

## **LUSAS V24.0 Error Fix and Modification Release Notes**

This document lists modifications, other than the New Features in V24.0, that have been made since LUSAS 23.0-2c4 and is correct as of **1 Sep 2026**

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### **Kit Version 24.0-1c1**

**LUSAS Modeller 24.0.1617.58729**

**LUSAS Solver 24.0.1617.8650**

LUSAS Tank r6210

MBW r718

### **Issues fixed in all products**

The following critical, major, minor or speed issues are fixed:

|       |                                                                                                                                              |          |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 36411 | Modeller requires solving all analyses when a new DMI Envelope attribute is assigned to a surface in a model, not just the Rail DMI analysis | Modeller |
| 36775 | Improbable value check not carried out to Set C values on the RLO advanced options for EN1991-1                                              | Modeller |
| 36780 | Unloaded train option disabled when ULS Set C accompanying option is set active in EN1991-2 RLO                                              | Modeller |
| 37566 | CEB-FIP bond slip fails to converge under small loads                                                                                        | Solver   |
| 37573 | Long time to process elements in model with embedded interface bars                                                                          | Solver   |
| 37613 | Misleading N/A Display for Excluded Variable Loadcases in Smart Combinations                                                                 | Modeller |
| 37763 | Solver system error: Temperature dependant materials properties for concrete                                                                 | Solver   |
| 37775 | A model with embedded bars with interface does not converge.                                                                                 | Solver   |
| 37822 | Examine Calculations is incorrect when looking at multiple combinations/envelopes with multiple primary components, and using feature order  | Modeller |
| 37834 | The average tendon force remaining after attaching subsequent tendons associated with the elastic shortening for BS5400-4 is 37.5%           | Modeller |
| 37863 | Error message appears when attempting to run the Steel Composite Bridge Wizard with four bays of K-cross bracing                             | Design   |
| 37866 | A message "An error occurred in LUSAS Module Bridge Wizard..." when clicking on the Span Utility in the utilities tree                       | Design   |
| 37884 | Making visible and invisible local coordinate arrows takes significant time in a model with thousands local coordinates                      | Modeller |
| 37895 | Embedded pile elastic zone ignored if initially deactivated                                                                                  | Solver   |
| 37929 | Discrepancy in slice results and stress integration when using Graph Through 2D across sections of varying thickness                         | Modeller |
| 37932 | A second or subsequent attempt to copy/paste or drag/drop loadcases does not correctly update combinations or envelopes                      | Modeller |
| 37938 | TLO for CS454 ALL Model 2 does not produce any results if an auto lane carriageway is used                                                   | Modeller |

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| 37948 | New assigned DMIE cannot be solved in a VLO Envelope Run that was ran previously                                                  | Modeller |
| 37956 | A particular model crashes when changing the assignment in a moving load analysis from "project over area" to "project over line" | Modeller |
| 37960 | Opening multiple mys files (no mdl file) in the same folder incorrectly share a results cache. This can lead to wrong results     | Modeller |
| 37970 | Modeller crash after deleting an influence envelope                                                                               | Modeller |
| 37999 | Crash in DMI when re-meshing                                                                                                      | Modeller |
| 38038 | Script to convert multiple varying sections to tapered sections not working on particular model                                   | Modeller |
| 38056 | VLO is not running for HB 45 unit loading with CS454 ALL Model 2, when two carriageways are used                                  | Modeller |
| 38061 | Results are not up-to-date warning message is not displayed when making changes to Bridge Deck (Grillage) geometric attribute     | Modeller |
| 38065 | Geometric line dialog shows no properties                                                                                         | Modeller |
| 38080 | Graph wizard in time history analysis leads to crash                                                                              | Modeller |
| 38091 | Less onerous leading variable loadcases is used in calculations of a smart combination in "Leading and accompanying actions mode" | Modeller |
| 38095 | VLO generates error and does not run if punctuation characters are used in highway, carriageway or reference path name            | Modeller |
| 38125 | VLO Run does not identify the most onerous loading pattern for a particular model                                                 | Modeller |
| 38149 | Attempting to create VLO load patterns hits the message "<file>.vbs contains an incorrect path"                                   | Modeller |

The List of fixes for cosmetic issues, documentation issues, installation issues, and development requests is also provided. Users with a reference number provided by LUSAS Customer Support may identify these from the following list:

17576, 20611, 22593, 27323, 28526, 30238, 33844, 34387, 35240, 36076, 36159, 36589, 36590, 36776, 36839, 36991, 36998, 37014, 37252, 37320, 37477, 37492, 37495, 37534, 37548, 37549, 37550, 37551, 37552, 37553, 37554, 37556, 37567, 37570, 37578, 37579, 37581, 37588, 37593, 37686, 37699, 37713, 37716, 37752, 37754, 37803, 37854, 37877, 37878, 37934, 37935, 37937, 37946, 37952, 37965, 37967, 37989, 38048, 38060, 38094, 38214

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## Kit Version 24.0-0c9

**LUSAS Modeller 24.0.1609.57830**

**LUSAS Solver 24.0.1607.8558**

LUSAS Tank r6190

MBW r707

### **Issues fixed in all products**

The following critical, major, minor or speed issues are fixed:

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|-------|-----------------------------------------------------------------------------------------------------------------------------------|----------|
| 3375  | Dataset summation over selected nodes is unacceptably slow                                                                        | Modeller |
| 8875  | Change the default values for tied-slideline master/slave stiffness scales                                                        | Modeller |
| 13027 | "Each carriageway must be defined by two lines" error occurs when using TLO with 8 lines defining two carriageways                | Modeller |
| 18258 | Results in a time history graph can be incorrect if the node becomes active or inactive (birth and death) during the time plotted | Modeller |
| 20705 | Linear cable tuning, beam/shell slicing - inputs are not automatically updated when using renumbering                             | Modeller |
| 24789 | Graphs should not show results when element / node have been deactivated                                                          | Modeller |
| 25628 | Graph wizard named options incorrectly populated                                                                                  | Modeller |
| 26820 | Graph wizard giving zero results in birth and death analysis                                                                      | Modeller |
| 27994 | Unable to mesh a bar that has been connected to a surface that has been split by single feature meshing                           | Modeller |
| 28994 | Elastic shortening losses should be optional                                                                                      | Modeller |
| 30120 | Single feature meshing: Ability to deactivate beam leaving interface elements                                                     | Modeller |
| 30537 | Beam force and moment sign convention not consistent in solver output file                                                        | Solver   |
| 30593 | Time history graph wizard complains: "No loads found. Respecify selected history"                                                 | Modeller |
| 30838 | Deformed shape of structure not as expected in beam element model with joints                                                     | Modeller |
| 30962 | Rigid link does not work when fast solver is used                                                                                 | Solver   |
| 32238 | Parasitic bars cannot be deactivated                                                                                              | Solver   |
| 32804 | Undo option not available after creating steel design attribute for GB                                                            | Design   |
| 32902 | RC Frame design attribute for IRC:112 parameter k4 position to be adjusted on dialog                                              | Design   |
| 33511 | "Stiffness ratio to switch to arc-length" is ignored                                                                              | Modeller |
| 33518 | Error when solving influence assignment for TLO                                                                                   | Modeller |

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| 34344 | Temperature loading - different behaviour for bars                                                                                                                                                            | Solver   |
| 34583 | Warping stresses results in Modeller does not correspond with Solver output                                                                                                                                   | Modeller |
| 35206 | RC Slab Wall Design facility is calculating concrete strain at ULS using short term modulus of elasticity                                                                                                     | Design   |
| 35285 | Selection, zoom, pan, rotate etc noticeably slower when any "draw only selected items" facility is used                                                                                                       | Modeller |
| 35791 | Right click on an attribute takes several seconds for context to appear                                                                                                                                       | Modeller |
| 35882 | Plastic hinge artificial unloading                                                                                                                                                                            | Solver   |
| 35927 | Modeller unable to recognise engineering numbers in inches, such as 7'4E-3"                                                                                                                                   | Modeller |
| 36021 | Flat thin shell (TSR6) - wrong averaged stress in the OUT file                                                                                                                                                | Solver   |
| 36026 | Thermal analysis - confusing and incorrect names of output given in the OUT file                                                                                                                              | Solver   |
| 36130 | Prestress inputs are codified, and should not be converted (e.g. in report with different units)                                                                                                              | Modeller |
| 36135 | Changing units (e.g. in report) - field variation function limits coordinates are not updated                                                                                                                 | Modeller |
| 36137 | Changing units (e.g. in report) - any material defined by stress potential not updated                                                                                                                        | Modeller |
| 36138 | Wrong units conversion (e.g. in a report) in globally distributed loading for 2D and axisymmetric                                                                                                             | Modeller |
| 36312 | The entity dropdown box gives "None" as the only option for frequency domain data when plotting modal expansion data using the graph wizard                                                                   | Modeller |
| 36322 | Problem with the initialisation of two-phase elements using K0                                                                                                                                                | Solver   |
| 36355 | In a semi-coupled analysis, choosing structural first gives system error                                                                                                                                      | Solver   |
| 36375 | LVB script created from a pushover example will not playback successfully                                                                                                                                     | Modeller |
| 36407 | The model units are changed in the arbitrary section property calculator when "Use dimensions from file" is ticked in the advanced import parameters dialog, but the model units in Modeller remain unchanged | Modeller |
| 36458 | Influence can't be assigned to inspection locations                                                                                                                                                           | Modeller |
| 36464 | Changes to "Hollow volume tolerance" are ignored                                                                                                                                                              | Modeller |
| 36467 | Speed of opening existing PRW utility                                                                                                                                                                         | Modeller |
| 36476 | Calculation of section properties for cross-section beam occasionally fails                                                                                                                                   | Modeller |
| 36511 | Bridge > Shrinkage Strains > Canada S6-14: impossible validity check if the creep reduction checkbox is ticked                                                                                                | Design   |
| 36516 | Bridge > Shrinkage Strains > Canada S6-14: Unable to modify an attribute after creating it                                                                                                                    | Design   |
| 36572 | Assigning loading to large number of loadcases (range or all loadcases) takes significant amount of time                                                                                                      | Modeller |

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| 36615 | Tank - Solid Force Extract not working when multiple result files are loaded                                                               | Design   |
| 36644 | Tank roof option - Chinese version - Error when creating properties GB50017-2017                                                           | Design   |
| 36645 | Steel Frame Design - Scope name already defined for GB 50017-2017 sub type                                                                 | Design   |
| 36647 | Report error when a "move" cannot be performed (e.g.tolerance problem)                                                                     | Modeller |
| 36666 | Tank Steel Roof Only Wizard - The input value for dome height is inconsistent with the provided reference value                            | Design   |
| 36689 | Crash on deleting IMD loadcase                                                                                                             | Modeller |
| 36710 | Incorrect setting for creep on the RC Frame design attribute dialog to Eurocode 2                                                          | Design   |
| 36711 | Tank module design checks enable error - Tank group "RoofLowerPart" not mapped to model groups                                             | Design   |
| 36715 | Wrong autogenous shrinkage calculation                                                                                                     | Modeller |
| 36718 | Trilinear earth joint: Error message about ascending order                                                                                 | Modeller |
| 36737 | No plastic hinge results are available, despite plastic hinge attributes being assigned to the model                                       | Modeller |
| 36749 | Bar axial force diagrams in a 2D truss for envelopes containing moving load loadcases are triangular instead of rectangular                | Modeller |
| 36751 | Error suggesting that "activate" and "deactivate" attributes are used in a model                                                           | Solver   |
| 36756 | Primary effects for "approximate losses" reads out of bounds data, may crash, may give wrong answer                                        | Modeller |
| 36764 | Although primary effects are requested for all losses, only secondary effects are reported                                                 | Modeller |
| 36770 | Tank - "Exclude base slab results at pile heads and walls " option is not working for "circumferential piles" at the quarter on negative x | Design   |
| 36784 | Tank- Slope height value ignored when creating a 3D solid model from the LNG Tank System                                                   | Design   |
| 36787 | Unwanted constraints are tabulated with deactivation                                                                                       | Modeller |
| 36788 | Option 64 is not tabulated when 'Non symmetric solution' has been selected                                                                 | Modeller |
| 36825 | Microsoft excel cannot open PRW output due to illegal characters for xml                                                                   | Modeller |
| 36832 | Section Reinforcement wrong bars' coordinates calculated when start/end distance is set                                                    | Modeller |
| 36833 | Variation based on prior results cannot use step for branched analysis                                                                     | Modeller |
| 36846 | Tank - Wall stage ID 3 is ignored in the staged construction analysis                                                                      | Design   |
| 36860 | Tabulation of supports incorrect when PDSP and supports assigned to same node                                                              | Modeller |

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| 36871 | The colour by geometric assignment legend does not update correctly when geometric surface assignments are changed                                                                                | Modeller |
| 36877 | Constraint equation deletion being tabulated in linear analysis                                                                                                                                   | Modeller |
| 36880 | A DMI for one solid model with a global SX attribute assigned within the search area runs, but another does not run with the message "Right hand side was zero", suggesting no loads were applied | Modeller |
| 36885 | Primary elastic shortening is always reported as zero for analyses based on approximate losses                                                                                                    | Modeller |
| 36906 | Error - Trying to use undefined material number xxx in datafile assignments when temperature dependent nonlinear material is used                                                                 | Modeller |
| 36913 | Crash closing model (or results) when primary or secondary prestress effects are active                                                                                                           | Modeller |
| 36915 | Thermal link + Non-Symmetric solver - errors                                                                                                                                                      | Solver   |
| 36929 | Exporting a prestress model file as an lvb file can confuse combination and envelope definitions                                                                                                  | Modeller |
| 36937 | Remove shell's drilling DoFs (Local DoF 6) from any constraint equations                                                                                                                          | Modeller |
| 36949 | VLO results not available for members to which an influence attribute was assigned after the first VLO run despite resolving VLO run                                                              | Modeller |
| 36985 | Internal error: can't save file after solving a prestress analysis                                                                                                                                | Modeller |
| 36986 | RC Design does not respect deactivated elements                                                                                                                                                   | Modeller |
| 37004 | BS5400 Elastic shortening is incorrectly applied to all tendons, even the first loadcase                                                                                                          | Modeller |
| 37009 | Stress - solids DMI Envelope attributes are not assigned to volumes.                                                                                                                              | Modeller |
| 37021 | Beam stresses not available when a VLO load case is included in a combination                                                                                                                     | Modeller |
| 37031 | Running VLO again can cause existing envelopes to be renumbered                                                                                                                                   | Modeller |
| 37037 | No influence assignments found after changing model mesh                                                                                                                                          | Modeller |
| 37038 | VLO Envelope results not shown on some elements after changing mesh                                                                                                                               | Modeller |
| 37052 | DMI analysis not solving properly for models with solids                                                                                                                                          | Modeller |
| 37057 | Warning when "primary and secondary" effects is not checked                                                                                                                                       | Design   |
| 37073 | Convergence of reinforced concrete problems is difficult to achieve with embedded interfaces                                                                                                      | Solver   |
| 37099 | Lines getting corrupted when moving geometry                                                                                                                                                      | Modeller |
| 37102 | Composite bridge deck design: AASHTO fatigue detail constant values are incorrect                                                                                                                 | Design   |
| 37110 | Discrete patch load fails to tabulate due to multiple intersections, but not when a search area is used                                                                                           | Modeller |

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| 37112 | Issue with BMX31W stress contours at fibres - results changing                                                                                                                                 | Modeller      |
| 37113 | Issue with BMX31W stress contours at fibres - incorrect in values drawing layer                                                                                                                | Modeller      |
| 37114 | Issue with BMX31W stress contours for the full cross section - contour range doesn't match the stresses at fibres                                                                              | Modeller      |
| 37141 | When a restart analysis is following an analysis with initial deformations with a scale factor other than 1, the original undeformed position in the restart analysis ignores the scale factor | Modeller      |
| 37142 | Crash on moving geometry                                                                                                                                                                       | Modeller      |
| 37203 | Errors in fatigue loadset                                                                                                                                                                      | Modeller      |
| 37223 | Cannot create load attribute for traffic load . Reason: Error HRESULT E_FAIL has been returned from a call to a COM component                                                                  | Modeller      |
| 37229 | Definition of bridge loading for Denmark - Danish Vehicle 1 - Interpretation of track width                                                                                                    | Modeller      |
| 37234 | Elasto-plastic material for 3D thick beam elements with torsional warping                                                                                                                      | Documentation |
| 37241 | Delete DMI corrupts model                                                                                                                                                                      | Modeller      |
| 37246 | Export model as script saves user data before creating model, which is invalid when that data contains loadsets                                                                                | Modeller      |
| 37248 | Do not export influences when exporting model as script                                                                                                                                        | Modeller      |
| 37250 | UDR - Top / middle / bottom strains in composite shells (Ex, etc) require scope to avoid ambiguity                                                                                             | Modeller      |
| 37255 | Variation based on prior results cannot be on eigenmodes, where the eigenvalue analysis includes nonlinearities.                                                                               | Modeller      |
| 37257 | The geometric facility "Allow extended lines" in the "Points by intersecting lines" dialog is not available in 64-bit Modeller                                                                 | Modeller      |
| 37279 | Error: Invalid Transformation Type:0 when plotting results                                                                                                                                     | Modeller      |
| 37303 | Missing results at midside nodes in BMI31                                                                                                                                                      | Modeller      |
| 37314 | Deleting a single line feature is instant in v22 but takes over 10 minutes in a very similar model in v23                                                                                      | Modeller      |
| 37326 | In a model with multiple VLO runs in a single VLO Analysis, when solving one VLO run invalidates the results from others and Results Tables are becoming unavailable                           | Modeller      |
| 37343 | All graph through 2D results show N/A for a thin shell when a slice annotation line is projected                                                                                               | Modeller      |
| 37344 | Influence assignments to joint nodes become invalid                                                                                                                                            | Modeller      |
| 37354 | Slices (as displayed) are not picking up all relevant elements                                                                                                                                 | Modeller      |
| 37355 | Tabulation of supports with Profile Variation crashes Modeller                                                                                                                                 | Modeller      |
| 37358 | Composit bridge wizard: regeneration of girder can give error due to line ID changes                                                                                                           | Design        |

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| 37366 | Design combination wizard - loadgroups need to be optionally assigned to specific combinations                                                         |          |
| 37382 | Beam shell slice resultants using a slice width of 14.4m are two orders of magnitude higher than using a slice width of 14.39m                         | Modeller |
| 37385 | Temperature history graph shows incorrect results when using a cylindrical coordinate system transformation                                            | Modeller |
| 37397 | Copying material assignments from one analysis to another takes a long time                                                                            | Modeller |
| 37399 | Correct the India RC frame attribute dialog.                                                                                                           | Design   |
| 37451 | RC Frame Design for Eurocode: The value for 'Tensile stress limit parameters (k3)' is incorrect. It must be $\geq 0$ and $\leq 1$ , when k is set to 1 | Design   |
| 37483 | Option 272 included in data file despite no Activate/Deactivate assignments                                                                            | Modeller |
| 37514 | Script which runs in V22 won't run in V23                                                                                                              | Modeller |
| 37596 | Meshing error when copying meshed volumes                                                                                                              | Modeller |
| 37607 | Embedded beam - natural coordinates failed to be computed for TH10                                                                                     | Solver   |
| 37624 | Strange deformed shapes when option "Internal displacements and deformations for beams" is on, with BMI31 elements                                     | Solver   |
| 37636 | Tapered arbitrary sections with mixed materials                                                                                                        | Modeller |
| 37671 | Crashes from web evaluation licences on initial setup                                                                                                  | Modeller |
| 37708 | Visiting "examine calculations" when averaging set to "average what's visible" changes the results                                                     | Modeller |
| 37755 | Model crashes when solving an analysis (by right click) that contains the active loadcase                                                              | Modeller |
| 37795 | Modeller hangs when trying to display the averaged nodal $S_x(F_x, M_y, M_z)$ values, with diagrams                                                    | Modeller |

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203, 3524, 11815, 16099, 16680, 17149, 17254, 18029, 19318, 19371, 20853, 21064, 21501, 21662, 22518, 24035, 25599, 25877, 26070, 26408, 26816, 27195, 28199, 28605, 29261, 29351, 29990, 30306, 30595, 30693, 30935, 30994, 31192, 31463, 31723, 32339, 32448, 32732, 32817, 32903, 32906, 33894, 34001, 34018, 34203, 34239, 34267, 34479, 34882, 35111, 35320, 35459, 35555, 35594, 35609, 35737, 35765, 35781, 35810, 35898, 35905, 35959, 35991, 36006, 36051, 36169, 36176, 36181, 36223, 36225, 36226, 36239, 36274, 36280, 36286, 36314, 36315, 36316, 36319, 36327, 36337, 36341, 36344, 36393, 36409, 36430, 36453, 36465, 36479, 36495, 36504, 36510, 36512, 36513, 36532, 36566, 36588, 36634, 36635, 36636, 36638, 36643, 36664, 36665, 36671, 36680, 36706, 36709, 36713, 36759, 36771, 36777, 36813, 36814, 36820, 36821, 36868, 36878, 36882, 36900, 36911, 36914, 36926, 36927, 36928, 36930, 36934, 36944, 36947, 36953, 36971, 36977, 37005, 37023, 37024, 37030, 37033, 37056, 37064, 37067, 37070, 37072, 37097, 37098,

37103, 37117, 37119, 37122, 37129, 37130, 37134, 37135, 37162, 37167, 37171, 37178,  
37187, 37198, 37199, 37204, 37218, 37219, 37225, 37240, 37243, 37247, 37256, 37275,  
37281, 37283, 37290, 37295, 37299, 37310, 37311, 37315, 37332, 37336, 37340, 37345,  
37361, 37368, 37392, 37395, 37398, 37404, 37408, 37434, 37436, 37438, 37446, 37452,  
37454, 37464, 37513, 37518, 37519, 37520, 37531, 37538, 37559, 37572, 37601, 37622,  
37643, 37685, 37714