

ALTAIR

ONLY FOWARD

INTEGRAL MINING

ADVANCED NUMERICAL MODELING



WWW.INTEGRALMINING.COM

ALTAIR

ABOUT US

Altair is a global technology company that provides software and cloud solutions in the areas of product development, high performance computing (HPC) and data analytics. Altair enables organizations across broad industry segments to compete more effectively in a connected world while creating a more sustainable future.

STRUCTURAL ENGINEERING AND DESIGN (AEC)

Versatility and data integration drive productivity for building and non-building structures. Altair's Architecture, Engineering, and Construction (AEC) structural analysis and design solutions simulate responses to wind, snow, water, seismic, blast, dead, live, and moving loads, or other dynamic, nonlinear loading conditions while ensuring design resiliency and regional code compliance. Extensive data transfer links manage consecutive import and export cycles between analysis and design solutions, building information modeling (BIM) systems, and/or CAD platforms. Design and optimize concrete, steel, and timber to regional codes, generating report-ready results for all structural elements in a model.

ALTAIR S-TIMBER

S-TIMBER is an all-in-one solution for mass timber structural analysis and design. Use a single work environment to model and analyze hybrid structures built from timber, concrete, and steel elements, and efficiently design all timber structural members for code compliance whenever a model is updated. With built-in automation for fast model creation, section and material property calculators, linear, nonlinear, vibration and RSA structural analysis capabilities, plus design report exports, S-TIMBER is a time-saving solution for mass timber code compliance validation.

Save time as S-TIMBER manages the underlying FEA model – including panel meshes, panel strip lines, and member physical and rigid offsets.

Users can import model geometry from DXF files for fast model creation and export DXF files from the finished model for postprocessing or manufacturing operations.

Model Management, Simplified

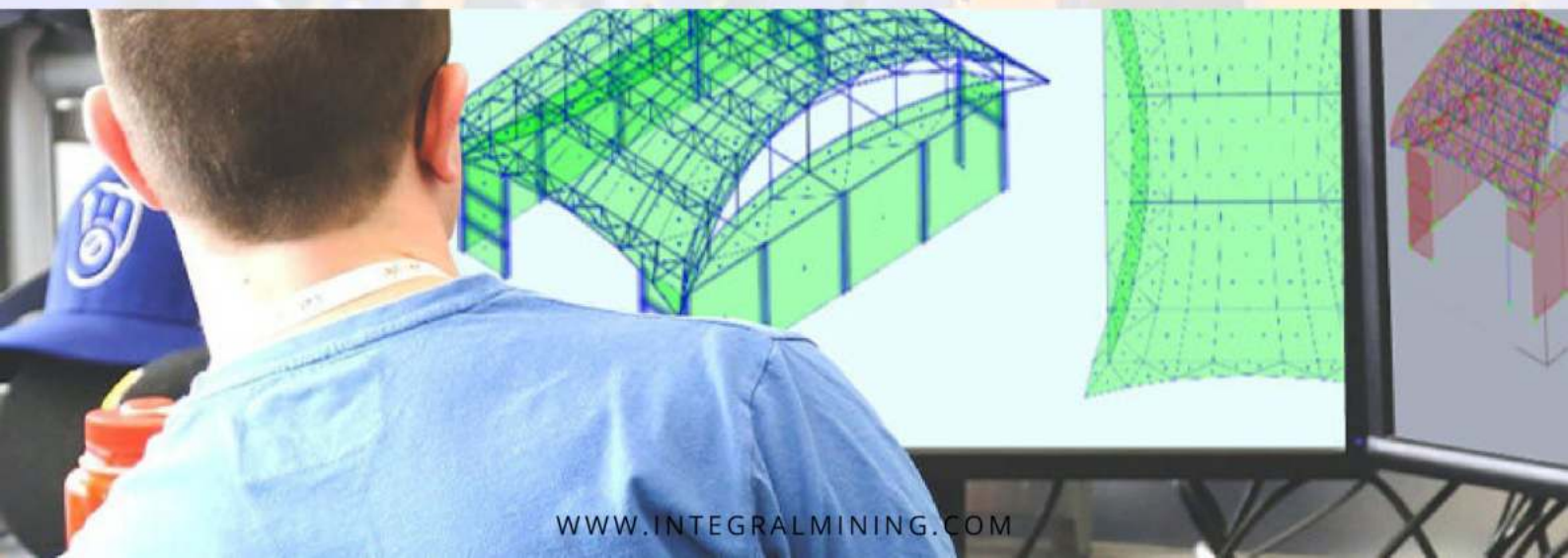


ALTAIR S-FRAME

S-FRAME can perform any of the following analyses: Linear Static, Stressed or Unstressed Vibration or RSA, plus ESFP/ELFP (Equivalent Static/Lateral Force Procedure), Time History, P-Delta, Buckling, Staged Construction, Moving Load Analysis, Nonlinear-static, Quasi-static, or Nonlinear Time History.

With S-FRAME, users can quickly define structures using modeling automation to generate regular framework structures, standard or custom trusses, and use clone tools to replicate all or part of the model. Additionally, users can save modeling time by importing existing BIM and DXF models. S-FRAME's advanced meshing tools create the finite element mesh, giving users the power to generate detailed analysis results in their specific areas of interest. And users can explore those areas of interest by easily converting members to multi-shell models with equivalent shell loading for further analysis to glean more thorough results.

Versatile Solution Integration



ALTAIR S-CONCRETE

S-CONCRETE accelerates your project workflow from design setup to engineering report generation. Use it to view immediate results as you design and detail reinforced concrete beams, columns, walls, and continuous beams according to regional design codes in an intuitive work environment. And S-CONCRETE can easily and seamlessly exports all your results in a comprehensive, transparent design report.

Altair S-CONCRETE enhances productivity with a design solution that generates immediate results in a single interface.

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- Utilization status
- Governing load cases
- Detailing checks status
- Intermediate results
- Errors and warnings for failed checks with clause reference

***Simple Design
Environment for Walls,
Beams, and Columns***

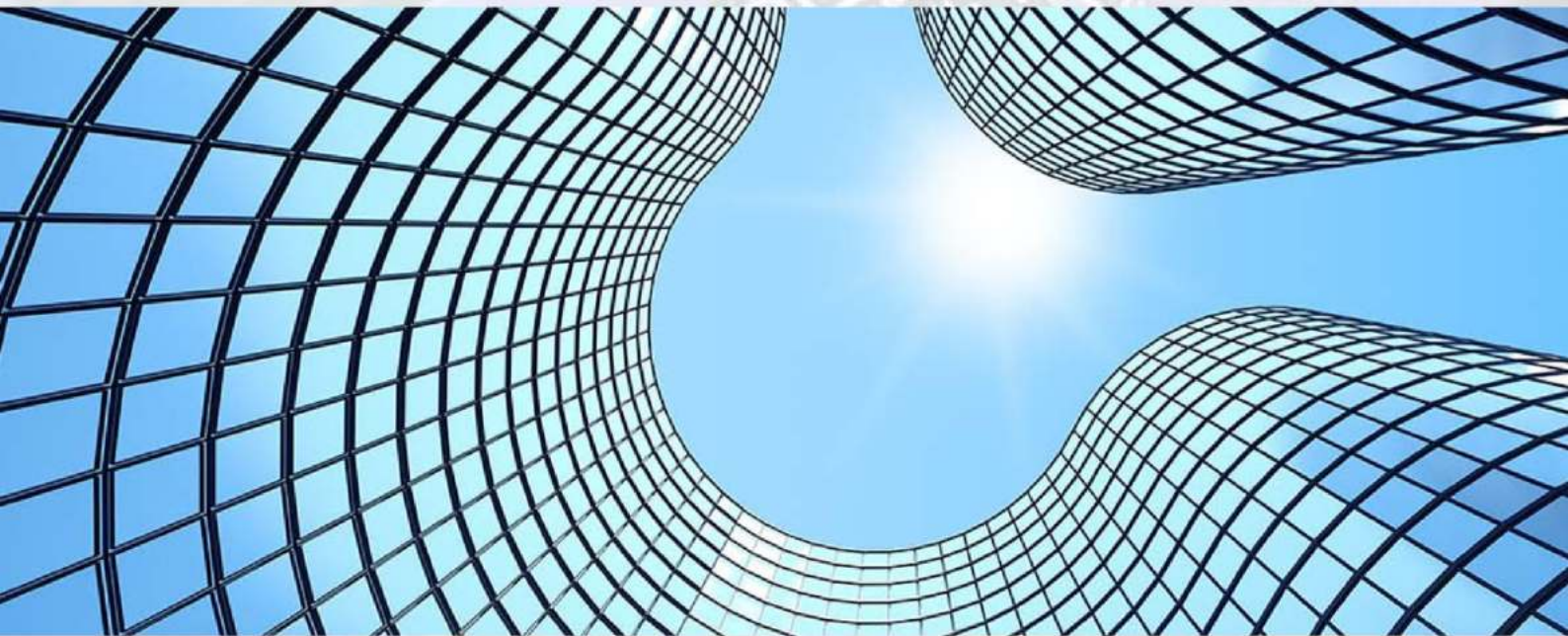


ALTAIR S-STEEL

S-STEEL helps users quickly locate and assess critical areas requiring redesign and select specific members using multiple filtering options. S-STEEL also lets users override section sizes for all members or a subset of members and immediately see if they pass or fail the code checks, and determine steel material quantities, optimizing weight, surface area, and other criteria.

S-STEEL lets users code-check and auto design for both strength and serviceability to regional design codes, and supports composite beam design, staged construction, and numerous optimization criteria and constraints. Its transparent design results and engineering reports include clause references and equations deployed that target passing or failing steel members.

***Design and
Optimize for Code
Compliance***



ALTAIR S-FOUNDATION

With S-FOUNDATION, users can analyze and design deep and shallow foundations in an adaptable, intuitive, and automated foundation management solution. S-FOUNDATION's flexibility allows for virtually any foundation layout and automatically manages the underlying finite element model as you design and optimize. Analyze foundations using linear or nonlinear analysis, and check for geotechnical and structural design code compliance.

S-FOUNDATION automatically generates and maintains the underlying finite element mesh and leaves the mesh constraints fully adjustable by the user.

Users can review code compliance checks to any level of detail, including intermediate calculations, formulas, and code clauses. Additionally, they can filter results on multiple criteria to pinpoint areas of interest and generate comprehensive, customizable reports.

***Easy-to-Use
Versatility***



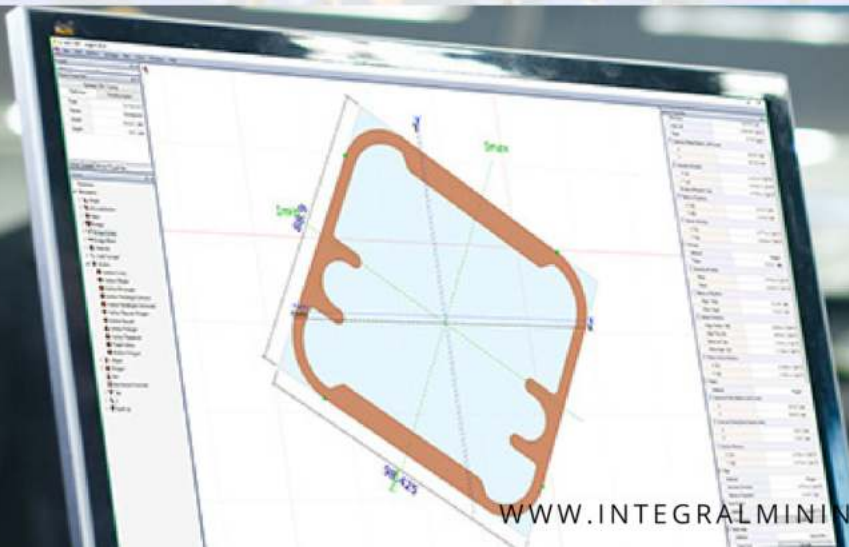
ALTAIR S-CALC

Increase productivity and design accuracy with S-CALC, an advanced section property calculator. Ideal for non-standard sections with complex geometry and multiple materials, S-CALC delivers over sixteen section properties with optional calculation methods: database values, closed-form solutions, FEA methods, and more. Easily define models in S-CALC's graphical editor or import geometry and material data from BIM and DXF files.

S-CALC also lets users easily define sections by selecting and combining shapes from steel databases or from over 70 parametric shapes, including built-up, cold formed, bridge, and more. From there, users can combine, merge, and modify shape geometry and material.

Additionally, users can explode compound shapes into multiple child shapes for further control over dimensions, positions, and materials. Save time by importing complex geometry users have already modeled in AutoCAD® DXF and Revit® files.

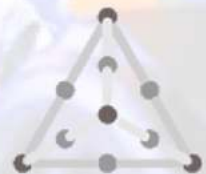
Full Project Workflow Integration



Accelerating Innovation

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