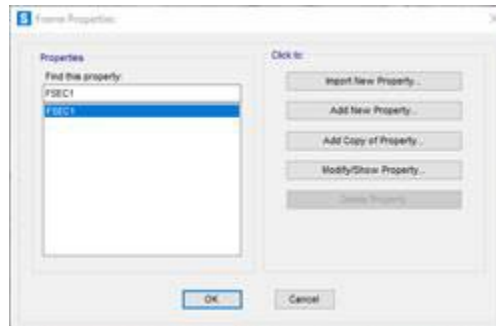
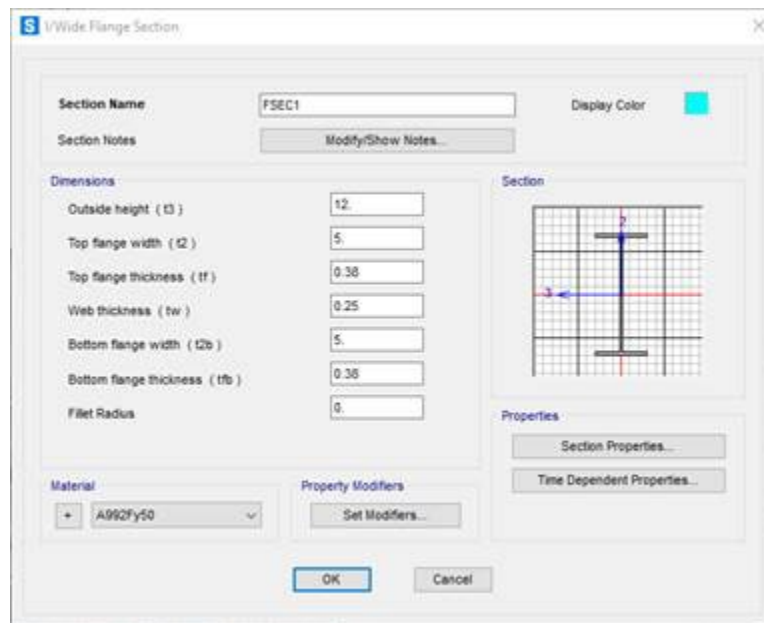


Setting general values of area and moment of inertia in SAP2000

Define Frame Sections - To define the cross-section properties of a structural element, click on the **Define** menu at the top of the SAP2000 interface window, then click on **Section Properties**, then **Frame Sections...**, and then the **Frame Properties** window is displayed.



The default Frame Section label is **FSEC1**. To change the properties of the frame section, click on the **Modify/Show Property...** button. The **I/Wide Flange Section** window is displayed.

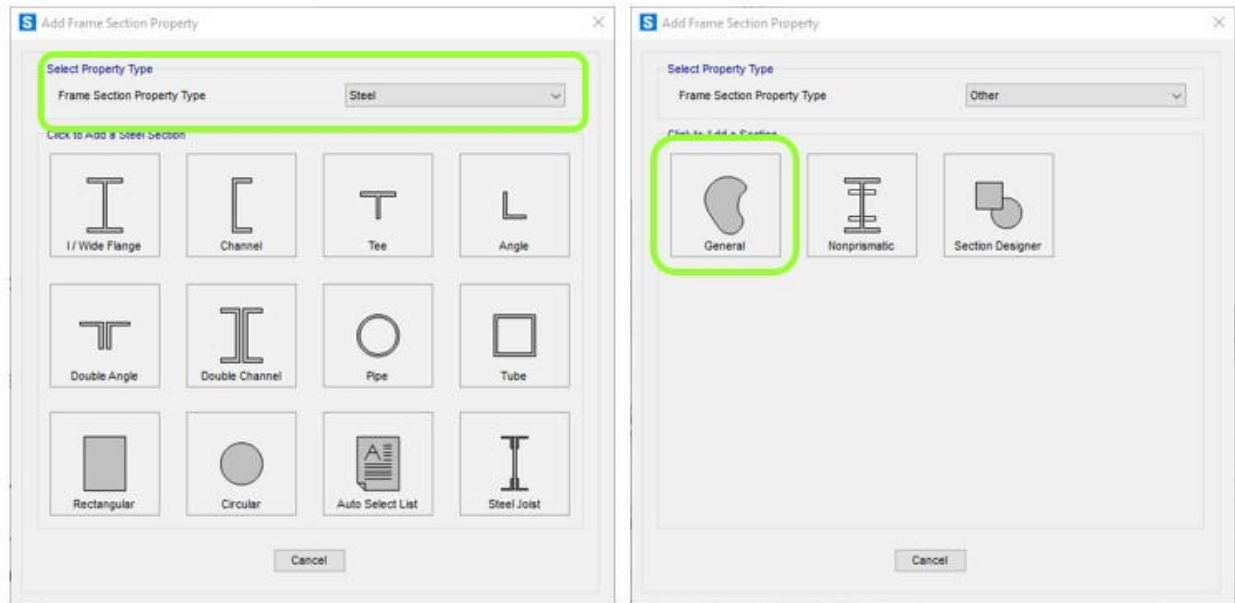


To define the material of this frame section, click on the **Material** pull-down menu and select our weightless material **A992Fy50**. Click **OK** to return to the **Frame Properties** window, then click **OK** again.

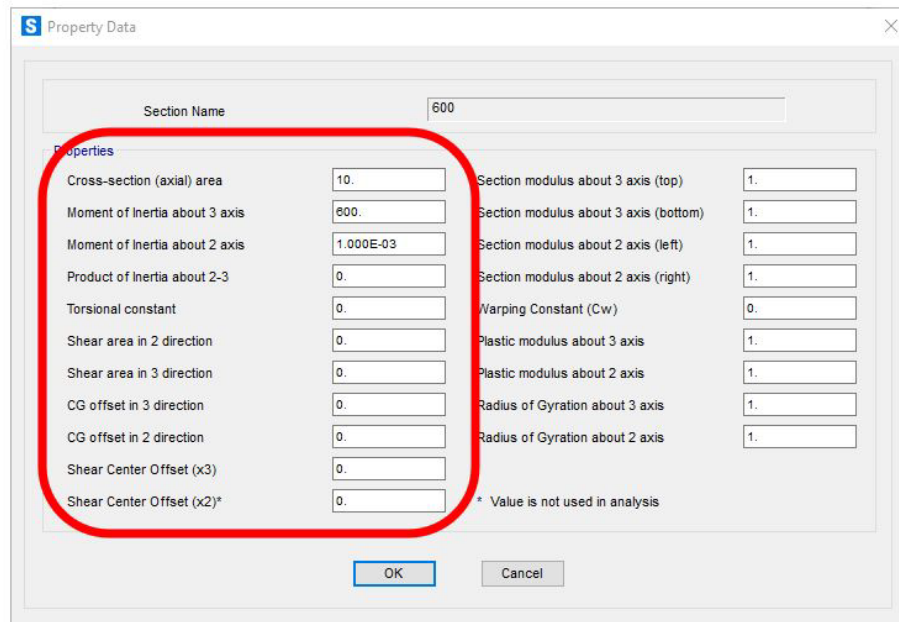
In this example, the frame elements have a cross-sectional area of $A = 10 \text{ in}^2$ and a moment of inertia value $I = 600 \text{ in}^4$. Click **Add New Property** on the **Frame Properties** menu to specify this value. The **Add New Property** menu is displayed. For this example, click the **Frame Section Property Type** dropdown menu, select **Other**, and then click on **General**.

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The **Property Data** menu is displayed. In this example, the **Moment of inertia about the 3 axis** (the strong axis) is 600 in^4 . The value of the **Cross-sectional area** is 20 in^2 . The **Moment of inertia about the 2** should be a small value of 0.001 to minimize their effect on the results. Set all the other values in the left column to zero.



Enter the value and click **OK**. Then click **OK** on the **General Shapes** menu, and the **Frames Properties** menu is displayed. Note that **FSEC2** has been added to the list of sections. Click **OK**.