Notes on the illustrations:

The single figure displays the maximal absolute curvature of a surface whose mesh is chosen so that the interior quadrangle of a face is interpolated. That is, the dark area (blue in the original) is intentionally flattened. The two sequences of figures illustrate the properties of the surface splines on larger data sets. The first sequence illustrates free-form modeling, built-in smoothness and the local convex hull property. The default overall blend ratio is 15% to keep the features focused. The second sequence shows how the shape parameters can be varied locally and globally. Thus the back face of the vice is interpolated (the loss of tangent continuity is intentional) while the central cylinder of the base plate is rounded by setting the local ratios to 1/2. From top to bottom, the default blend ratio is varied from 15% to 50% to 75%.