

LUSAS 22.0 Error Fix and Modification Release Notes

This document lists modifications, other than the New Features in 22.0, that have been made since LUSAS 21.1-2c1 and is correct as of **16 July 2025**.

Kit Version 22.0-1c3

LUSAS Modeller 22.0.1617.52506

Modeller was built with revisions of LUSAS Tank r5979 and MBW r668

LUSAS Solver 22.0.1617.8199

Issues fixed in all products

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

27565	Prestress definition from spreadsheet does not work for solids when combined lines or multiple lines are used for tendon profile	Modeller
27809	Smart combination or Envelope dialog does not close when OK button is clicked in the Chinese version	Modeller
33179	Transforming internal beam displacements to reference path gives untransformed values	Modeller
33737	"Element illegal" error when requesting contours	Modeller
34441	Section through 3D locks up modeller if cracks are drawn	Modeller
34669	Extracting RSI results to Excel fails when using a refined rail expansion joint position value with a message "UIC774-3 Post Processor - Unhandled exception has occurred in a component in your application"	Modeller
34777	Tank - Error exporting 2D forces - specified cast is not valid	Design
34791	Boolean Union operation with simplified internal geometry completely deletes part of a volume	Modeller
34792	Boolean Union operation without simplified internal geometry fails when more than two volumes intersect at a certain space	Modeller
35269	OCCT - mirroring volumes takes an unreasonable amount of time	Modeller
35288	Opening (and closing) a model is noticeably slower in OCCT	Modeller
35299	Spherical surface appears "pumpkin" shaped	Modeller
35306	Single feature meshing failed to mesh	Modeller
35340	Geometry features became corrupted after moving some lines.	Modeller
35343	The model crashes when exporting it as an LPI Visual Basic File (.lvb)	Modeller
35344	Modeller crashes when splitting a surface	Modeller
35352	The model crashes when moving some features in Y direction	Modeller
35353	Error using assignment editor when language set to Python	Modeller

35376	Internal Beam distributed load gives an error when assigned with option 'Treat each set of connected lines as a single assignment'	Modeller
35377	The example MBW bridge with Masonry Bridge Wizard in 3D, is taking longer to generate, compared to v21.1-2	Modeller
35378	Issue with importing dxf file	Modeller
35387	RC Slab/Wall utilisation contours do not show when the entire model is made visible with error messages "Object reference not set to an instance of an object" and "An item with the same key has already been added"	Modeller
35390	Zero results for primary effects - prestress	Modeller
35395	Elements not being meshed	Modeller
35402	Issue with the application of temperature profile loading in bridge deck grillage geometric attributes - girder with top slab	Modeller
35424	Crash when attempting the Boolean Union of two volumes	Modeller
35435	Local My diagram value optimised in a VLO at a node of interest (at the end of a beam) is lower than the My value reported at the same point for an My influence at a different location	Modeller
35438	Masonry Bridge Wizard: Copying and pasting data in the span and pier tables gives incorrect values	Design
35464	VLO Envelope tabular results do not change if a section property modifier is assigned to beams in the base analysis and re-run	Modeller
35478	IMD Loadcase Controls - applied vector does not scale motion if it follows the global direction	Modeller
35484	Modeller crashes after solving a nonlinear eigenvalue analysis and closing	Modeller
35488	Issue with Beam Projected Pressure load when local coordinate is used at any origin other than (0,0,0)	Modeller
35490	"file cannot be saved" error when saving a DMI model after a mesh reset, with mesh lock on	Modeller
35500	Undeformed nodal coordinates plus the deformation in the active loadcase equals the deformed position in the active loadcase when non-zero loads are applied in the analysis with inherited initial deformations, but not if zero loads are applied	Modeller
35501	Can't assign influence to slice in the branched DMI	Modeller
35504	Onerous effects table giving inaccurate results in branched VLO analysis	Modeller
35510	Crash splitting line at distances	Modeller
35517	Geometry features become corrupted when moving some volumes, surfaces and lines in a 3D solid model	Modeller
35527	The line direction changes after copying volumes and surfaces to another location	Modeller
35534	Geometric features are merged, although they are set up as unmergeable	Modeller
35535	Local coordinate direction is reset in the droplist for selection after closing and reopening the profile variation menu.	Modeller
35554	Axisymmetric thermal links LFX2 should not ask for geometric property 'thickness'	Modeller
35562	"Invalid object" message prevents prestressed analysis from running when "beam/column connection rigid zones" are specified for beams but not when a "Specified length" rigid zone is used	Modeller
35564	Failure to run imports when using a standalone licence	Modeller
35595	Load is deassigned from all loadcases (from all analyses) even if should only be deassigned from specified loadcases	Modeller
35607	Modell corrupted after moving points	Modeller

The List of fixes for cosmetic issues, documentation issues, installation issues, and development requests is also provided.

27381	Update/add 4 new US State manuals to TLO	Modeller
27421	Teaching & Training Limits - No Error Message In Text Output For 1500 DOF Limit	Solver
27772	Contour labels are inappropriate for a filled contour	Modeller
28197	Misleading message that no IMDPlus license is available when actually the solution has failed	IMDPlus
28263	The Chinese version incorrectly removes too many DOFs from the loading attribute dialog grid	Modeller
28503	Blank cells in the discrete patch load dialog are not handled	Modeller
29097	Arbitrary Section Properties Calculator - axes symbols inconsistent	Modeller
34467	Slightly different contour pattern between 2D and 3D models	Modeller
34833	Duplication of results entity "strain thick shell lamina"	Modeller
35224	Tank - Roof-only model mesh for orthogonal arrangement	Design
35247	My diagram values are shown in incorrect locations in Perspective mode	Modeller
35307	Parameter reference on the Concrete Nonlinear material attribute validation check is incorrect	Modeller
35323	"Failed to create user profile directories or files" error	Modeller
35341	CWMax contours cause mesh layers to ignore transparent setting	Modeller
35346	Default value for shrinkage is outside probable value range on Tendon Properties dialog for DD ENV1992-1-1	Modeller
35348	Surface fleshing creates only 2 sides when multiple surfaces are coincident	Modeller
35355	The solver type option on the "solve now" dialog disappears	Modeller
35365	Composite Bridge wizard creates erroneous stiffeners when skews are high	Design
35369	Units for Fb, Mb and Msv are incorrect for 3D Thick Beam Elements with Torsional Warping	Modeller
35412	Error in the "Assign point support attribute" Gh component	Design
35413	The option to visualise active elements only is not working - Deactivated elements are visualised, too.	Modeller
35447	Masonry Bridge Wizard - horizontal Winkler values should be copied when a pier column's values are copied and pasted	Design
35448	Undoing deletion of an analysis doesn't restore its constituent loadcases	Modeller
35466	PDSPs in a load curve analysis - spurious warning	Modeller
35472	Nodal coordinates in PRW should not transform to the active local coordinate set	Modeller
35493	Typing in a new name in the temperature loading dialog does not enable the OK button	Modeller
35509	PRW does not show the critical combination name for an envelope max/min Mz for beam/shell slices	Modeller
35544	The text description is missing in the "Convert mesh to geometry" window, if the results are loaded	Modeller
35567	Annotation blocks within saved views not included in the reports	Modeller
35572	The Contours are not getting visualised when trying to display a Geometric entity	Modeller
35596	Tendon loads are not getting assigned to load curves. A conflicting error message is output: "Search area type "Surface" is incompatible with assigned object line "x""	Modeller

Kit Version 22.0-0c2

LUSAS Modeller 22.0-0c2 (r51518)

Modeller was built with revisions of LUSAS Tank r5826 and MBW r655

LUSAS Solver 22.0-0c2 (r8142)

Issues fixed in all products

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

9782	Prescribed acceleration does not induce a displacement unless a load curve is used	Modeller
24764	Tapering model takes minutes to load in v18+ vs seconds in v16	Modeller
25129	US AISC 9 square & rectangle section using wrong thickness	Modeller
25780	The config report gives a quad lock code but this code was not useable when adding keys to VM servers	Modeller
25788	Incorrect results in staged construction	Modeller
26012	Modeller interface locked out when started via script	Modeller
26100	Reports extent option "Selection" gives empty report	Modeller
26286	Two- phase: Unexpected stress magnitude computed	Solver
26403	TLO Summary Table "Create loading" leads to results that does not match the given values in the summary table (especially when using reciprocal influences)	Modeller
26484	Give user control over number of internal beam points	Modeller
26840	When installing 18.1-1, lserverc file was not copied from the previous versions	Modeller
27372	Principal stress vectors cannot be displayed at deformed Gauss point positions when a combination is active	Modeller
28196	Multiple menu refreshes when creating a new model	Modeller
28200	IMDPlus and results file IDs	IMDPlus
28593	Spurious tensile stress in nonlinear concrete in a coupled analysis	Solver
29231	While using PRW, Printing Loadcase/Mesh is much slower than printing Loadcase/Feature results.	Modeller
29615	2-phase elements fail to solve in a coupled analysis	Solver
29864	Modeller should report an error when the user's documents folder has been placed on a disconnected disk	Modeller
31046	Rail Track Analysis - Unable to start MS Excel 64 bit	Modeller
31154	RC Slab Design - Contours not updated automatically when loadcase changed	Design
31189	When nCopies > 1, Copy->Scale generates different geometry than expected	Modeller

31452	Thermal expansion in joints does not work as expected	Modeller
32326	Very high principal stress S1 at some Gauss points in the nonlinear concrete model	Solver
32793	Tank - When a 3D shell model is created from wizard, the mesh from base slab and raft is not symmetric	Design
32795	Deleting SSI material assignments from eigenvalue analysis takes a lot of time	Modeller
32799	IMDPlus error ***Index was outside the bounds of the array***	IMDPlus
32800	Results for beam elements are not available in Seismic IMDPlus	IMDPlus
32853	Contours not plotting for Design Factors	Design
33083	Print Results Wizard is slow for Gauss point and element nodal options	Modeller
33384	Addition of spring supports with contact to staged construction analysis leads to incorrect results	Solver
33592	Solver error messages "NODNRM & SHLTRN PROCESSOR" appear when there is a user error (use of poor quality elements)	Solver
33638	Selecting volumes in a model with cylindrical volumes is very slow	Modeller
33640	Selecting 856 volumes triggers a memory allocation issue	Modeller
33646	Results Transformation: Shell plane for resultants does not currently apply for stress results	Modeller
33712	Cylindrical sets can tabulate before Cartesian sets	Modeller
33808	Tank - Error for 2D structural - unable to resolve the first parameter	Design
33810	Contours of design utilisation don't update when combination is modified	Design
33823	Use of Initial stiffness versus tangent stiffness-based Rayleigh damping in inelastic time history seismic analyses	Solver
33837	Tank: Force Extract doesn't work for invisible elements	Design
33859	Tank: Exporting forces/moments from a 3D solid tank model using 0 degrees produces incorrect results	Design
33863	Hygro-thermal: access to dialog 'Thermal Time Step Parameters' is greyed out	Modeller
33875	Tank: Function limits are not correct in the field variation of insulation construction loads	Design
33900	Tank: Seismic loads are not assigned correctly from the wizard	Design
33918	New slideline attribute assigned in another analysis is ignored	Modeller
33930	RS curve is defined as period-accelerations with periods in days , rather than in seconds, when Time scale units are defined in days	Modeller
33944	Tank: The eccentricity of the stiffener is wrong when the stiffener is selected in the inside part of the wall in the tank definition menu	Design
33995	Importing / opening a mdl file as the starting cross section in Arbitrary Section Calculator does not work	Modeller
33997	Fly ash in creep material JTG is tabulated as a percentage, not a ratio or fraction	Modeller
34039	Steel Frame Design Report calculations are incorrect	Design
34060	New intermediate web stiffeners are not added successfully when regenerating a bridge via the Steel composite bridge wizard	Design
34104	getVolume LPI returns NA or negative values	Modeller
34106	Parametric T tapered section: Utility shows properties but geometric attribute does not	Modeller
34137	Cannot determine for which influence assignments the alternative loading patterns should be considered in TLO Envelope runs	Modeller
34179	Point properties: A very small ordinate cannot be changed to zero	Modeller

34183	Parasitic bars: mesh failed, createNodeEdgeData	Modeller
34207	Material: Cannot find assignment data at line 'XXX' of an LVB script	Modeller
34291	Importing a model via LVB format with reordered file IDs and loadcases causes combinations to be invalid	Modeller
34306	LPI IFLoadsetResultsContainer::hasAllResults() always returns true	Modeller
34335	ASPC does not show attributes in panel view	Modeller
34340	Support tabulation with prescribed displacement should follow the manual and automatic logic	Modeller
34346	Design combination module - errors in Chinese version	Design
34356	PontiEC4 fails to find licence files installed by LUSAS 21.1	PontiEC4
34366	Tank: Wall piping and external temperature load shouldn't be assigned in the bottom part of the buttress when a 3D solid model is created from the wizard	Design
34368	Tank: 2D coupled thermal model has a negative X coordinate in the top part of the roof when it is created with the wizard	Modeller
34369	Tank: QAX4 elements should be used when a 2D coupled thermal model is created from the wizard.	Design
34374	Axisymmetric shell and solid both tabulate the same face load	Modeller
34393	The sum of the absolute values of lateral flange bending stresses for each stage are used for the design of a composite section.	Design
34396	Tank: Default mesh for soil is too coarse when a 2D model is created from the wizard	Design
34397	Thermal membrane mesh can't be used in a 2D axisymmetric thermal model - geometric attribute can't be assigned	Modeller
34402	Different results in an uncoupled model when CRSH cracking materials use temperature dependence or not	Solver
34438	Issue with lift-off spring supports in a nonlinear loadcase of a staged construction analysis	Solver
34439	Auto meshing creates invalid triangular elements	Modeller
34443	A simple space frame cannot be modelled with warping beam elements	Modeller
34444	Modeller can use an incorrect cached answer when the averaging options are set to "average what's visible"	Modeller
34452	Failing to export the composite deck design EC4 forces to Microsoft Excel	Design
34464	Reciprocal influences cannot be used in VLO for design codes that require cusping evaluation	Modeller
34480	K0 initialisation not available for elastic material	Modeller
34481	k0 initialisation is lost when turning an elastic isotropic material into a Mohr-Coulomb material	Modeller
34503	Reference path that was used in a DMIE attribute cannot be deleted even though that DMIE attribute was deleted	Modeller
34508	Database error - Database specified not currently open, No current default database	Solver
34516	Error message "Calculation of User defined result Mr reported an error - unrecognised variable" appears when asking for values of FZ (measured at nodes) when the primary component is a force (measured at beam internal points)	Modeller
34518	Tank: A warning appears when the ground level value (D_ground) is defined with the lower bound value indicated in the same warning in the tank definition menu	Design

34519	"Object reference not set to an instance of an object" when trying to view composite deck design results with an envelope selected as a strength loadcase	Design
34530	Tank: Steel roof upper compression ring wrong thickness	Design
34531	Tank: Upper compression ring length and polar beam angle are confusing	Design
34532	Tank: Steel roof only model creates tiny surfaces at orthogonal arrangement of centre beams	Design
34553	Irrelevant changes to geometry affect whether the influence analysis is running.	Modeller
34554	Tank: The lateral cross bracing for the final ring doesn't seem connected correctly at its bottom end in a steel roof model	Design
34556	Setting a fleshed view on takes a long time in a relatively small model	Modeller
34572	Poor convergence of a GNL problem with 2D continuum and beam elements (achieved LF of only 15%).	Solver
34602	Tank: export forces for roof shows discrepancy in 2D vs 3D comparison	Design
34603	Tank: 3D solid model has distributed spring support on side slab surfaces	Design
34617	Calls to the LPI are slow from external Python code unless Modeller is set to invisible	Modeller
34646	No warning for tapered beam with 1 element	Modeller
34654	Tank: replacing wind loading gives an unhandled exception from HRESULT 0x80004002	Design
34701	New VLO Envelope Run (branch) name identical to existing VLO Envelope Run (branch) name	Modeller
34717	Flat thin shell elements (TSR6) do not report midside displacements	Solver
34749	Closing results for a single analysis can crash Modeller	Modeller
34774	The DMI analysis fails to solve after changes are made to the Beam/Shell Slice Resultants utility used by the analysis	Modeller
34783	Cannot copy point load attribute from one loadcase to another - "Concentrated load is not recognised or valid in this context"	Modeller
34820	Derived components in IMD loadcases to be computed from raw eigenvalue results	Modeller
34826	The same model solves significantly quicker in version 20.0-0, compared to v20.0-4 and v21.1-2	Solver
34842	When a model (and corresponding data folder) is relocated, Modeller is unable to use the cached results	Modeller
34843	Axisymmetric models should not allow geometric lines defined by section calculators	Modeller
34857	Two-phase: Model fails with 'ZERO PIVOT' when solved with realistic material properties	Solver
34863	Failed to make search area cell normals consistent	Modeller
34864	'Solve now' does not update analysis status after loading change	Modeller
34905	Expose slab/wall reinforcement definition in LPI	Design
34940	Creating just a few lines leads to a significant increase in memory usage	Modeller
34943	Modeller crashes when viewing beam/shell slice results in a model where "graph through 2d" utilities are visualising	Modeller
34945	Cannot sweep multiple circular lines upwards to form multiple surfaces	Modeller
34966	Structural analysis of coupled thermal/structural model with iso linear material cannot be solved with linear controls	Solver
34970	Beam/shell slicing triggered with TLO request	Modeller

34988	Assigning thick beam influence envelope fails - possibly due to rigid zone	Modeller
34994	VLO Envelopes is not available in the design combinations generator	Design
35007	Tank: The inside radius probably is not read correctly when the insulation layers are set up in a metallic tank	Design
35009	Error "Cannot determine Include Additional Load Pattern flags. Setting the results set for displacements has failed" is seen when running VLO	Modeller
35017	Reverting from manual to auto management of results files results in crash if the manually set path isn't the same as the expected automatic one	Modeller
35022	Tank: LNG tank error in Chinese version	Design
35026	Error message "Could not process influence XYZ: Influence files not found" prevents the solving process	Modeller
35045	Crash when undoing a deletion of the sole load assigned to "All loadcases"	Modeller
35047	A Python script created by Modeller can fail to run	Modeller
35049	Contours for "Stress - thick shell" is incorrect by comparison to contours for "Stress (top, middle, bottom) -Thick shell"	Modeller
35077	Units are not shown in a composite material when hovering	Modeller
35102	RLO - Could not process influence for Beam/Shell slice: influence files not found	Modeller
35103	Error message "select an influence envelope" appears when defining an influence envelope for a VLO with a DMI attribute already defined	Modeller
35145	Inspection location on slice element goes into a closed loop	Modeller
35153	A particular model unnecessarily remeshes when opened	Modeller
35158	Invalid non-positive 2nd moment of area about local y, when using Grillage Geometric attribute "Transverse Slab with bracing"	Modeller
35208	Beam/shell resultant slice diagrams for entity My from envelopes disappear when switching from a loadcase where only 2 of them are visible.	Modeller
35209	Crash some time after a "graph through 2d" cannot be displayed	Modeller
35218	Graph of moment-rotation seems to multiply values by 2	Modeller
35227	Single surface model runs in v19-1-3c4 but in v21.1-2c1 it does not solve with NODNRM and SHLTRN PROCESSOR errors	Solver
35276	LPI Node.getVectorResults returns translations only and no rotations	Modeller
35277	User modules are incorrectly shared by win32 and x64	Modeller
35302	Prestress error: Some of the profile lies outside the assigned geometry, despite the profile being within member's thickness	Modeller
35303	VLO error with AASHTO Standard Specifications 17th Edition (H20 and HS20) - Value cannot be null. Parameter name : collection	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:

7089,8473,8488,10847,11079,11839,12178,12406,14633,16614,16733,16740,17685,18188,18224,18269,18299,18705,18922,19576,20195,20212,20373,20468,21658,22491,22498,22864,23166,23175,23356,23848,24548,24971,25059,25932,26062,26235,26771,26876,269

97,27056,27099,27294,27312,27633,27707,27927,27930,28123,28149,28475,28481,28631
,29065,29151,29154,29301,29372,29776,30546,30647,30687,30920,31018,31029,31123,3
1190,31587,31725,31796,31842,31976,32198,32248,32250,32344,32577,32578,32711,327
25,32777,32783,32798,32830,32859,32869,32895,32984,33112,33136,33285,33343,33455
,33538,33682,33700,33707,33711,33749,33806,33817,33824,33838,33841,33851,33857,3
3862,33864,33876,33880,33881,33887,33921,33922,33924,33925,33926,33928,33929,339
33,33938,33939,33941,33945,33951,33954,33958,33959,33960,33969,33970,33974,33978
,33986,33988,33996,34011,34016,34028,34031,34043,34053,34072,34073,34075,34105,3
4111,34121,34124,34138,34142,34162,34180,34189,34193,34195,34214,34226,34228,342
35,34249,34250,34254,34261,34268,34270,34300,34307,34310,34315,34321,34323,34326
,34336,34345,34352,34363,34367,34373,34377,34383,34394,34410,34411,34412,34440,3
4445,34446,34447,34448,34458,34468,34471,34475,34477,34478,34487,34497,34501,345
07,34514,34528,34533,34536,34543,34555,34566,34578,34585,34587,34590,34604,34658
,34708,34747,34754,34757,34805,34819,34832,34841,34845,34847,34888,34902,34903,3
4904,34907,34908,34916,34926,34931,34942,34944,34954,34962,34977,34998,35001,350
18,35053,35073,35078,35084,35125,35135,35154,35167,35241,35252,35259,35290,35296
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