MIDAS
CIVIL NX 2026 (v2.3)
Bug Fixes

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MIDAS
CIVIL NX

Oct 29th, 2026

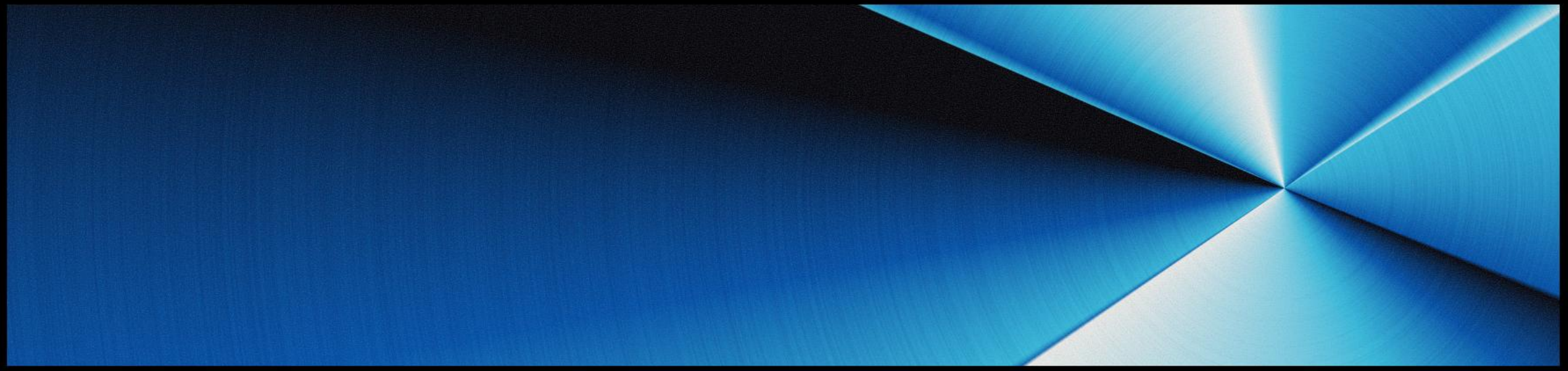


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01

Enhancements

This document summarizes the enhancements implemented since the release of MIDAS CIVIL NX 2026 (v2.2).

MIDAS CIVIL NX

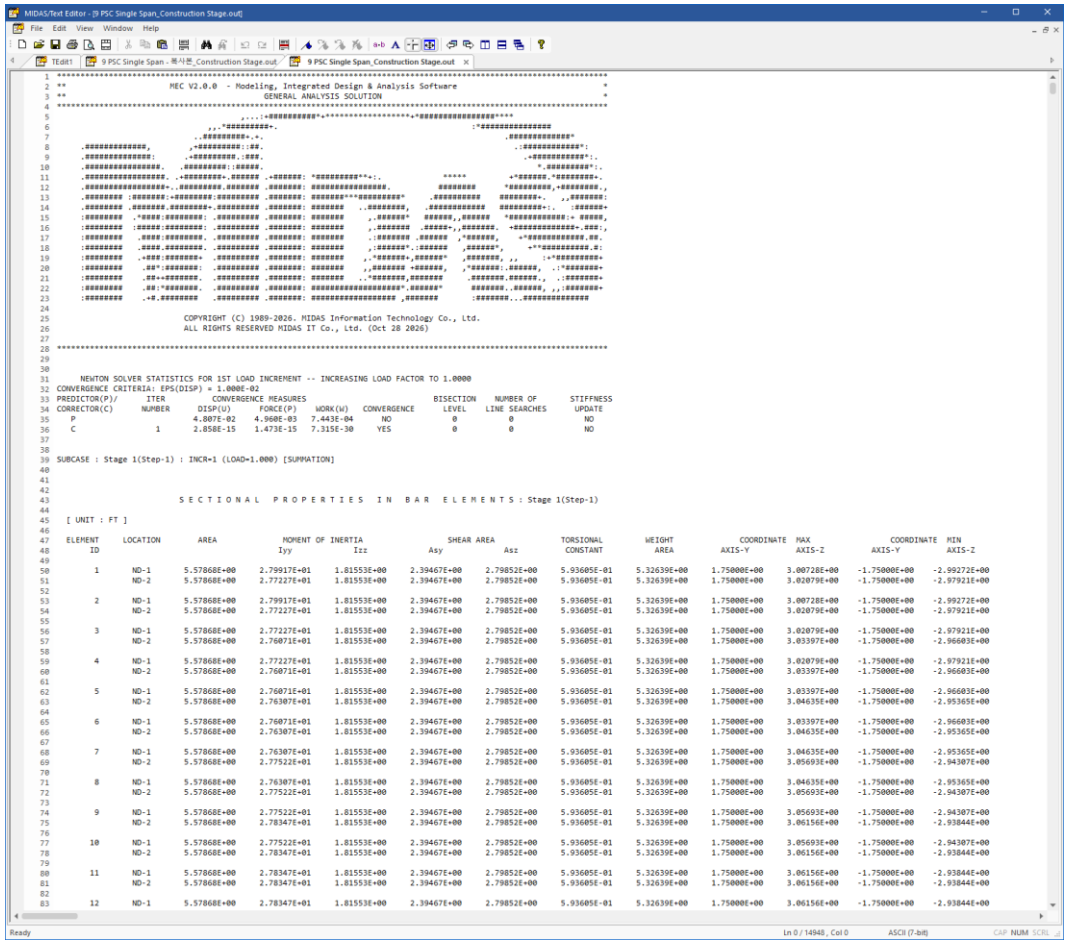
Output of Composite Section Properties by Construction Stage

What Improved

In CIVIL NX 2025, section properties and time-dependent rheological effects (creep and shrinkage) of composite sections by construction stage and concrete age were provided in the text output file (.out). However, in CIVIL NX 2026 v2.1 (HYPER-S solver), this text output was previously not supported.
To verify composite section properties at each construction stage during composite bridge design, support has been added to print detailed stage-by-stage section properties in the .out file, consistent with previous solver capabilities.

Which Models Benefit

Engineers can now directly verify stage-dependent section property variations, as well as creep and shrinkage effects, directly from the text output file for design documentation and calculation reports.



Output of Composite Section Properties by Construction Stage

Performance Enhancements - Beam Force Results Table by Max Value

What Improved

In the Beam Force Results Table, generating concurrent forces with the View by Max Value Item option took an excessive amount of time. In models with many load combinations, the same load combinations were looked up repeatedly for every element and the crane-inclusion check was recalculated for every cell. Load combination data is now cached per element and reused, load combination lookups have been optimized, and the crane-inclusion check is evaluated only once per load combination.

Performance Result

BEFORE	AFTER
N/A	40 s

1st improvement 7 m 54 s → 2nd improvement 40 s

Which Models Benefit

Models with a large number of load combinations: the Beam Force Results Table with View by Max Value Item now opens in seconds instead of minutes and remains stable as the model grows.

Test Conditions

Beam Force Results Table for beam elements with View by Max Value Item enabled; same model and load conditions measured before and after the improvement.

Performance Enhancements - Beam Stresses Diagram

What Improved

Displaying the Beam Stresses Diagram for an SLS RARE load case took about 17 minutes, during which the program appeared unresponsive. The result data was searched sequentially each time a load case block was requested, and this lookup is called very frequently while stress results are generated.
A hash-based index cache has been introduced, so the result data is now located directly (O(1)) instead of by sequential search (O(n)).

Performance Result

BEFORE

17 min

AFTER

3 s

≈ 340× faster (99.7% reduction)

Which Models Benefit

Large models with many load cases and combinations: Beam Stresses Diagram results, including SLS RARE, are now displayed almost instantly.

Test Conditions

Beam Stresses Diagram for the SLS RARE result; CIVIL NX 2026 v2.2 compared with the improved build on the same model and conditions.

Performance Enhancements - Faster Analysis Model Generation

What Improved

Before the solver starts, the analysis data files are generated. For models with tapered and composite sections and beam section temperatures, section properties were recalculated for every property record and every temperature reference point.

Composite section part stiffness is now calculated once per section, and tapered section geometry once per element, then reused. The generated analysis files are byte-for-byte identical to before, so results are unchanged.

Performance Result

BEFORE	AFTER
2,446.5 s	950.1 s
40.8 min	15.8 min

−61.2% (24.9 min saved)

Which Models Benefit

Construction stage models with many tapered section groups, composite sections and beam section temperatures: the more of these a model has, the more time is saved.

Test Conditions

Cable-stayed bridge construction stage model: 1,427 nodes, 2,518 beams, 83 tapered section groups, 2,222 beam section temperatures, 6,892 tendon profiles (Intel i9-11900H, 32 GB RAM).

02

Bug Fixes

This document summarizes the issues resolved since the release of MIDAS CIVIL NX 2026 (v2.2) on June 18th, 2026.

MIDAS CIVIL NX

Bug Fixes in Moving Load Analysis

- [AASHTO LRFD] For User Defined HL-93 (HL-TRK type) vehicles, the lane load was omitted from the single truck + lane load case, giving smaller results than the database HL-93TRK vehicle; the lane load is now included and the dialog illustration has been corrected.
- [Eurocode – LM1 + LM3] For Eurocode moving load cases combining Load Model 1 and Load Model 3, an internal vehicle index error caused some member forces, concurrent forces and concurrent reactions to be taken from non-governing vehicle positions; the governing vehicle is now identified correctly.
- [Eurocode – LM1 + LM3 Straddling] For straddling LM1 + LM3 moving loads, the Beam Stress Diagram omitted the LM3 contribution and underestimated the combined stresses compared with Beam Stress (PSC). Beam Stress (PSC) was not affected by this error; the LM3 contribution in Beam Stress Diagram is now included.
- [Eurocode – User Defined Permit Truck] For user-defined Permit trucks on plate elements, an internal vehicle data error produced incorrect plate forces in the result table; the plate element results are now calculated correctly.
- [BS] For BS moving load cases, user-defined Lane Factors were reset to their default values when the dialog was closed and were therefore not reflected in the results; the user-defined values are now saved and applied.
- [Australia – User Defined Railway Traffic Load] When a moving load case was converted to a static load case in the Moving Load Tracer, the dynamic factor was not applied, so the plate forces of the converted case did not match the moving load envelope; the dynamic factor is now applied in the conversion.
- [Brazil – TB-360 Railway] For Brazilian TB-360 railway moving loads, the maximum member forces in the concurrent force table did not match the Result by Max Value table due to a dimension/index error, which has been corrected.

Bug Fixes in Construction Stage Analysis

- [Tendon] In construction stage analysis using Creep Coefficient for Construction Stage, the tendon primary force was applied twice, causing significant changes in tendon primary results; the calculation has been corrected.
- In construction stage analysis, active Plate End Releases were omitted from the analysis data and applied in the global instead of the element coordinate system, so load combinations including construction stage results differed from CIVIL NX 2025; plate end releases are now applied correctly.
- When Stiffness Scale Factors were entered in Composite Section for Construction Stage, HYPER-S applied the factors twice (squared), overestimating Ixx; the factors are now applied only once.
- In geometric nonlinear construction stage analysis, the unstrained length of catenary cables was recalculated from the deformed geometry at each stage. This unintentionally re-tensioned the cables, resulting in excessive and asymmetric in that stage and all subsequent stages; the unstrained length is now based on the original geometry.

Bug Fixes in Stability Issues

- [PSC Composite Wizard] For the Splice Girder type with the Symmetry option, moving to the Tendon tab closed the program when the number of girders exceeded the number of section divisions, due to incorrect section segment referencing; the referencing logic has been corrected.
- [IRC 112] In PSC design to IRC 112, opening the Check Flexural Strength table caused an unexpected warning and program shutdown because the table column range was exceeded; the column range has been corrected.
- [Steel Composite Design] When designing virtual beams in steel composite design to AASHTO-LRFD24, the program terminated with a work-session disconnection error while calculating support reactions; reactions that cannot be calculated are now handled safely.
- Merging a model created in an earlier version through Merge Data File caused the program to crash; models from different versions can now be merged.

Bug Fixes in Result Consistency

- [Time History] The Axial Stress time history graph for beam elements plotted Combined Stress values; the axial stress component is now plotted correctly.
- [Time History] In Bend(±y/±z) stress time history graphs for beam elements, Sby and Sbz were swapped; the component mapping has been corrected.
- Element Stiffness Scale Factors not activated through construction stage boundary groups were ignored in PostCS, and section offsets of value-type sections were changed when opening older models, causing differences from CIVIL NX 2025; the scale factors now apply in PostCS and the section offsets are preserved.
- When load combinations were converted into a single load case with Using Load Combinations, plane loads were converted with the wrong unit and the loads increased by orders of magnitude; the unit conversion has been corrected.
- When a load case was used multiple times within an Envelope load combination, the load factors (including negative factors) were not applied, so the envelope Max/Min results were incorrect; the load factors are now applied before enveloping.
- For composite sections under element temperature loads, the Bend columns of Beam Stress (Section Part) included the free thermal expansion stress, so Axial + Bend did not equal the combined stresses; the Bend columns now contain only the bending stress.

Bug Fixes in Model Generation Issues

- [RSI Wizard] When the Advanced option was used, point springs at the abutments were not generated and an input warning appeared; the point spring data is now generated correctly.
- [RSI Wizard] Duplicate nodes were generated at elastic link locations, disconnecting the elastic and rigid links and causing singularity errors; existing nodes are now reused.
- [Tendon Profile] For Spline-type tendon profiles with closely spaced points followed by long segments, the curve overshot during automatic subdivision and produced a kink in the tendon profile; out-of-range subdivision points are now replaced with the segment midpoint.
- [PC Girder Bridge Wizard] For the Deck as Plate, Girder as Frame model type, the generated girder sections had zero torsional constant and shear areas, causing singularity warnings and non-convergence in construction stage analysis; full section properties are now calculated.
- [Section Properties in CISC(SST12)] For I-sections in the CISC (SST12) section database, section properties such as Ixx, Iyy, and Izz were incorrect because the required scale factors were not applied; the database values have now been corrected.

Bug Fixes in Design

- [Eurocode – EN 1990] When load combinations were auto-generated, moving load cases in the Frequent category were excluded from the strength and serviceability combinations; they are now included.
- [Eurocode 3 – EN 1993-1-1] In steel code checks of H-sections, the thickness term t was missing from the shear area formula (Clause 6.2.6(3)); the shear area formula has been corrected. Also, in steel code checks, hw = H − 3t was not applied for DB sections, Cmy,0 values and formulas were missing from the report, and the relative deflection δx for Cmz,0 (Mz,Ed) was not calculated; all items have been corrected.
- [Eurocode – EN 1994-2] In steel composite design of construction stage composite sections with cracked sections defined, the reinforcement offset in the section offset was not included, so the neutral axis was wrong and σc in the Stress Limitation table was 0; the offset is now included.
- [AASHTO-LRFD24] In steel design of tapered sections with members assigned and load combinations including envelopes, the detail report used incorrect section information, so its result (NG) differed from the design summary (OK); the section information and unbraced length calculation have been corrected.
- [AASHTO-LRFD20] In concrete column design, the maximum reinforcement ratio was not applied, so the required rebar area for axial force–moment interaction could exceed the code limit; the maximum reinforcement ratio is now applied separately for beams and columns.
- [NBR 6118] In PSC design, the concrete stress limits for the construction stage check were set to zero; the tensile and compressive limits are now calculated according to NBR 6118. Also, in the PSC serviceability stress check, sections were judged NG even when the stress was within the allowable value, and α in the allowable tensile stress was applied incorrectly; the judgment and α (1.2 for box and unclassified sections) have been corrected.