






AE 440A

Pro/E Tutorial: Constructing a Die

The goal of this handout is to help in the creation of a die (a cube with rounded edges and corners) without the dots on the faces. The procedure is very similar to the simple fuselage tutorial, but the construction of the die is an extrusion instead of a blended protrusion.

1. Start Pro/E.
2. Set your working directory.
3. Go to File>>New; select the button next to Part and give your file a name.
4. The part application will start, and you should see a set of datum planes.
5. Select Insert>>Extrude from the top menu bar. New options will appear near the bottom of the window.
6. Select Placement>>Define from the new menu near the bottom of the window. The Sketch window will appear.
7. Click on the datum plane label that says "Front." Click Sketch.
8. Close the References window.

Note: Steps 6 and 7 simply orient your die in the xyz coordinate system. Picking different planes and options will only change the orientation of your die. At this point you should be in a sketch view, looking at the front of your part.

9. Select the rectangle tool  from the toolbar on the right of the Sketcher. Create any size rectangle.
10. Select "Impose sketcher constraints"  from the toolbar. Select the equal sign. Click on the top and side of the rectangle to make it a square. Now there should be only one dimension defining the size of the square and two defining its location. Change the dimension of the square to any value, but remember it since it will be used later.
11. Select the circular fillet  from the toolbar. Click on two adjacent sides of the square to round the corners. Do this for all four corners. Use the sketcher constraints from step 10 to make all of the corners equal. Change the dimension of the corners to any value, but again remember it since it will be used again.
12. Click the check mark symbol  on the sketching toolbar.
13. Make sure "Extrude from sketch plane by a specified depth value"  is selected in the bottom menu buttons.
14. In the area to the right of the "Extrude from sketch plane by a specified depth value," enter the depth of the cube as the same value as the size of the square (we are making a cube after all).
15. Click on the check mark near the bottom of the window.

Rotate to see your creation. Now you need to round the other sides.

16. Select Insert>>Round from the menu bar at the top. You will see a new menu near the bottom of the window.
17. In the new menu area near the bottom of the window, specify the size of the round (use the same value as the circular fillet from step 11).
18. Click on the face that has not been rounded, and then while holding down the CTRL key, click on an adjacent face.
19. Click the check mark.
20. Rotate your drawing and repeat steps 16-19 to round the other side.
21. Save Your Part.