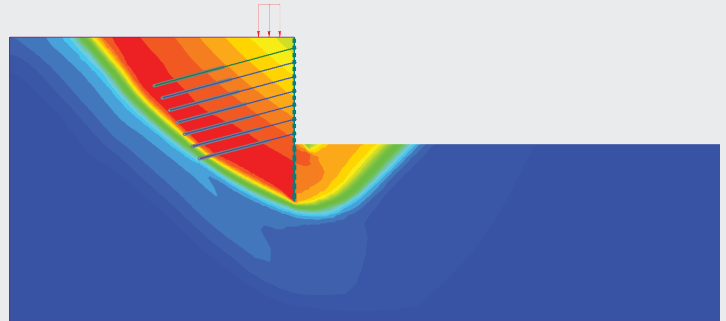


What is RS2?



RS2 is a powerful 2D finite element program for soil and rock applications. RS2 can be used for a wide range of engineering projects including excavation design, slope stability, groundwater seepage, probabilistic analysis, consolidation, and dynamic analysis.

In RS2 consolidation can be modeled with coupled (Biot Theory), slope stability can be analyzed with automatic shear strength reduction, and dynamic analysis can be performed by applying pseudo-static loads or defining an acceleration time history.



Total displacement contours from shear strength reduction on a sheet-pile wall.

What's New in RS2

Advanced Material Models

RS2 2019 features the addition of a comprehensive array of new material models. New material models in RS2 include: *Slide2* material models with Isotropic and Anisotropic failure criteria; FLAC models including CY Soil and CH Soil; PLAXIS models including Hardening Soil, HS Small Soft Soil, and Soft Soil Creep; Visco-Elastic-Plastic models; Swelling Rock model; Dynamic Models such as Dafalias-Manzari; and the NorSand model.

Integration with *Slide2*

RS2 allows the seamless transition of models between *Slide2* and RS2, including import of all material models.

Enhanced Groundwater Analysis Features

Hydraulic properties are now found in the Material Properties dialog for increased ease of use. Initial transient pore pressure is now defined by individual material. Wick drains can now be added to groundwater models.

Improved Loading Capabilities

Improved loading capabilities in RS2 allow users to add multiple loads to one location on a model. Furthermore, improvements were made to the Add Load interface which allow loads to be added with a simple click and drag system.

Accelerated SRF

Get more done with approximately 50% faster SSR analysis.

Uncoupled Consolidation

Uncoupled Consolidation is a new analysis type that will improve the stability and speed of consolidation analyses.

Plans & Pricing

Single (Personal) License: Locked to one computer.

- Ownership (Perpetual): **USD \$5495**
Purchased outright
- Lease: **USD \$2995/year**
Leased annually. Incl. maintenance & upgrades

Multi (Flexible) License: Installed on any number of machines. The license file sits on the server.

- Ownership (Perpetual): **USD \$8995**
Purchased outright
- Lease: **USD \$5495/year**
Leased annually. Incl. maintenance & upgrades

Maintenance Plan

To get the most out of your Ownership License of RS2 we recommend the Rocscience Maintenance Plan, purchased annually at 15% of the license cost.

With Maintenance, you get free upgrades to new product versions. You'll never invest in a tool without access to the latest software.

You also get unlimited access to high-quality, timely support from the technical experts at Rocscience.

Contact us at software@rocscience.com

Modeling

- Interactive geometry entry
- Intuitive workflow tabs
- Boundaries – external, material, excavation, stage, joint, piezo, structural interface
- Grid/vertex/object snapping
- Sequential staging of excavation and support (up to 300 stages)
- Plane strain or axisymmetric analysis
- One-click material assignment
- Import/export in .dxf files
- Unlimited undo/redo
- Right-click editing shortcuts
- Tunnel Wizard
- Property Viewer
- Visibility Tree

Elements & Meshing

- Triangular or quadrilateral finite elements
- 3 or 6-noded triangles
- 4 or 8-noded quadrilaterals
- One-click mesh generation
- Graded, uniform or radial meshing
- Mapped meshing
- Custom meshing
- Check/define mesh quality
- Easily apply boundary conditions

Groundwater

- Finite element steady state or transient seepage analysis
- Staged groundwater
- Material permeability functions
- Discharge sections
- Piezometric lines
- Pore pressure grids
- Fully-coupled consolidation
- Include pore pressure for effective stress analysis
- Uncoupled consolidation
- Staged groundwater methods
- Wick drains
- Unknown BC (seepage face)

Materials

- Undrained and drained behaviour
- Elastic or non-linear
- Strength criteria – Mohr-Coulomb, Generalized Hoek-Brown, Cam-Clay, Modified Cam-Clay, Drucker-Prager, discrete function, anisotropic, Mohr-Coulomb with Cap, Softening/Hardening
- Advanced material models, including: **Slide2** (Power Curve, Barton-Bandis, Vertical Stress Ratio, Hyperbolic, Shear Normal, Shansep, Generalized Anisotropic); **FLAC** (CY Soil, CH Soil); **Plaxis** (Hardening Soil, HS Small, Soft Soil, Soft Soil Creep); Dafalias-Manzari; Bounding Surface Plasticity; Mohr-Coulomb with Cap; BBM (Basic Barcelona); and NorSand
- Staged material properties
- Datum dependent properties
- Isotropic, transversely isotropic, orthotropic elastic models
- Import from *RocData*

Support

- Staged support installation
- Bolt types – end anchored, fully bonded, cable bolts, Swellex, split-set, tiebacks
- Liner types – beam, reinforced concrete, geotextile, cable truss
- Composite liners
- Reinforcement database
- Timoshenko or Bernoulli beam models
- Staged liner properties
- Elastic or non-linear
- Peak/residual strength
- Interactive support capacity plots (thrust/moment, thrust/shear) for reinforced concrete liners (includes CSA, ACI, EC2 codes)

Finite Element Slope Stability

- Automated FE slope stability using shear strength reduction (SSR) method
- Define SSR include area
- Define SSR exclude area
- Import/export *Slide2* models
- Accelerated SSR

Far-field Stress

- Constant stress field
- Gravity stress field
- Multiple stress fields (customize per material)

Loads

- Constant or linear distributed loads
- Concentrated load
- Seismic load
- Ponded water load
- Staged loading
- Springs
- Dynamic

Joints

- Elastic or non-linear
- Mohr-Coulomb, Barton-Bandis, Hyperbolic, or material-dependent slip criterion
- Natural or artificial joints
- Pressurized joints
- Staged joint properties
- Statistical modeling of joint networks

Probabilistic Analysis

- Monte Carlo, Latin Hypercube, Point Estimate methods
- Random variables - materials, joint properties, field stress
- Contour/error plots of statistical output

Data Interpretation

- View stress, displacement, strength factor contours
- Effective stress, pore pressure contours
- Contour user-defined data
- Stress/failure trajectories, deformation vectors
- Display deformations to user-defined scale
- Query and graph material, support, joint data
- Export to Excel
- Show values directly on model
- Highlight yielded material, support, joint elements
- Add iso-contours