What is RSPile?

RSPile is a general pile analysis software for analyzing driven, axially loaded piles and laterally loaded piles. It is capable of computing the axial capacity for driven piles as well as the pile internal forces and displacements under various loads and soil displacements. RSPile can also compute pile resistance forces for use in Slide2 for enhanced slope stability analysis.

What’s New in RSPile

RSPile significantly increases the functionality of the software with the following upgrades:

- Interface improvements: RSPile has been completely redesigned to allow for the modeling of non-horizontal soil layers using borehole data
- All-new Group Pile Analysis option enables quick and easy analysis of pile groups under lateral and axial loads
- The Cap Designer allows users to easily define circular, rectangular, or custom-shaped caps
- Additional lateral and axial soil models with the ability to plot p-y and t-z curves at each depth along the pile, as well as mobilized soil reaction and slope vs. depth
- New Concrete Designer allows for easy design of reinforced concrete and prestressed concrete piles

Integration with Slide2

The compatibility of RSPile with Slide2 is one of its most important features. Pile resistance graphs generated in RSPile can be imported into a support type in Slide2 and used in a slope stability analysis:

- Pile properties are defined in RSPile, which computes the mobilized lateral and/or axial resistance along the length of a pile, for a given soil geometry and loading conditions.
- The pile support force used in the Slide2 analysis is then determined by the location and angle of the slip surface intersection with the pile.

Plans & Pricing

Personal License: Locked to one computer.
- Lease: USD $695/year
  Leased annually. Includes Maintenance+.
- Perpetual: USD $1,295
  Purchased outright. Includes 12 months of Maintenance+.

Flexible License: Installed on any number of machines. The license file sits on the server.
- Lease: USD $995/year
  Leased annually. Includes Maintenance+.
- Perpetual: USD $1,895
  Purchased outright. Includes 12 months of Maintenance+.

Maintenance+

Maintenance+ is our enhanced maintenance and support services subscription, purchased annually at 20% of the license cost.

With Maintenance+ Continuous Software you get access to all feature releases, enhancements, and bug fixes throughout the year and as soon as they’re available. You also have access to convenient License Services, the support of our experts, and exclusive learning offerings.

Find more details: rocscience.com/software/rspile

Contact us at software@rocscience.com
Axial Capacity Of Driven Piles
- Adhesion Types
  - Adhesion for Cohesive Soils
  - Piles Driven Through Soft Clay
  - Piles Driven Through Overlying Sands or Sandy Gravel
  - Piles Without Different Strata
  - User-Defined Adhesion
- Calculated Capacities
  - Restrike, Driving, Ultimate
- Design Considerations
  - Long and short-term scour
  - Soft compressible soils
  - Negative skin friction
- Non-Tapered Pile Types
  - Pipe—open and closed end
  - Concrete
  - H-Pile
- Soil Materials
  - Cohesive/Cohesionless
- Tapered Pile Types
  - Timber
  - Raymond uniform taper
  - Monotube

Laterally Loaded Piles
- Additional Loading
  - Loading by lateral soil movement
  - Transition zone for sliding soil in lateral resistance function
  - Lateral Resistance Function (multiple soil movement cases)
- Advanced Computation Options
  - Stiffness Matrix Calculator
  - Pushover Analysis
  - Pile Length vs Top Deflection
- Group Analysis
  - Cap Designer
  - Radial, Rectangular, Custom patterns
- Pile Toe Loading
  - Shear Resistance
  - Lateral Resistance Analysis
  - Max Allowable Lateral Displacement
  - Ultimate Lateral Resistance
- Pile Top Loading
  - Moment in X and Y
  - Shear in X and Y
  - Slope in X and Y
  - Rotational Stiffness in X and Y
  - Deflection in X and Y
  - Axial load
  - Define any combination of loading
  - LRFD combinations
- Pile Types
  - Cylindrical
  - Rectangular
  - Pipe
  - Typical sections
  - Elastic and Plastic
  - Reinforced Concrete
  - Prestressed Concrete
  - Pile with casing/core
  - Tapered or non-tapered

Axially Loaded Piles
- Axial Resistance Analysis
  - Max Allowable Axial Displacement
  - Ultimate Axial Resistance
- Pile Top Loading
  - Axial
- Pile Types
  - Cylindrical
  - Rectangular
  - Pipe
  - Common sections
  - Tapered or non-tapered
  - Reinforced Concrete
  - Prestressed Concrete
  - Elastic or Plastic
- Soil Materials
  - Elastic
  - API Sand
  - API Clay
  - User-Defined
  - Drilled Clay

Laterally Loaded Piles
- Sand
- Weak Rock
- User-Defined
- API Method for Sand
- Loess
- Liquefied Sand
- Piedmont Residual Soils
- Strong Rock (Vuggy Limestone)
- Modified Stiff Clay without Free Water
- Silt (Cemented C-Phi Soil)
- Soft Clay with User Defined J
- Hybrid Liquefied Sand
- Massive Rock
- Output
  - Displacement X and Y
  - Rotation X and Y
  - Beam Shear Force X and Y
  - Beam Moment XY and YZ
  - Soil Reaction Force X and Y
  - Soil Stiffness X and Y
  - P-Y curves with depth
  - Use any input parameters as random variables

Model Definition
- Boreholes to define stratigraphy
- Definition of multiple and pattern piles

Additional Features
- Full 3D FEM pile engine
- P-Y modification factors
- T-Z modification factors
- Q-Z modification factors
- Static and cyclic loading options
- Integration with Slide2
- Export to Slide2
- Export to Excel
- Info Viewer