

Question: Can a RockWorks model be configured such that the horizontal dimensions are meters and the vertical units are in feet or vice-versa?

Answer: No.

When using RockWorks, XY units can be in meters and the Z unit can be in feet IN THE DATABASE, but model output (RockPlot3D files, maps, contours, etc.) is always in ALL FEET or ALL METERS (one or the other).

Expecting the program to create models that are based on meters in the XY direction and feet in the Z direction, is unfortunately not possible. This would wreak havoc on the built-in volumetrics (e.g., cubic meter feet).

Here are the two possible scenarios for a mixed-unit project:

Scenario 1:

- XY units are meters in the database
- Z units are feet in the database
- Output Units are **meters**
  - The Z values in the boreholes and RWDat files (which could be in feet) are automatically converted to meters in the model output.
  - This includes RockPlot3D models, as well as elevations in gridded surfaces and contour maps.
  - In the Dimensions tab, the Z values should be assigned values different than the borehole elevations in the database because they will be in meters instead of feet. For example, if a project elevations range between 695 and 900 feet, the project dimension elevations should have values such as ~210 to ~275 meters.
  - Cross-sections are also created with units of meters in both the XY and Z directions.

Scenario 2:

- XY units are meters in the database
- Z units are feet in the database
- Output Units are **feet**
  - The XY values for boreholes, or points and profile endpoints in the RWDat files (which could be in meters), are automatically converted to feet in model and map output.
  - When plotting labeled axes around 2D Maps, these coordinates will be in feet instead of meters.
  - In the Dimensions tab, the X and Y values should be assigned values different than the borehole Eastings/Northings in the database because they will be in feet instead of meters.
  - Cross-sections are always created in feet.

RockWorks includes options throughout the program to switch things such as labels on 3D Cages from feet to meters or vice versa. If a grid surface was created in meters but you want the contours in feet, the grid math tools may be used to multiply the z-values (meters) into to feet for presentation purposes.