to concrete material data (MCONCR and dialog sheet). | |
| 5-003 | 21.02.2011 | ✓ Vertical coherence factor included in wind spectra dialog. | ✓ Missing listing of concrete material data in NovaDesign document. ✓ Axial force contribution from post-tensioning included in calculation of shear force capacity. |
| 5-004 | 01.03.2011 | ✓ Link to Revision Log added to program help menu. | ✓ Error in chapter names for design results in NovaDesign Document due to removed VT summary. Chapter setup modified accordingly. (Note! This will affect presentation of design results in existing documents generated with previous program version when reopened. Listings can be added to the document again to correct this.) ✓ Description of column data in listing of slenderness results in NovaDesign corrected. |
| 5-005 | 24.03.2011 | | ✓ Upper limit for $S_{r,max}$ according to NA.7.3.4 (3) corrected. The limit $5*(c+\phi/2)$ for use of expression (7.11) was erroneously compared against bar cover and not bar spacing. ✓ Some combination of mathematical operators in input statements giving erroneous result: Negative sign after *or / operator: $2.0*-1.6 = -1.6$ (instead of -3.2) Consecutive * and / operators without use of brackets: $8/4*0.1 = 20$ (in stead of 0.2). ✓ Error in transformation of user-defined earthquake spectras given by displacements or accelerations corrected. Predefined spectras and spectras given by velocity are not affected by this error. |
| 5-006 | 29.03.2011 | ✓ New datafield DIMP for user defined geometrical imperfection in section design parameter set (DPSECT). Typical value is 400 (entered value represents the denominator in the ratio: $l_e/DIMP$) | ✓ Error in 1.order additional moments due to geometric imperfections corrected. These additional moments were previously also calculated and added for members in tension. ✓ Default value for uniformly distributed load (UDL) for traffic |

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| | | | load LM1 according to Eurocode-1 corrected to 16.2 kN/m (corresponds to $q=5.4 \text{ kN/m}^2$ and lane width 3.0 m). |
| 5-007 | 04.04.2011 | | ✓ Calculation of crack widths according to Eurocode-2 corrected for rebars in circular cross sections and for rebars connected to curved faces. These crack widths were previously always set to 0.0. |
| 5-008 | 27.04.2011 | | <ul style="list-style-type: none"> ✓ Calculation of UR for reinforcement according to NS 3473 corrected. UR in version 5 was previously calculated based on ultimate tensile strength (typ. 520 MPa) in stead of yielding strength (typ. 500 MPa). Does not affect calculations based on Eurocode-2. ✓ Power for 0,035k in expression for v_{\min} (NA.6.3.N) changed from 3/2 to 2/3. See also Appendix 6 chapter 3.3.1 for further background. ✓ Text in header for section axial and bending result summary changed from maximum absolute value "f_s" and "f_p" to maximum value (tensile or compressive "f_s" and "f_p"). Sorting of values modified correspondingly. |
| 5-009 | 18.05.2011 | <ul style="list-style-type: none"> ✓ Extensive check and warning added for case where element M-direction is definined opposite of reference line direction, i.e. station number at node 1 is larger than at node 2. Affects only elements for which nodes are generated based on a reference line. (for further details see appendix concerning reference lines) ✓ New crack width option ("Auto select reinf. group") added for prestressing. This new option is in particular useful for design of cross sections with tendons generated from the frame analysis model. | <ul style="list-style-type: none"> ✓ Various design result listing corrected (column alignment and result presentation). ✓ Correction in calculation of 2.order additional moment due to slenderness. ✓ The slenderness criterium in cl 5.8.3.1(1) is now set to always override the simplified criterium in cl 6.8.2(6). ✓ Characteristic yield strength for default prestressing steel changed from 1670 MPa to 1600 MPa. |
| 5-010 | 25.05.2011 | <ul style="list-style-type: none"> ✓ Check of concrete decompression in tendon area in SLS according to NS-EN 1992 Tabell NA.7.1N note 2) is added to the design calculations. The result is presented as 'epscp' in design result listing for tendons. | <ul style="list-style-type: none"> ✓ Scaling factor k_c according to cl NA.7.3.1 (5) included in calculation of UR for tendons in ND (previously only implemented for ordinary reinforcement). ✓ Calculation of automatic face connection in ND for tendons generated from analysis model improved. ✓ Program crash when exporting listings to a file already opened in an other program fixed. |

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| 5-011 | 17.08.2011 | | <ul style="list-style-type: none"> ✓ Missing listing of tendon result “epscp” (concrete stresses at tendon in SLS) for refine 0 cross sections. ✓ Missing import and export of crack calculation option (CALCWK) for tendons (valid for Eurocode only). |
| 5-012 | 01.09.2011 | | <ul style="list-style-type: none"> ✓ Correction in additional 2.order moment due to slenderness when slender about only one axis (additional moment previously added also to non slender axis). |
| 5-013 | 28.09.2011 | | <ul style="list-style-type: none"> ✓ Corrected missing storage of subarea strut angle to database. |
| 5-014 | 09.10.2011 | | <ul style="list-style-type: none"> ✓ Error in earthquake analysis when using rotational masses corrected. |
| 5-015 | 09.12.2011 | <ul style="list-style-type: none"> ✓ Options for directional mass added for point mass in input dialog window. | <ul style="list-style-type: none"> ✓ Memory leak when using OUTPUT command corrected. ✓ Calculation of wind pressure for wind direction other than perpendicular or parallel to the bridge centre line. |
| 5-016 | 01.01.2012 | | <ul style="list-style-type: none"> ✓ Insufficient reinforcement amounts at start of reinforcement tables could previously yield “no convergence” in the result listing. Now stepping continues although convergence is not achieved, provided a larger amount is defined the reinforcement tables. ✓ Calculation of expressions in ascii input file corrected. E.g the expression; $(1-\sin(42))/1.5$ Must previously be written with extra brackets; $(1-(\sin(42)))/1.5$ In order to be calculated correctly. |
| 5-017 | 17.01.2012 | <ul style="list-style-type: none"> ✓ Convergence improved for concrete design calculations. | |
| 5-018 | 18.01.2012 | | <ul style="list-style-type: none"> ✓ Error in calculation of creep load cases in NovaFrame fixed. In the latest program revisions (5-016 and 5-017) all creep load cases produced zero results. |
| 5-019 | 12.04.2012 | <ul style="list-style-type: none"> ✓ New error messages during design calculations added for cross section with incomplete geometry or parameter input. ✓ Selection for post- or pretensioned tendons implemented in NovaDesign. ✓ Menu item “View error file...” added to file menu in Novaframe and NovaDesign ✓ Option for locking frame analysis results added to toolbar in NovaDesign. This toolbutton can be | <ul style="list-style-type: none"> ✓ Modified approach in NovaDesign concerning use of material factor in calculation of tendon forces due to initial strain (affects only results when using NS 3473, and not Eurocode 2). |

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| | | used to switch off consistense manager between frame and design results | |
| 5-020 | 19.08.2012 | ✓ Improved data-check for SUBAR-command (validation of strut angle). ✓ Geometry type 6 to 9 added to input dialog page for tendon geometry in NovaFrame. | ✓ Calculation of torsion stiffness It for general concrete cross sections and presentation of It in dialog windows and listings. |
| 5-021 | 03.09.2012 | | ✓ Calculation of contribution from tendon axial force to shear force capacity corrected. |