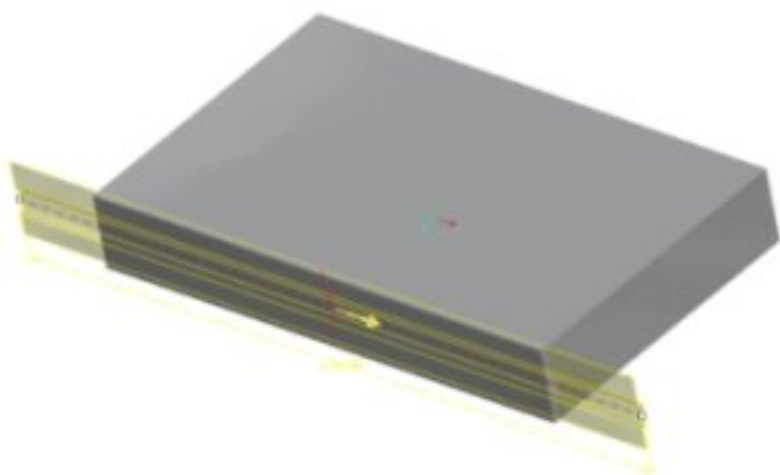
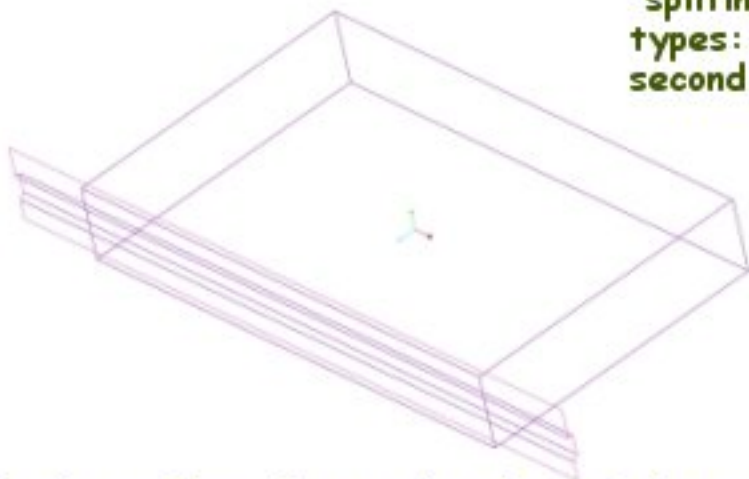


Creating ordinary surfaces in Pro/E is relatively an easy task. By default the user can create surfaces using Extrude or Revolve tool.



The basic difference in use of Extrude for surfacing is that Pro/E lets user create open profiles. Such geometry can be used for cutting existing surfaces.

Pro/Engineer deals with surfaces "splitting" created geometry into two types: single surfaces and joined ones. The second type is named as Quilt.

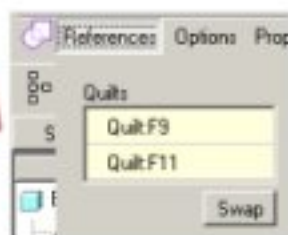
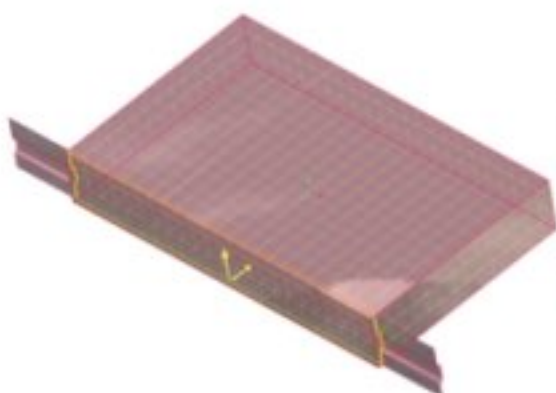


Single surfaces have pink edges. Such an edge is inherit only by one surface.

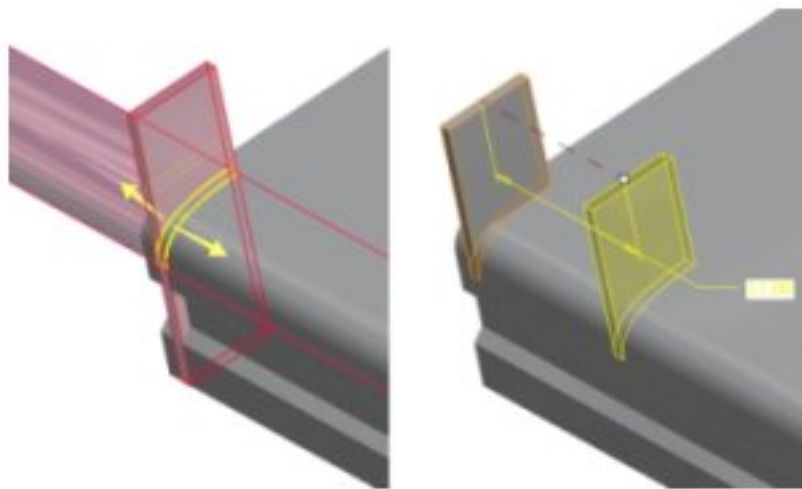
Quilts have violet edges. Such an edge is inherit by two surfaces. It is an edge common for them.

Individual surfaces or Quilts can be joined together by Merge tool. Main constrain for this tool is, only two surfaces or Quilts are possible to join at once. The result is always next Quilt.

The sequence of joined surfaces has an impact on Normal Direction of final Quilt.



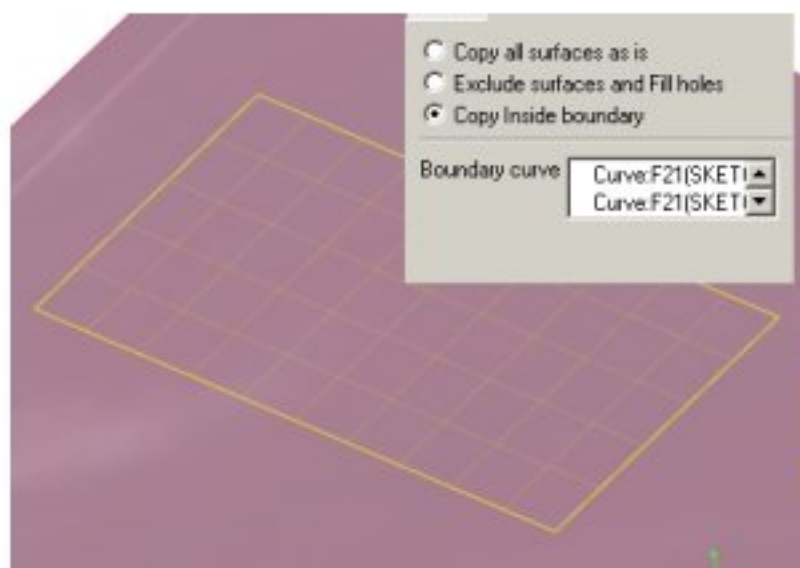
Normal Direction indicates inside and outside of surfaces or quilts. To change the sequence of joined surfaces choose Swap!



Merge and Quilts are fine for preparing complicated "cores" and next using them to cut out "material" from solids.

The core idea behind surfacing is to not copy features but geometry instead. So the Quilt generated by Merge should be considered to use rather than feature itself by Copy > Paste Special > Move

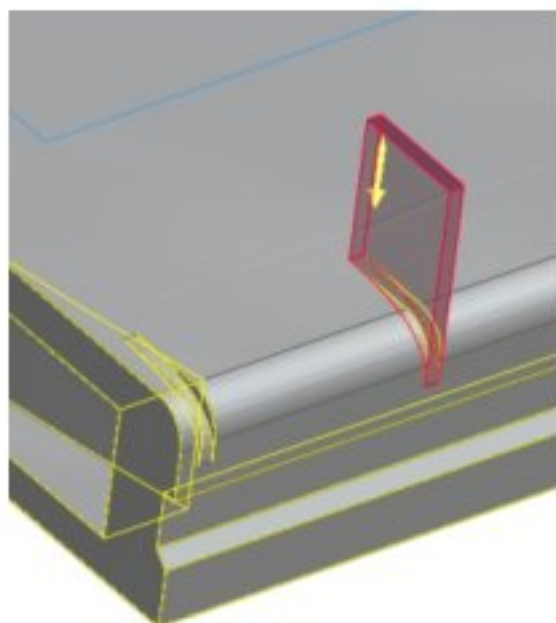
So remember - copy surfaces or quilts instead of features.



The user can copy whole Quilt or single surfaces of such Quilt. Same happens for solid geom.

To do this, choose the feature, then choose interesting to You surface(s) - Copy > Paste. Now the surface is a stand alone feature.

If only a piece of surface is required, create first a sketch, project it on to the surface and then Paste > Options > Copy inside boundary.



"Closed" quilts can be solidified by Edit > Solidify. Same functionality removes material from solids Edit > Solidify > Remove.

Quilts which do not create closed volumes can be solidified by Edit > Thicken.