Tutorial Summary
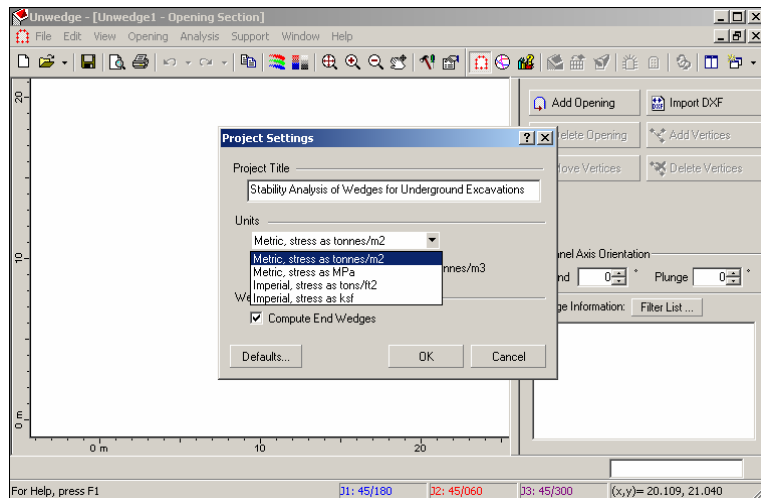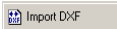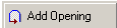
In this tutorial, we will cover the basic steps for a typical Unwedge analysis:

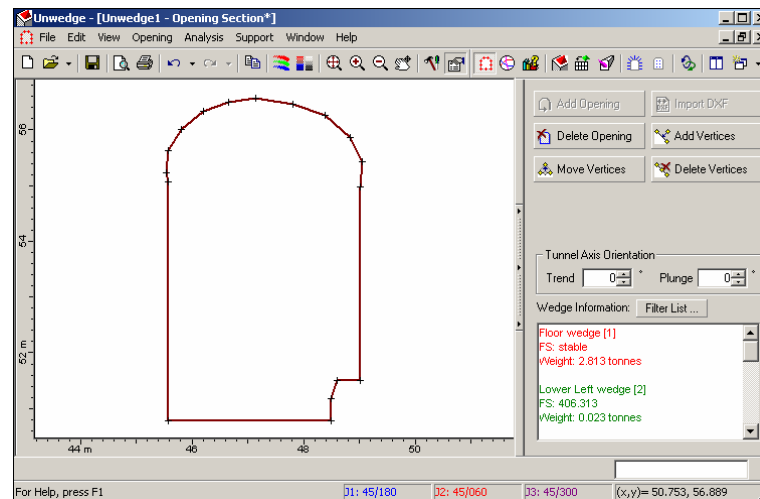 1. Specifying Project Settings

  2. Defining the Cross-Section of an Opening

  3. Entering Input Data

  - Tunnel Axis

  - Joint Orientations

  - Joint Properties

  4. Viewing Formed Wedges

  - 3D wedge view
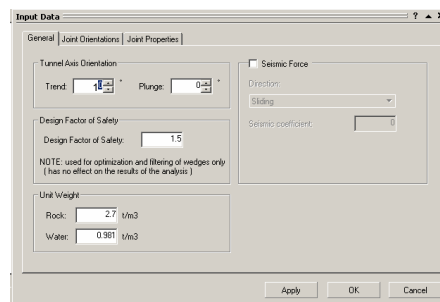
Tutorial Steps

  1. Click on the Project Setting button [icon],

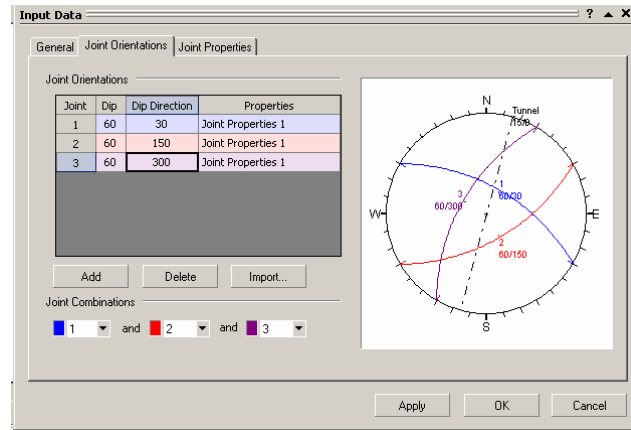 - Select the Metric unit system, tonnes/m^2.

  2. Import an opening cross-section by clicking on the Import DXF button [Import DXF] (Notice that you can also draw your excavation cross-section using the Add Opening option [Add Opening] .)

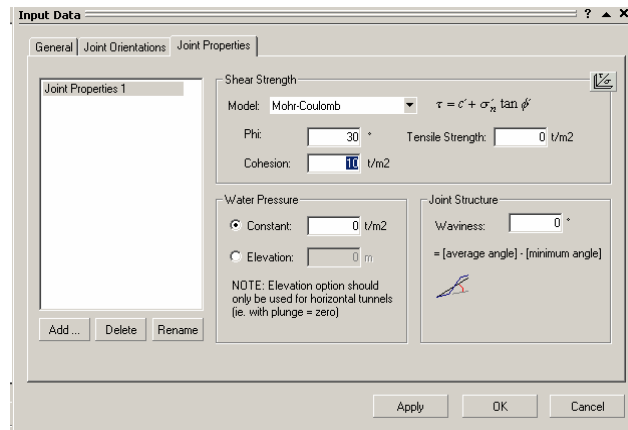 3. From the Unwedge Examples folder, import the file (cavern.dxf).

4. Now, click on the Input Data button 🖳 to enter the following parameters:

   - Tunnel Axis orientation

   - Joint Orientations

   - Joint Properties

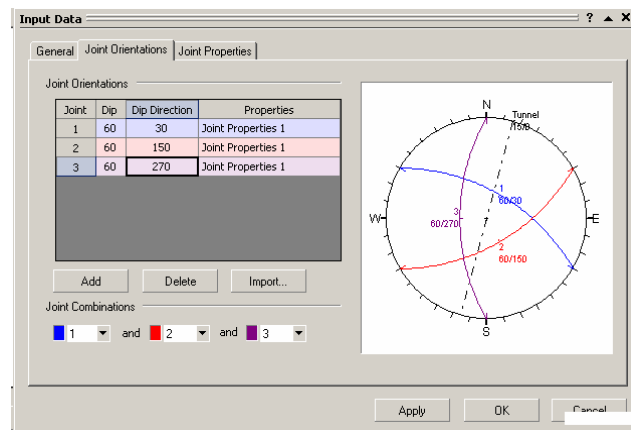5. Enter a trend of 15 degrees and a plunge of 0 degrees for the tunnel axis.

6. Switch to the Joint Orientations tab to enter the dip and dip direction of the joints. You can enter the Dip/Dip Direction values by typing the values directly into the appropriate cells, or by importing a *DIPS* file. Enter the following parameters 65/30, 60/200 and 80/275 for Joints 1, 2 and 3, respectively.
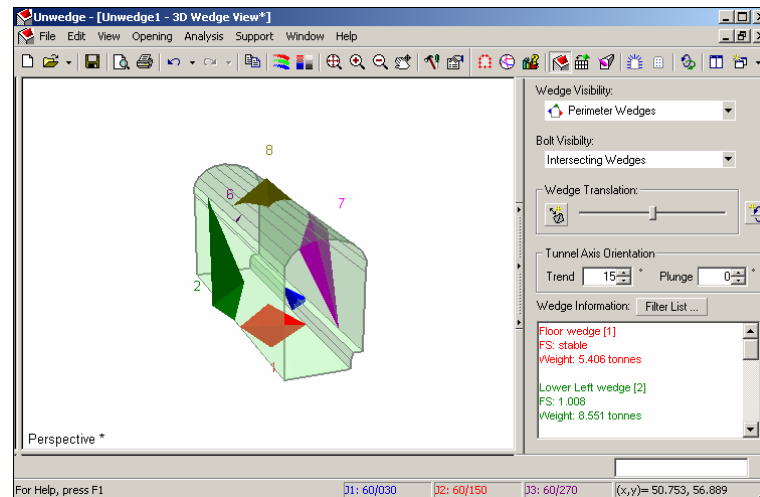
7. Select the Joint Properties tab to enter properties for the discontinuities. Assign the following Mohr-Coulomb strength properties to the joints: Phi=30 degrees and C=0 tonnes/m^2.
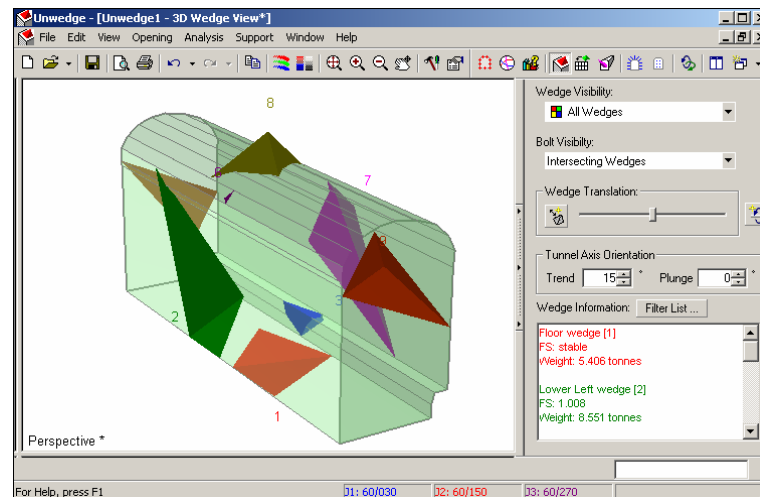

8. Click on the Joint Orientations tab and you will notice that all the joints are assigned the joint property type you just defined "Joint Properties 1".

9. To view the formed wedges (Perimeter and End wedges), click the 3D wedge view icon 🖼 .

10. By default, the 3D wedge view will show only perimeter wedges. From the Wedge Visibility drop-list in the sidebar, select the All Wedges option.

11. Note that analysis results (Factor of Safety, Wedge Weight etc.) for the wedges are displayed in the Wedge Information panel in the sidebar. The display of information can be customized with the Filter List option.

12. As an additional step you can view only a particular wedge of interest. For example, from the Wedge Visibility drop-list select the option "Roof Wedge". This allows you to view only the roof wedge (wedge #7).

This concludes our Getting Started Tutorial