

Release notes XConstruct 2027

Version 2027-03-01 (15-05-2026)

new

Steel

- A new module **Fire resistance** has been added. With this new module, you can quickly and easily determine the fire resistance of tension members and non-buckling beams using graphical representations. You can quickly determine the profile factor of an unclad and clad steel profile, and calculate the steel temperature within the profile over time. A number of fire-resistant materials are provided that can be used to clad a profile.

Geo

- **NEN 9997-1:2025+C1:2025** has been incorporated. The pile factors in Table 7.c have been updated.
- By default, the soil profile is generated based on the coefficient of friction. This is the most reliable method. If the coefficient of friction is unavailable, the profile is generated based on the cone penetration value. This is less reliable.
Sometimes, in addition to the soil sounding, a soil borehole has been drilled, so the soil layers are known.
At the request of a significant number of customers, it is now possible to enter one or more soil profiles yourself (or modify generated soil profiles) and link them to one or more soundings. This gives the engineer complete freedom to adjust the soil types and influence the proportion of positive cohesion by either adjusting the percentage of positive cohesion or entering an alpha;s value themselves. (help desk #3022, #3044, #3067, #3166, and #3200)

Timber

- A new module **Timber column** has been added. With this new module, you can quickly and easily design your timber column according to Eurocode fast and easy. (help desk #3086)

Improvements

General

- Project data: Tab order has been improved.
- Design working life is printed in the output. (help desk #3081)

Geo

- Foundation pile: As you know, you can digitize a sounding yourself using a bitmap (png file). However, if the bitmap was too large, the dialog box also became much too large. The workaround was to reduce the size of

the bitmap yourself. What is new is that the bitmap is automatically scaled to a manageable size. (help desk #3112)

- Foundation pile: The adhesion level can be adjusted for each sounding (CPT), but was incorrectly set only for the first CPT. As a result, the adhesion level could not be adjusted for some CPT's. This has been resolved. (help desk #3159)
- Foundation pile: The pile tip level is now also shown in the diagram of the net bearing capacity per level. (help desk #3199)

Concrete

- Punching module: The calculation of u_0 for the "All-around edge" option was incorrect. This has been fixed. (help desk #3204)
- Punching module: The calculation of u_1 for the "All-around edge" option was incorrect. This has been fixed. (help desk #3209)

Steel

- Lateral stability check: For continuous beams where bending dominates in an intermediate span (situation according to NEN-EN 1993-1-1+C2: 2011/NB:2011 Figure NB.6, Formula NB.7), resulting in the lower flange being subjected primarily to compression, the critical elastic buckling moment (Formula NB.NB.2) was not calculated correctly. The sign of the factor C_2 was incorrectly reversed. This error has been corrected. (help desk #3162)
- Lateral stability check: The references to the formulas have been updated in the text.
- Bolts: The stress cross-sections for M33 through M52 bolts have been updated. (help desk #7)

Version 2027-02-01 (19-01-2026)

Improvements

General

- It was not possible to place an order and make a payment online. This issue has been resolved.

version 2027-01-01 (14-01-2025)

improvements

General

- The export to MS/Word contained an error message from Syncfusion regarding the license key. This issue has been resolved. (help desk #3068)

Steel

- Moment connection: During import, the system now checks whether the pressure stress in the column is lower than the yield strength. (help desk #2811)

Concrete

- The coverage entered at the bottom was not printed correctly. This has been resolved. (help desk #3053)
- In the case of a plate, the number of stirrup sections and the angle of compression strut are no longer printed. (help desk #3053)

version 2026-07-03 (7-1-2026)

improvements

General

- The login.ini file was not reading properly. This issue has been resolved. (help desk #3062)

version 2026-07-02 (11-12-2025)

improvements

General

- Merging PDF files was interrupted. This issue has been resolved. (help desk #3038)

Concrete

- Concrete cross-section: When no stirrup reinforcement was entered ($A_{sw}=0\text{mm}^2$), the shear reinforcement was apparently not checked. This has been resolved. (help desk #3025)

Steel

- Moment-resistant connection: Drawing error of the bolts in the left view. This has been resolved. (help desk #3028).

Timber

- Wood Framing Wall Stability: The text in the dialog box was misaligned. This has been corrected. (help desk #3039)

version 2026-07-01 (03-12-2025)

new

General

- **.NET 10** is provided.

What is that? I hear you thinking.

.NET 10 is the latest software platform that allows you to build and run applications on Windows.

There are **very important technical and strategic reasons** to switch from the old **.NET Framework** (4.x) to the modern **.NET 10**. Why?

The old **.NET Framework** is “end of life” and is no longer maintained by Microsoft.

.NET 10 is not only faster, more stable, and much more efficient, but also has better security and support for modern hardware and CPUs.

This means that Struct4u is up to date and ready for the future.

XConstruct will be the first program to use **.NET 10**, but the next releases of our other programs will also use it.

Steel

- A new module, **Shear Connection**, has been added. This new module can be used to calculate a hinged connection. (help desk #1481, #2506, #2756)
Three types of connections are provided:
 1. Connection with a fin plate,
 2. Connection with a end plate, and
 3. Connection with clip angle steel.
- Moment-resistant connection: Two new types have been added in which the beam rests on the column. (help desk #708, #911, #1583, #1740, #2392, #2656)

Concrete

- The Dutch national annex NEN-EN 1992-1-1+C2:2011+A1:2015/NB+A1:2020+A2:2025 is provided. (help desk #2866)

improvements

General

- It was not possible to purchase a Network Premium license online. This has been resolved.
- When the screen is/becomes too small, scroll bars are now automatically added so that you can always make your input. (help desk #3023)

Concrete

- Column: The material factor for concrete in the event of a fire has changed from 1.50 to 1.00. (help desk #2798)
- Concrete column/joint calculation: The calculation for mortar joint types a, b, and c was not entirely correct. The v must be increased by 20 mm in accordance with NEN-EN 1992-1-1 10.9.4.3 (8). This has been adjusted. (help desk #2800)
- Concrete column: The minimum eccentricity was not always calculated correctly in the case of double bending. The minimum eccentricity ($h/30$) for bending around the z-axis was incorrectly calculated using the height (h) instead of the width (b). This issue has been resolved. (help desk #2888)
- Concrete cross-section: The allowable crack moment MR_k was not correctly determined in all situations. The bar spacing s for determining the maximum steel stress was not correctly determined. This problem has been resolved. (helpdesk #2999)

Steel

- Moment connection: When the number of bolt rows was adjusted, all bolt distances were incorrectly reinitiated. This has been resolved. Now, when a bolt row is added, the other bolt distances remain intact. (help desk #2606)
- Moment connection: With a chamfered column, the bolt distances were incorrectly reinitiated each time. This has been resolved. (help desk #2869)
- Column: The moment distribution across the column was not determined correctly, which meant that the C_{my} factor according to table B.3 of NEN-EN 1993-1-1 was also not calculated correctly. This has been resolved. (help desk #2868)
- Footplate: The anchor with threaded rod was not always drawn correctly. This has been resolved. (help desk #2877)
- Column: In the output, the drawn cross-section is displayed smaller, as in the other programs. (help desk #2846)
- Brace connection: The "bolt group tear-out" check was missing for angle steel and strips with a single row of bolts. This has been added. (help desk #3010).

Timber

- Purlin: When using a slanted roof, empty pages could appear in the output. This has been resolved. (help desk #2749, #2838 and #2872)

- Purlin: The initial text for permanent load has now been replaced by a combo box containing the options "O.w. tiles," "O.w. tiles/gravel," "O.w. PV panels," and "O.w. sedum." However, you can also edit the text. (help desk #2745 and #2774)
- Purlin: The deflection requirement could not be set and was fixed at 0.004L. This has been resolved.
- Beam layer: The deflection requirement could not be set and was fixed at 0.004L. This has been resolved.
- Beam layer: In the calculation of VzEd for a point load, the reduction factor kr was incorrectly not taken into account. This has been resolved. (help desk #3003)

Geo

- Pile calculation: The name of the sounding (CPT) is now printed in the table of pile bearing capacity per sounding instead of a sequence number. (help desk #2878)

Patch version 2026-06-04 (25-09-2025)

improvements

General

- Export to MS/Word has been improved. (help desk #2866)

Patch version 2026-06-03 (20-09-2025)

improvements

Concrete

- Concrete column: The joint calculation for a wall was incorrect. This issue has been resolved. (help desk #2852)

Patch version 2026-06-02 (28-08-2025)

improvements

Timber

- Purlin: The variable load was not saved. That issue has been resolved. (help desk #2840)

version 2026-06-01 (24-08-2025)

new

General

- ****Microsoft Word**** It is now possible to generate the output as a Microsoft Word document (.docx)*.
All (Eurocode) formulas in our transparent output are converted to equations in Microsoft Word.

improvements

General

- Profiles dialog box: A rotated profile on the right side fell partially out of view. This has been corrected. (help desk #2778)
- When NEN8700 was used, the National Annex changed incorrectly when the project was re-opened. That problem has been fixed. (help desk #2782)

Concrete

- The longitudinal reinforcement apparently could not be entered as "4X16" (capitalized) but could be entered as "4x16". This has been corrected. Both syntax are now accepted. (help desk #2783)
- Concrete cross section: It was not possible to insert stirrups yourself. This problem has been solved. (help desk #2810)

Steel

- Brace connection: In a connection of a strip with double bolt row, the bolt spacing e_2 was not properly determined which caused the bearing resistance of the bolt to be too large. This has been solved. Also missing was the test "tearing out of a bolt group". This has been added. (help desk #2809)

Masonry

- For aerated concrete, the stone grades have changed to G2, G4, G6 and G8 (help desk #2781)

Geo

- In the table ultimate compressive resistance, $R_{b;cal}$ and $R_{s;cal}$ were printed in the wrong column. That problem has been fixed. (help desk #2802)
- The output for different pile dimensions was not correct. That problem has been resolved. (helpdesk #2824)

version 2026-05-01 (16-05-2025)

improvements

Geo

- The level negative / positive skin friction was per calculation. That has been adjusted. Now it is entered per probe (CPT). (help desk #2755)
- In the calculation of the maximum shaft resistance, the $\alpha; s$ for clay and peat were not properly determined. This has been corrected.

- New is that the intermediate results of also the maximum shaft resistance can be printed.
- Also new is that in the case of multiple CPT's a table is printed with $R_b;cal$, $R_s;cal$ and $R_c;cal$. You can quickly see here which CPT is decisive.
- The CPT was already drawn up to 12xDeq below pile tip level but now only from depths greater than 20m. Also, that level is rounded to 2.5m. As a result, the vertical scaling is not adjusted every time and the graphical user interface works even better.
- The graph of bearing capacity per level was drawn to the maximum depth of the CPT's. This has been modified. Now this graph is drawn up to 12xDeq below the last pile point level. (help desk #2757)

Timber

- Beam layer: In the formula of deflection at a point load, an incorrect moment of inertia I_z instead of I_y was printed. The calculation however was correct. This has been corrected. (help desk #2759)
- Purlins: In the formula of the deflection at a point load an incorrect moment of inertia I_z instead of I_y was printed. The calculation however was correct. This has been corrected. (help desk #2759)
- Wood Framing Wall Stability: The determination of c_i was not properly determined. What is new is that the width of the wall panel can now be entered. The factor c_i is determined on that width now. (help desk #2764)
- Wood Framing Wall Stability: The factor $k_{c;90}$ turned out to be incorrect. It should be 1.25 instead of 1.50. This has been corrected. (help desk #2764)
- Purlins: When switching inputs, the drawing was not recreated. This problem has been resolved. (help desk #2749)

version 2026-04-01 (23-04-2025)

improvements

Geo

- Now all levels relative to NAP are displayed and also entered. (help desk #2737)
- The levels were on the left but because texts sometimes get mixed up we have divided them in the drawing.
- Furthermore, the CPT is drawn a maximum of 5m below pile point level which improves the scaling vertically and also makes the picture much clearer. Especially with CPT's up to 40m deep.
- When you start a new project and import the first CPT via GEF (or via the digitizer) the excavation level is taken equal to the read in ground level. The pile head 0.5m below ground level, and water level 1.0m below ground level. The pile length 10m. Then, of course, you are going to adjust those. But this is the starting point.

version 2026-03-01 (12-04-2025)

improvements

Geo

- Reading a single GEF file where multiple spaces occurred in the data line was not going well. This problem has been fixed. (help desk #2722)
- Drawing a CPT with very large CPT values caused the CPT in the output to be drawn on 2 pages. Now the CPT value is only drawn truncated at 35 MPa with a jagged line. (help desk #2722)
- The number of decimal places of levels, such as pile point level has been increased from 1 to 2. Lengths of precast concrete piles are often 250 mm increments. Hence, we have adjusted this. Rounding has also been changed from 0.1m to 0.01m. (help desk #2723)
- When multiple piles were entered, after dragging the pile point level, for example, the first pile was incorrectly selected each time. This has been fixed. (help desk #2724)
- When the name of pile was changed, the combo box of piles was not refilled. This has been resolved. (help desk #2724)
- When resizing the output screen, the pile was drawn outside the screen. This has been resolved. (help desk #2724)
- You can now request a detailed output of the down drag (negative skin friction) calculation. (help desk #2725)
- When multiple soundings (CPT's) are read in, you can set which sounding (CPT) should be taken as z-reference.
- All levels are now also displayed relative to NAP.
- For an auger pile the qc;III should be limited to 2 MPa. This is provided. (helpdesk #2729)

version 2026-02-01 (04-04-2025)

new

Geo

- An error was detected in the pile class factor ap. This error has been fixed.
- Reading some GEF files did not go correctly in all cases. This problem has been fixed. (help desk #2709)
- The calculation of the down drag (negative skin friction) was not quite correct. This has been corrected. (help desk #2712)

version 2026-01-01 (25-03-2025)

new

Geo

- A new **Pile Bearing Capacity** module has been added that allows you to quickly and easily calculate the bearing capacity of your foundation pile. (help desk #1153, #1156, #1160, #1174, #2056 en #2152)

Concrete

- It is now possible to enter the old reinforcement diameters Ø5.5, Ø7.5, Ø8.5, Ø9.5, Ø10.5, Ø11.5, Ø11, Ø13, Ø15, Ø19 and Ø28. This is of course useful if you want to test an existing construction. (help desk #2541).
- It is now also possible to enter covers smaller than the minimum required cover. A checkbox "Diviant cover" has been added. By default, it is off. When the cover does not comply, a warning is now given instead of an error message. (help desk #912, #1243, #1437 and #2541)

Timber

- Purlins: It is possible to enter different variable loads so that a roof terrace or balcony can also be calculated. (help desk #2603 and #2691)
- Purlins: It is possible to enter deviating shape coefficient μ_1 for snow so that snow accumulation can also be calculated. (help desk #2536)

Masonry

- For bricks, the brick grades $f_b=7$ N/mm², $f_b=18$ N/mm², $f_b=21$ N/mm² and $f_b=24$ N/mm² have been added. This now allows walls of Poriso bricks to be tested. (help desk #2638)

improvements

Concrete

- The default side reinforcement was changed from 1Ø10 to 1Ø8.
- Concrete section module: When you specified the longitudinal reinforcement in mm², that longitudinal reinforcement was not included in the calculation of the resistant shear force. This has been improved. (help desk #959)

Steel

- Module Braced connection: When the connection did not meet the deformation capacity, the conclusion and decisive unity check was not displayed properly. This has been improved. (help desk #2645)
- Module built-up sections: The self-weight of a built-up sections with different moduli of elasticity was not properly determined. This problem has been resolved. (help desk #2650)

Timber

- Purlins: When the purlin did not meet deflection, the program gave a "green check mark" on the lower left screen. This problem has been corrected. (helpdesk #2042)

Patch version 2025-02-02 (25-10-2024)

improvements

Steel

- Beam-column moment connection : Bolt spacing was not saved in specific situations. This problem has been resolved. (helpdesk #2539)

version 2025-02-01 (30-09-2024)

improvements

Concrete

- Concrete grade C20/25 was missing and has been added. (help desk #2408)

Timber

- It was not possible to select a different timber grade. This error has been fixed. (help desk #2409)

version 2025-01-01 (21-09-2024)

new

General

- **** User defined materials **** It is now possible to enter own materials (steel, concrete, rebar and timber). How? Very simple. Copy one of the standard materials. Give it its own name and adjust its properties. It is not possible to modify the default Eurocode materials but you can define and add your own material. Then you can use this material in other programs as well. The materials are saved in an XML file so you can put that on the network and share the materials database with your colleagues.
- Drawing profile cross section: The rounding radii (r1 and r2) with r=0 were not drawn and therefore could not be adjusted. This has been improved. (help desk #2251)
- **Company logo:** It is now possible to include your company logo in header. If you choose this then the page numbering is moved to the footer to save space. The time is no longer printed. (help desk #2281)

Masonry

- **Check cavity wall subjected to wind load** is added as a new module.

Steel

- Our profile database has expanded the old German steel profiles **N.P.** and **B.**

Concrete

- **Pile cap with 2 piles** is added as a new module.
- Module Concrete Section: It is now possible to enter side reinforcement. That side reinforcement is also included in the calculation of the resistant bending moment. The user can set whether that side reinforcement should be included in the calculation or not. By default, it is off (help desk #2365)
- Module Concrete Section: The MNkappa diagrams -short duration and - long duration- have been added.
- Concrete column: The selection list of concrete strength class has been expanded.

improvements

General

- The calculation explorer had still the old skin. This is solved. (help desk #1991)
- The conclusion now always mentions the description of the calculation. (help desk #1996)
- Network license / Floating license: When the number of concurrent users exceeds the number of network licenses an error message now appears including a list of current users (CPUId, UserName and UserDomainName). (help desk #2014)
- Output selection: total page count can now be suppressed. (help desk #2069)

Masonry

- Load-bearing masonry wall: To allow testing of old masonry, mortar grade M2.5 has been added. (help desk #1996)
- Load-bearing masonry wall: The drawing was not properly scaled with respect to the width (l) of the wall. This has been resolved. (help desk #1999)
- Load-bearing masonry wall: The types of horizontal support have been extended and improved. For concrete, the $\rho_2=0.75$. For the others, $\rho_2=1.00$.
- Load-bearing masonry wall: Depending on the selected stone type, the combo box stone grade is now filled with the corresponding grades.
- Walls subjected to concentrated loads: Depending on the selected stone type, the combo box stone grade is now filled with the corresponding grades.
- Load-bearing masonry wall: Scaling on image did not go well (scale factor became negative) when the screen width was very small. This has been fixed. (help desk #2350)

Steel

- Baseplate connection: With a short head plate, the pressure print was held too favorably. The beff for the T-piece1 and T-piece3 was not correct. This has been resolved. (help desk #1998)
- Built-up section: The self-weight was not calculated correctly in all situations. This has been resolved. (help desk #2007 and #2064)
- Welding calculation: In the formula at a moment M_x , the τ ;parallel shown parallel when it should have been τ ;perpendicular. This has been adjusted. (help desk #2132)
- Baseplate connection: With 6 anchors and a tension forces only, the anchor pullout force was not properly determined. This has been resolved. (help desk #1961)

Concrete

- Longitudinal reinforcement: the diameters Ø5, Ø7, Ø9 and Ø14 have been added. (help desk #2017)
- Cover: side cover was tested against the largest minimum cover top side and bottom side. This has been modified. Now the side cover is tested against the smallest minimum cover. (help desk #2053)
- Module Concrete Column: The texts to a detailed output of the creep coefficient was not correct. This has been fixed. (helpdesk #2222)

Timber

- Wood framing wall stability: For detail connection A-C Type 2, the pressure perpendicular to the fiber was incorrectly tested. This has been corrected. (help desk #2267)
- Wood framing wall stability: The drawing at the top had too little space which caused the numbers of the forces to fall out of view. This has been corrected.
- Wood framing wall stability: In the test pressure perpendicular to the fiber, the width and thickness of the bottom rule was incorrectly used. This should be the width and thickness of the style. This has been corrected. (help desk #2360)

version 2024-02-01 (20-10-2023)

new

General

- The user interface has a new ***look and feel***. Modern and functional. We are now using the new "skin" "The Bezier" which renders its elements with vectors. This means resolution independence and sharp rendering on Hi-DPI displays. This is not only nice to work with but also less tiring. It is also possible to set the colours yourself. All to make the user-friendliness of the software even better.

Concrete

- Concrete coverage: concrete coverage is automatically increased when it does not meet the minimum coverage. (help desk #1614)

- Column module: Textual error in formula (5.1). This has been fixed. (help desk #1975)

Masonry

- **Masonry walls subjected to vertical loading** is added as a new module.
- **Walls subjected to concentrated loads** is added as a new module.

improvements

Concrete

- Concrete coverage: For an uncontrolled surface, the minimum coverage was not properly determined. This has been improved. (help desk #1614)
- Concrete column in-situ poured foundation piles.
 - The NVN 6724 has been replaced by EN 1536.
 - The partial factor γ_c for concrete is multiplied by k_f in accordance with EN 1992 art. 2.4.2.5.
 - The maximum hoh distance for the longitudinal bars in accordance with EN 1536 art. 7.5.2.5.
 - The bracket distances in accordance with EN 1992 art. 9.5.3.
 - The sectional reduction in accordance with EN 1992 art. 2.3.4.2 is provided.
 (help desk #1979)

version 2024-01-01 (02-07-2023)

new

General

- Calculation of a **roof spigot** is added as a new module.

Steel

- Our profile database has expanded the old steel profiles **DIN, DIE, DIL** and **DIR**.

Timber

- **Wood Framing Wall Stability** check is added as a new module. With this module you can quickly test the stability of your wood framing wall. This module contains the calculation of a wall according to Method A of the Eurocode 5 H 9.2.4.2. With this method you can test the shear strength of an HSB wall.

improvements

General

- When the display options was turned off it could not be opened. An error message "The dock manager is not yet initialized" appeared. This has been resolved. (help desk #1710/#1711)
- To make communication via our web API with our License Server even more secure, TLS 1.2 (Transport Layer Security) is now being used. (help desk #1737)
- In the module selection dialog the language was not set correctly. This has been fixed. (help desk #1735)
- When a new project is created, the completed project data is not saved immediately. This has been resolved. (help desk #1822)

Steel

- Footplate connection: When the concrete cone is to be anchored with reinforcement, the conclusion stated: Footplate connection is not satisfactory. This has been resolved. (help desk #1643)
- In specific cases, reduction factor for lateral-torsional buckling χ_{LT} could become greater than 1.00. This is obviously not possible and has been adjusted. (help desk #1745)
- Beam-column moment connection - butt joint: The stiffness of the end plate was charged 1x instead of 2x. This has been resolved. (help desk #1666)
- Beam-column moment connection - butt joint: In the stiffness calculation the bolt length was not correctly determined This is solved. (help desk #1667)
- Beam-column moment connection - butt joint: In the stiffness calculation a stiffness modification factor of 2 instead of 3 was used.
- When opening an existing moment connection the emin was not properly initiated causing a lower resistance moment to be displayed in the status bar. By the way, with creating the output or calculating a 2nd time this went fine. It was a minor error but has been fixed. (help desk #1762)
- Footplate connection: When a dimension line with a length of 0 was drawn (which is also useless, of course), part of the drawing dropped out in the PDF output. This has been fixed. (help desk #1380, #1642 and #1650)
- Footplate connection: No grade higher than 5.6 may be used for a hook anchor (NEN-EN 1993-1-8, clause 6.2.6.12 (5)). This has been improved. (help desk #1794)

Timber

- Purlin: For wind load determination, the period of reference (i.e. design working life) entered was not taken into account. This has been resolved. (help desk #1654)
- Purlin: Because the snow load could not be adjusted, snow accumulation could not be accounted for. This has been improved. The snow load can now be optionally adjusted. (help desk #1655)

version 2023-01 (03-11-2022)

improvements

Steel

- Lateral buckling stability: I-shaped sections were tested according to formula (6.56) of article 6.3.2.2. This is a conservative and therefore safe calculation. However, for I-sections it is also possible to use formulae (6.57) and (6.58) of article 6.3.2.3. Generally this leads to lower / more favourable unity checks. And we have now provided that. This can further optimize the design of your steel structure and save steel kilos. (help desk #1603)
- Weld calculation: an error was detected in the calculation of the stresses in the weld due to MzEd. The sign of $\sigma_{\text{perpendicular}}$ was found to be incorrect. This has been resolved. (help desk #1625)
- Brace connection: bolt spacing was not properly determined when connecting with a strip. This has been resolved. (help desk #1624)
- Pin connection: MRdser's calculation turned out to be incorrect. This has been resolved. (help desk #1627)
- Beam-column moment connection: bolt diameter M36 and M42 have been added. (Help desk #1606)
- Base plate connection: The number of bolts on shear was not initiated at the minimum of 2 causing the resistant shear force on pull to be 0. This has been resolved. (help desk #1490)

Timber

- Timber floor: It is adjustable whether the partition walls are movable or not. This determines whether the weight of these walls should be counted as permanent or variable load. (help desk #1464 and #1588)
- Timber floor: It is possible to turn off deflection testing. (help desk #1505)

Concrete

- Punching: When outputting multiple calculations, only the calculation that had the focus was printed. This has been resolved. (help desk #772)

version 1.05.03

new

General

- Bookmarks have been added in the output making it even easier to navigate your output. It has also been made possible to include a table of contents in the output.

Concrete

- Anchoring Length: A new module has been added to calculate the anchoring length of a rebar.

Steel

- Built up section: In the graphical view, profiles that partially overlap are shown in red. (help desk #1430)

improvements

Steel

- Beam-column moment connection: Adjusting vertical bolt spacing has been improved. (help desk #740)
- Steel column: The check was not correct when the profile was turned over an angle. This issue has been resolved. (help desk #1296)
- Beam-column moment connection: When the angle of the truss leg is adjusted, the bolt distances are automatically corrected (help #1433)
- Bolt calculation: In the formula of $\alpha;d$ the e_1 was printed instead of p_1 . This has been fixed. (help desk #1488). By the way, the calculation was correct. It only concerned an error in the output.

Concrete

- Concrete cross-section: For old reinforcing steels with low yield strength (FeB220), no resistant moment M_{Rk} could be determined. This has been resolved. (help desk #1210)
- Punching: It was not possible to calculate with a overruled beta factor in all cases. This issue has been resolved. (help desk #1217)
- Concrete cross section: The numbering of the points in the plot of the MN_{kappa} diagram was not going well. This has been fixed. (help desk #1221)
- In the determination of the minimum concrete cover, a fixed life of 50 years was incorrectly used and not the set value. This has been fixed. (help desk #1466)
-

Timber

- There was a textual error in formula (6.19). This has been solved.

version 1.05.01

new

General

- **XColumnBase** and **XColumn** have been added as new modules. You can now make all calculations in **XConstruct** and they are stored in one input file. This is convenient to use.

The current stand-alone programs **XColumnBase** and **XColumn** will disappear and are also no longer maintained.

Steel

- Equal and unequal angle profiles in the profile database have been expanded. (help desk #1007)
- XColumn base joint: XColumnBase (1.16.04) has been included as a new module "XColumn base joint".
- XColumn base joint: the horizontal dimension of the hook anchor can now be entered. This length is included in the determination of the available anchor length. (help desk #1094)
- XColumn base joint: the module is now multilingual.

Concrete

- Concrete XColumn: XColumn (1.16.03) has been included as a new module "Concrete XColumn".

improvements

Steel

- Bolt: It is possible to choose a single bolt.
- Beam-column moment connection: "Liggers symmetrisch" had not yet been translated. This has been solved. (help desk #1097)
- Beam-column moment connection: Only I-shaped profiles can be selected from the profile database.

Concrete

- Punching: When you choose edges around, the program breaks down. This has been fixed. (help desk #1025)
- Concrete cross-section: In specific cases where the allowable steel stress due to cracking was very high, no resistant moment MRk could be determined. This has been resolved. (help desk #1055)
- Concrete cross-section: The entered stirrup reinforcement is now also displayed in the sectional drawing. (help desk #1056)

Timber

- Purlin: It is now possible to set whether the purlin should be tested for double or single bending. (help desk #1152)

version 1.04.04

new

General

-

Steel

- Braced connection: It was not possible to calculate with different steel grades. This has been resolved. (help desk #968)

Timber

- Purlin: A textual error when printing the snow load. It said "sin" but should be "cos". The calculation was correct by the way. This has been fixed. (help desk #978)

version 1.04.03

new

General

- Output selection: In the output selection dialog, the default text "Page" (in the page header) can be changed to, for example, "Attachment A".

Concrete

- The beta can be overruled according to art.6.4.3(6). (help desk #915)

improvements

General

- When the account credit is too low, the administrator login screen was shown. The program broke down when you tried to login. This has been fixed. (help desk #939)

Steel

- Beam-column moment connection: "Liggers symmetrisch" had not yet been translated. This has been solved. (help desk #878)
- An error has been found in the calculation of k_{zz} from table B.1. This has been solved. (help desk #890)
- Beam-column moment connection: When a shear force was entered, the bending in the head plate was incorrectly calculated using the column flange thickness. This has been fixed. (help desk #948)

Concrete

- In order to determine the minimum coverage, the environmental classes XF1, XF2, XF3, XF4, XA1, XA2 and XA3 were automatically converted. This conversion is no longer done. In the input, for the environmental classes XF2 and XF4, an XS or XD class must always be selected additionally. Furthermore, the environmental class XC has been made mandatory. This is solved in the UI. (help desk #888))

version 1.04.02

new

improvements

Timber

- Purlin calculation: With a concentrated load, the k_r factor could be greater than 1.00. This has been solved. (help desk #831)
- Purlin and beam calculation: the theoretical span was not determined correctly. This has been solved. (help desk #838)
- Beam calculation: the value of ψ_2 could not be adjusted. This has been solved. (help desk #839)
- Beam calculation: the output said "per purlin". That should be "per beam". This is solved. (help desk #839)

Steel

- Braced connection: A hole clearance of 2 mm was taken into account in the calculation of the net cross-section. This was not correct. The hole clearance depends on the bolt diameter according to EN 10190-2. This has been resolved. (help desk #833)
- Beam-column moment connection: A hole clearance of 2 mm was taken into account. This was not correct. The hole clearance depends on the bolt diameter according to EN 10190-2. This has been resolved. (help desk #833)

version 1.04.01

new

Steel

- ** Module **Braced connection** has been newly added.
- ** Module **Pin connection** has been newly added.
- Beam-column moment connection: The test of the shear force was still missing. This check is added. The shear force is carried by the bolts in the lower rows of bolts, which are barely loaded under tension. (help desk #702)

- Bolt calculation: bolts M33, M36, M39, M42, M45, M48 and M52 have been added
- In the output selection you can set whether each calculation should start on a new page.

Timber

- ** Module **Floor beams** has been newly added.

improvements

General

- Double-clicking an xcst file in Windows explorer did not work. This has been solved. (help desk #771 and #797)

Concrete

- Concrete cross section: When determining the location (z-positions) of longitudinal reinforcement, the specified stirrup diameter was not taken into account. This has been solved.

versie 1.03.03

nieuw

Algemeen

- Het start paginanummer kon niet worden opgegeven. Dit is opgelost.

Hout

- Berekening van een houten gording is toegevoegd.

verbeterd

Algemeen

- Uitvoer in pdf: De kwaliteit van de grafische plaatjes in een pdf-uitvoer was niet goed. Dat is verbeterd. (Help desk 2018013101)
- Staal: Bij een rechthoekig kokerprofiel kon je wel de binnen radius wijzigen maar de buitenradius veranderde niet mee. Dit is opgelost. (help desk 2019013001)
- Het wijzigen van een afstand door op het getal in de maatlijn te klikken, is verbeterd. Het getal wordt nu geselecteerd, zodat dit direct kan worden gewijzigd. Het werkt daardoor intuïtiever en het voorkomt een extra handeling.
- Wanneer je een ander project opent vraagt het programma of eventuele wijzigingen moeten worden opgeslagen. Er werd ten onrechte een Open Als dialoogvenster getoond. Dat was verwarrend. Het is opgelost. (help desk 2018032701)

Staal

- Momentvaste aansluiting: Bij een stuikverbinding worden de krachten links en rechts altijd gelijk gemaakt. (help desk 2019032201)
- Momentvaste aansluiting: Bij een stuikverbinding werd ten onrechte gerekend met een kolom. Dit is opgelost. (help desk 2019040101)
- Momentvast aansluiting: De kolom bij een knieverbinding kan worden afgeschuind. (help desk 2019072401)
- Momentvaste aansluiting: In het geval van een console met flens wordt het liggerlijf gecontroleerd op plooiën en knikken. De ligger kan eventueel worden versterkt met een schot. (help desk 2019081501)
- Momentvaste aansluiting: In het geval van een console zonder flens wordt de dikte van de console getoetst aan de formule $h \cos(\alpha) / 8,5$. Dus de gebruiker moet hier een minimale dikte opgeven. (help desk 2019081501)
- Momentvaste aansluiting: Er werd niet gecontroleerd of de dikte van de extra lijfplaat (opdikplaat) groter of gelijk was aan de lijfdikte van de kolom. Dat is toegevoegd. (helpdesk 2019090901)
- Momentvaste aansluiting: Bij een stuikverbinding worden de velden m.b.t. de kolom ge-disabled.

- Momentvast aansluiting: Bij een knie- en T-verbinding wordt bij een opbuigend moment altijd rekening gehouden met een plaat aan de bovenkant.
- Momentvaste aansluiting: In het geval van een console zonder flens werd het drukpunt (en dus de inwendige hefboomsarm) niet goed bepaald. Dit is opgelost. (help desk 2019081501)
- De knikcurve van koud gevormde kokerprofielen werd niet goed bepaald. Dit is opgelost. (help desk 2019021501)

Beton

- Beugelafstand 300 ontbrak bij de invoer van de toegepaste beugels. Dit is opgelost. (help desk 2019030701)
- Invoer wapening in pons module geeft soms een foutmelding. Dit is opgelost. (help desk 2019082101)

versie 1.02.02

nieuw

Beton:

- Betondoorsnede: Oude betonstaalsoorten zijn toegevoegd.
- Betondoorsnede: Betondoorsnede: Het is mogelijk om een MNkappa-diagram te bepalen incl. bepaling van EI bij een opgegeven moment MEd.
- Betondoorsnede: In de balkdoorsnede beton wordt een beugel getekend.

verbeterd

Algemeen:

- Uitvoer in pdf: De kwaliteit van de grafische plaatjes in een pdf-uitvoer is sterk verbeterd. (Help desk 2018101501)

Beton:

- Betondoorsnede: Er werd geen rekening gehouden met de minimale dwarskrachtwapening volgens 9.5. Dit is gecorrigeerd. (Help desk 2018112101)
- Pons: De berekening van de periferie van een kolomkop met een dikte van 0 was niet goed. Dit is aangepast. (help desk 2019012101)

versie 1.01

nieuw

Staal:

- **Samengesteld profiel** is nieuw toegevoegd. Met behulp van deze module kunnen de profielgrootheden zoals bijvoorbeeld traagheidsmomenten en plastische weerstandsmomenten van samengestelde staal- en houtprofielen eenvoudig en snel worden berekend

verbeterd

Beton:

- Pons: Notatie van formule 6.52 is uitgebreid.
- Pons: Plaatwapening kan ook in mm² worden opgegeven. Dit ging rekenkundig niet goed en is gecorrigeerd.