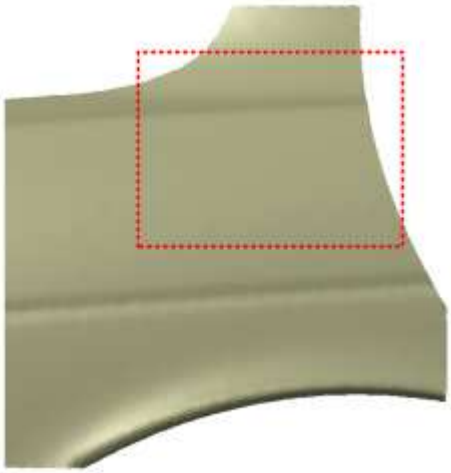
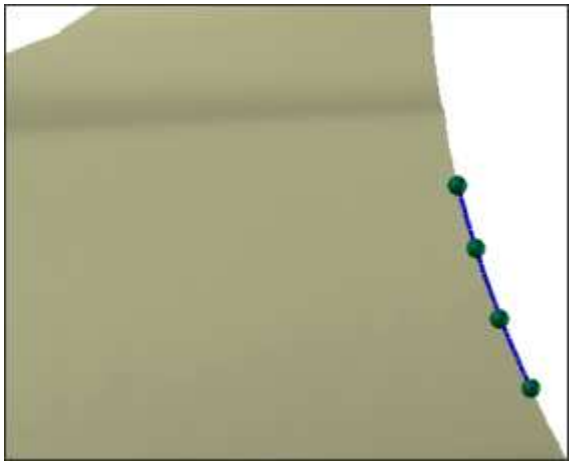
Rapid Surfacing

1. Open **rapid_surface_1** and start the Shape Studio application if it is not already active.

2. Choose **Insert→Surface→Rapid Surfacing**.
3. In the **Facet Body** group, make sure **Select Facet Body** is active and select the panel.
4. Zoom in to the area shown below.



5. Define the first Network Curve by drawing on the boundary of the facet body.
   - In the **Add Network Curves** group, set **Operation** to **Draw on Boundary**.
   - Make sure **Attachment** is set to **Facet Body**.
   - With **Select Boundary Points** active, draw your first curve on the boundary of the facet body.

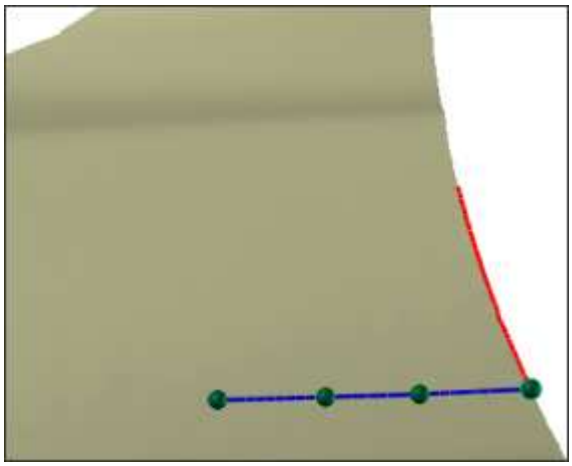


- When you have defined you last point of the first curve, click **Accept Points**  .

6. Define the second network curve.
   - Set **Operation** to **Draw on Facet Body**.
   - With **Select Points**  active, draw your second curve on the facet body.

     Note:

     Make sure you start from the endpoint of the first curve.

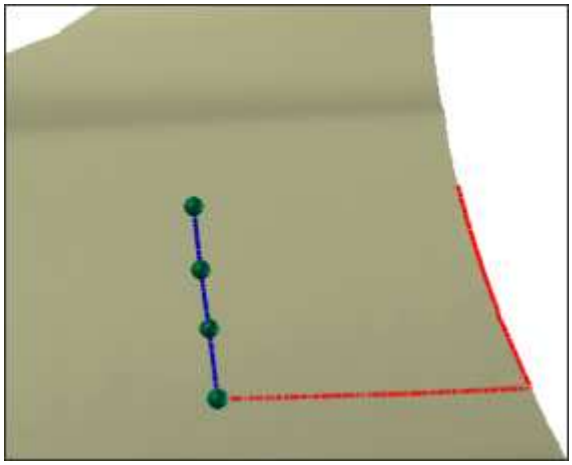


   - When you have defined you last point of the second curve, click **Accept Points**  .

7. Define the third network curve.
   - With **Select Points**  active, draw your third curve on the facet body.

     Note:

     Make sure you start from the endpoint of the second curve.

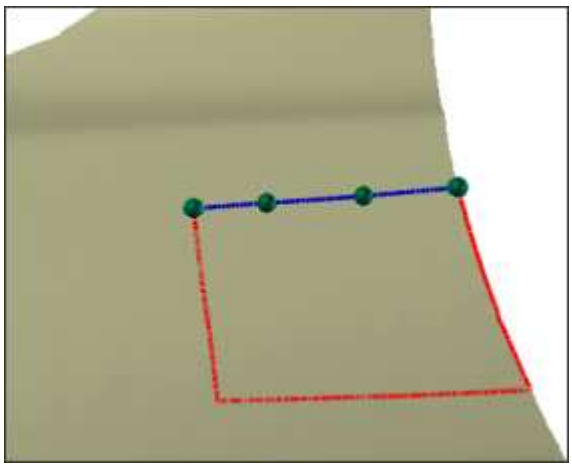


- When you have defined you last point of the third curve, click **Accept Points**  .

8. Define the forth, connecting network curve.

- With **Select Points**  active, draw your fourth curve on the facet body.

> **Note:**
>
> Make sure you start from the endpoint of the third curve and end on the start point of the first curve, creating a closed loop.

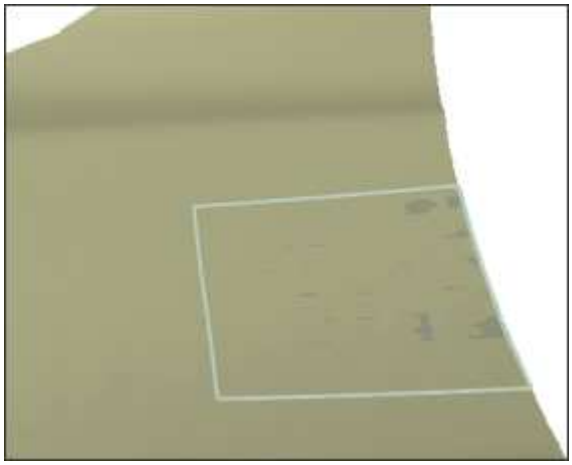


- When you have defined you last point of the fourth curve, click **Accept Points**  .

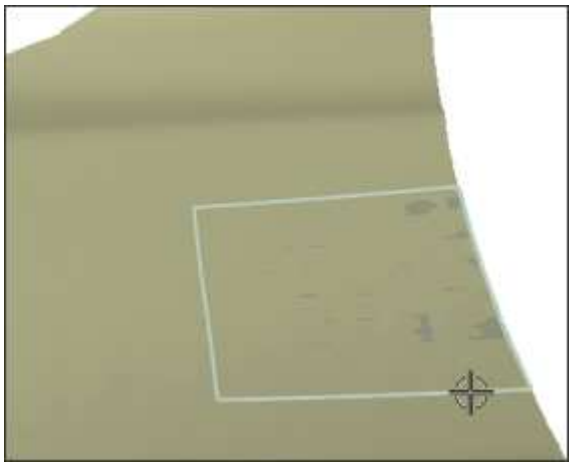
9. Preview the initial **Rapid** Surface.

- Expand the **Preview** group of the **Rapid Surfacing** dialog box.
- Click the **Preview** check box.

The new, **Rapid** Surface appears in conjunction with the facet body.

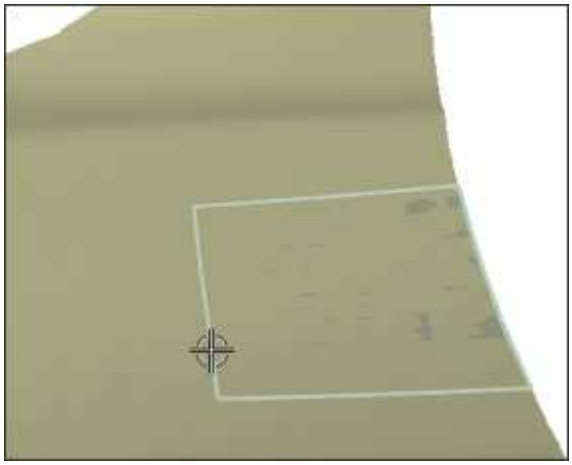


10. Subdivide the initial **Rapid** Surface into 8 patches.
    - In the **Add Network Curves** group, set **Operation** to **Subdivide Loop**.
    - Click **Select Loop Curve (U)**  .
    - Select the second curve you created.



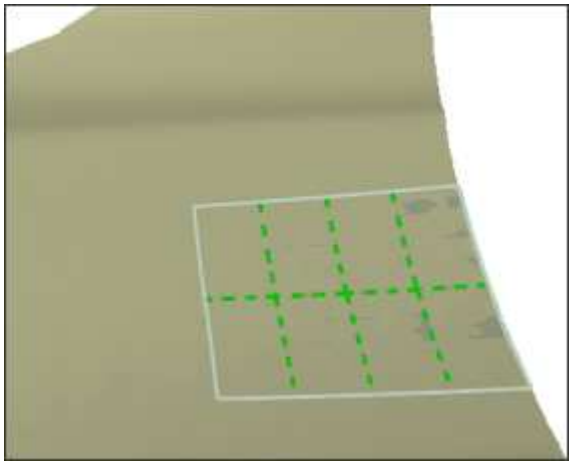
This defines the U direction for the subdivision of the surface.

    - Click **Select Loop Curve (V)**  .
    - Select the third curve you created.



This defines the V direction for the subdivision of the surface.

- Set **Patches U** to **4** and **Patches V** to **2**.
- Click **Subdivide** .



Note:

Examine the patches closely; if one or more of the patches are not created, there may be tolerance issue. To rectify this, you have a number of options:

- In the **Add Network Curves** group, you can increase the **Node Tolerance** value.
- In the **Edit Curve Network** group, you can use **Drag Mesh Node** to reposition one or more of the mesh nodes.
- In the **Settings** group, you can increase/decrease the **Degree** and/or **Segments**.

11. (Optional) To see what the surface will look like once it is accepted, in the **Preview** group, click **Show Result** .

Fender panel shown with transparency for illustrative purposes

12. Click **OK** to create the surface patches.
13. Close the part.