

Select

The image shows the ANSYS Mechanical APDL Utility Menu with the **Select** menu open. The **Entities ...** option is highlighted, leading to a sub-menu with options like **Create Component ...**, **Create Assembly ...**, **Edit Assembly ...**, **Pick Comp/Assembly**, **Select Comp/Assembly ...**, **List Comp/Assembly ...**, **Delete Comp/Assembly ...**, **Select All**, and **Select None**.

The **Select Entities** dialog box is also shown, with the following options and annotations:

- Nodes** (dropdown menu)
- By Num/Pick** (dropdown menu)
- From Full** (radio button, selected)
- Reselect** (radio button)
- Also Select** (radio button)
- Unselect** (radio button)
- Sele All** (button)
- Invert** (button)
- Sele None** (button)
- Sele Belo** (button)
- OK** (button)
- Apply** (button)
- Plot** (button)
- Replot** (button)
- Cancel** (button)
- Help** (button)

Annotations and arrows provide the following information:

- Entities ...**: A new component is created after selection was made by **Select > Entities ...**
- Select Comp/Assembly ...**: From existing components
- Everything Below**: Select sth from an entire model
Reselect sth from a selected part
Add sth to a selected part
Unselect sth from a selected part
- Selected Lines**: For example, **Everything Below > Selected Lines** means that keypoints belonging to the lines selected by **Select > Entities ...** are selected too.
- Back to an entire model**: Points to the **Everything Below** option.
- What?**: Points to the **Nodes** dropdown.
- How?**: Points to the **By Num/Pick** dropdown.
- Accept**: Points to the **OK** button.

Comments

Selection is convenient to define components, preprocessing of a large FE model, and for results presentation.

Components (and assemblies) are defined to save time of preprocessing, solution and postprocessing. A component (or assembly) may be recalled instead of picking objects one by one (keypoints, lines, areas, volumes, nodes, elements). An assembly is made of components.

Clear and start a new database

Utility Menu > File > Clear & Start New > Do not Read File > OK > CLEAR ... EXECUTED? > Yes

Create a block

Main Menu > Preprocessor > Modeling > Create > Volumes > Block > By Dimensions

X1, X2 → 0, 100

Y1, Y2 → 0, 50

Z1, Z2 → 0, 150 → OK (Fig. 1)

Set an isometric view (Fig. 2).

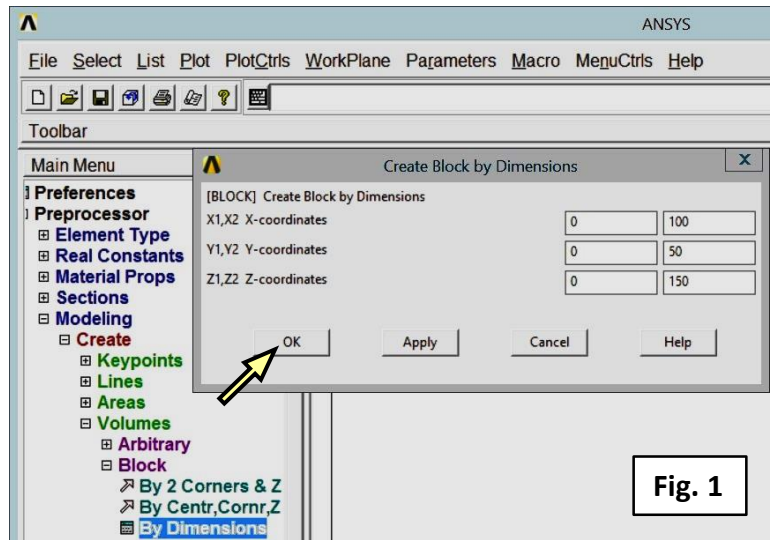


Fig. 1

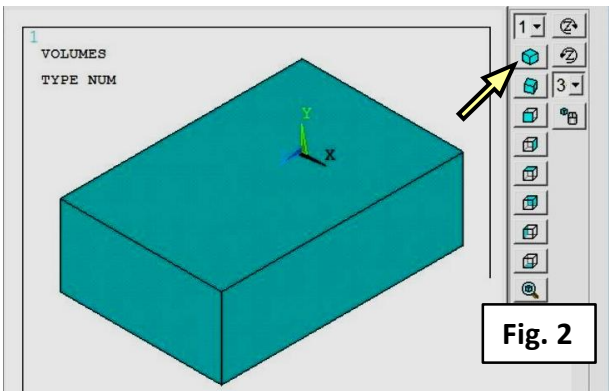


Fig. 2

Select 2 areas

Utility Menu > Select > Entities...>

Areas > By Num/Pick > From Full → OK

Pick the two areas shown in Fig. 3 → OK

Type APLOT in a Command Prompt, ↵ (Fig. 4)

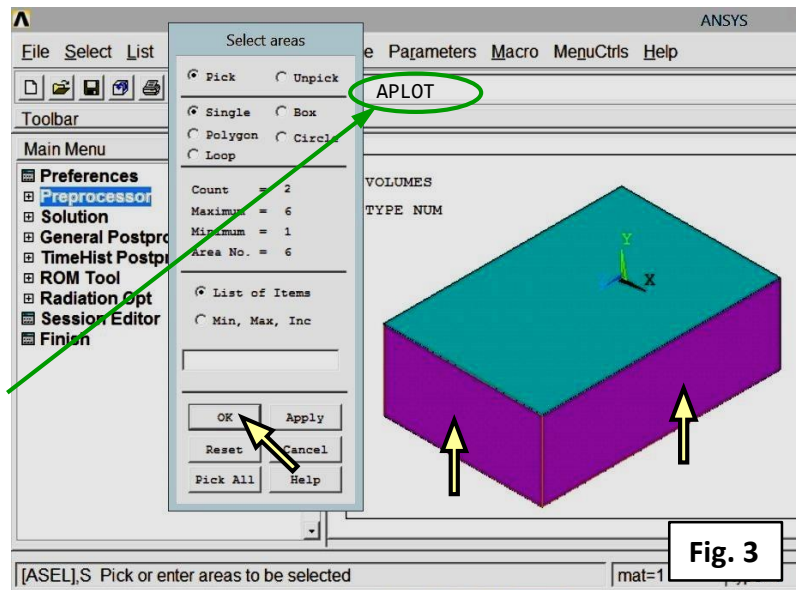


Fig. 3

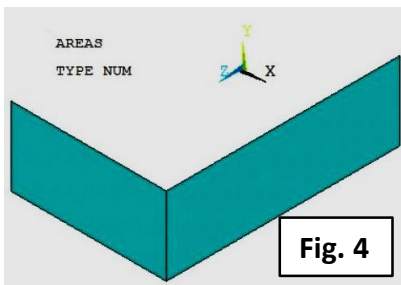


Fig. 4

Type LPLOT in a Command Prompt, ↵ (Fig. 5)

Select lines belonging to areas

Utility Menu > Select > Everything Below > Selected Areas (Fig. 6)

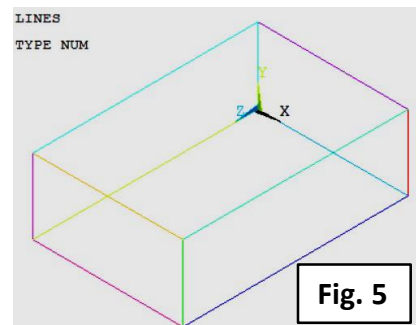


Fig. 5

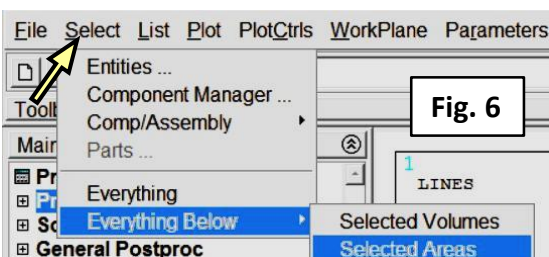


Fig. 6

Type LPLOT in a Command Prompt, ↵ (Fig. 7)

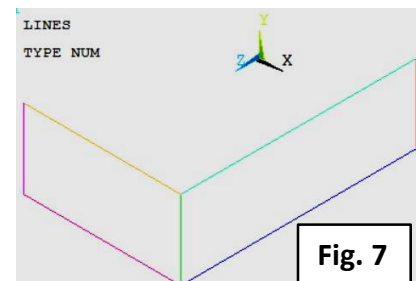


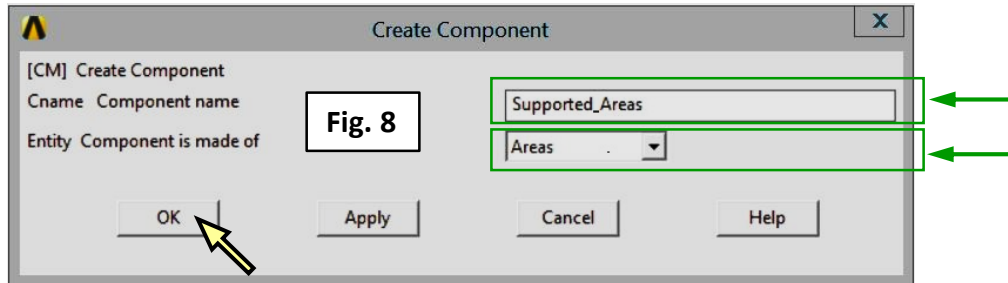
Fig. 7

Create a component

Utility Menu > Select > Comp/Assembly > Create Component ...

Specify a component (Cname= Supported Areas, Entity= Areas) → OK (Fig. 8)

(The two areas where we plan to apply constraints)



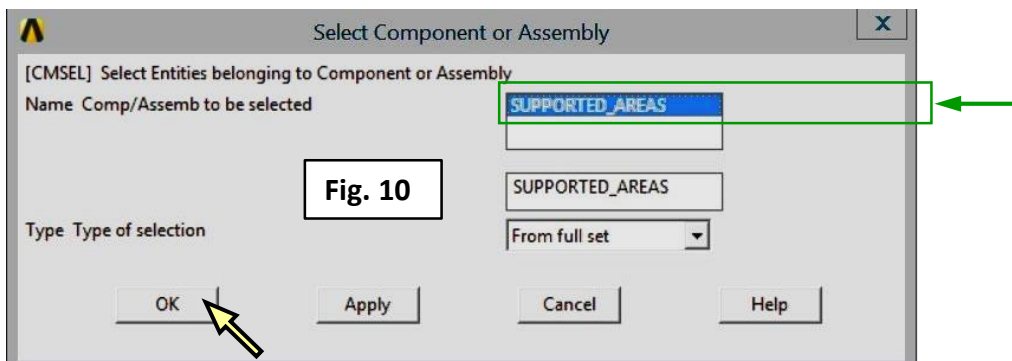
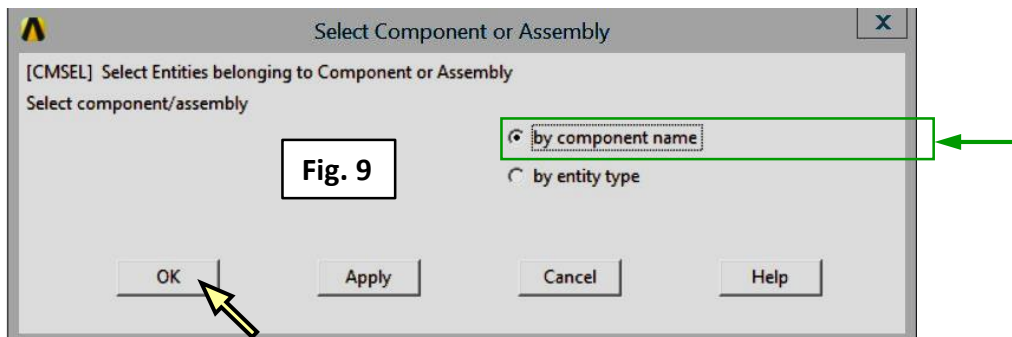
Selection of an entire model

Utility Menu > Select > Everything

Type APLOT in a Command Prompt, ↵ (Fig. 2)

Selection of a component

Utility Menu > Select > Comp/Assembly > Select Component ... (Fig. 9 and 10)



Type APLOT in a Command Prompt, ↵ (Fig. 4)

Comment

You may also use a Component Manager: Utility Menu > Select > Component Manager ...