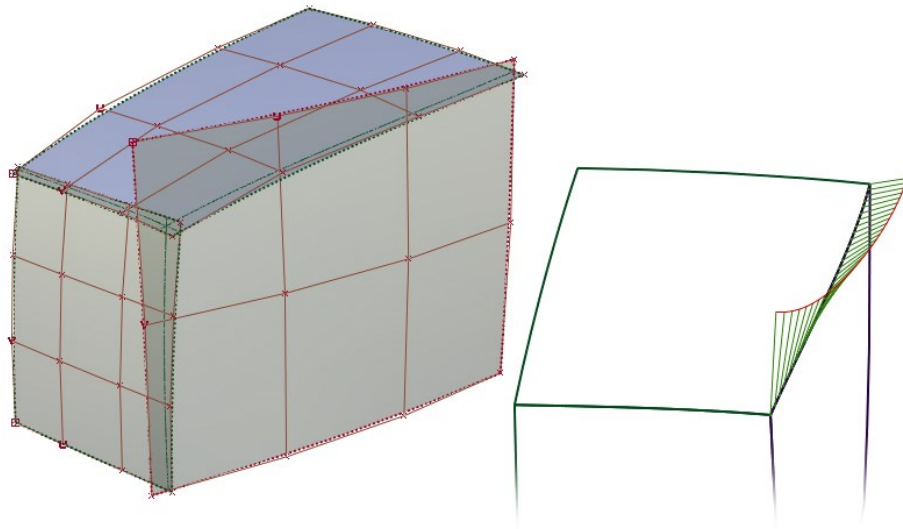


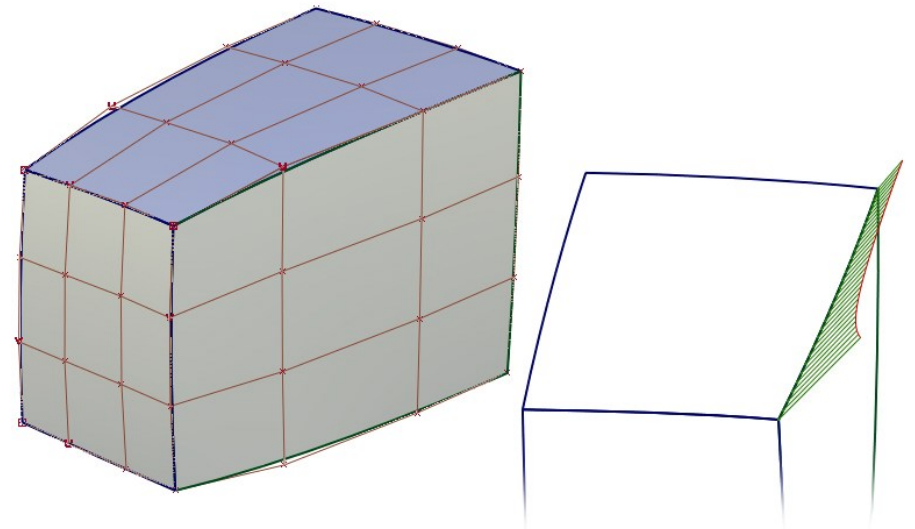
# A1.3 Theoreticals : Natural Edges 'v' Overbuilding

## OVERVIEW

This tutorial explores the two different approaches to creating edges on your model : overbuilding, intersecting and trimming; or creating surfaces with natural edges at the boundaries.



Overbuild, Intersect & Trim



Natural Surface Boundaries

## KEY CONCEPTS

### Ogee & Planar

An 'ogee' is an inflection point where curvature switches from positive to negative. In some cases this is intended in the design, in others it occurs by accident or poor modelling, and it can 'weaken' the aesthetic strength of a line by making it seem 'floppy' rather than 'intentional'.

Planar means that a curve or an edge lies in one plane only, i.e. curves in 2D space only even though it is part of a complex 3D design. Planarity can give a design rigidity and strength and is something we often aim for when crafting curves and edges on the model.

## INDEX

Time	Topic	Menu/Palette	Tool	Options
0.17	Discuss two schools of thought about building edges			
0.26	Analysing the overbuilt surface quality and curvature	Control panel	<b>Display</b>	<i>Curvature U &amp; V</i>
1.19	Analysing the quality and curvature of the intersection edge			
2.11	Creating natural Boundaries using Trim Convert	Surface Edit > Trim	<b>Trim Convert</b>	
2.32	Checking continuity on the default edges	Evaluation > Continuity	<b>Surface Continuity</b>	<i>G0</i>
2.53	Modifying surfaces to achieve continuity using the Align tool	Object Edit > Align	<b>Align</b>	<i>G0</i>
3.32	Position Influence and Explicit Control in Align...	Object Edit > Align	<b>Align</b>	<i>Pos. Influence</i>
4.07	[sidebar] Using orthographic viewing to clarify the flow of CVs			
4.40	... return to Position in Align			
4.56	Using Blending in Align to adjust the whole surface	Object Edit > Align	<b>Align</b>	<i>Blending</i>
5.25	Refining the edge curvature with direct CV manipulation			
5.35	Using Non-P Scale viewing to analyse the CV flow			
6.14	Using Transform CV Parallel to slide the edge CVs and create a more ordered CV structure	Control Panel > Transform CV	<b>Move</b>	<i>Parallel</i>
7.01	Rotating the view ready for Planarize Hull			
7.37	Using Planarize Hull to complete the edge refinement	Surface Edit	<b>Planarize Hull</b>	<i>Adaptive</i>
8.00	Reviewing the refined boundary edge			
8.35	Fixing the lower edge CVs using Planarize Hull	Surface Edit	<b>Planarize Hull</b>	<i>Closest Boundary</i>
9.11	Refining the flow of the centre row of CVs	Control Panel > Transform CV	<b>Move</b>	<i>Slide</i>
9.29	Aligning the final edge	Object Edit > Align	<b>Align</b>	<i>G0</i>
10.03	Comparing the overbuilt edge with the natural edge			
10.13	Applying a Surface Fillet to analyse the boundary curvature			
10.57	Using the Iso-Angle Diagnostic Shader to evaluate the Fillet surfaces	Diagnostic Shading	<b>Iso-Angle</b>	