Comparing Design Outputs

To graphically compare different designs you can run their individual contour plots to see the maximum and minimum ranges of a variable. Then you should use Chart Options to set a user defined contour range, in scientific notation, that will give a range of contour displays (versus a plot that is 95% blue). Usually, you want to include the maximum and minimum locations and values since they are often outside the contour range selected for good communication purposes. Sometimes changing the number of contours from the default value of 12 improves a set of displays.

This is illustrated here where a stress study considers three different support options at the bottom of a piece of playground equipment. First it is assumed that the metal base is completely fixed to the ground (which is highly unlikely, but easy to do), then the base is assumed to be fixed along two edges, and finally it is assumed to be fixed (bolted) at four corners. The general stress distributions are similar, but the magnitude and location of the peak stress varies with different support conditions.

To set the controls to a common comparison level right click on the plot name and select Chart Options and change the Display, Format, and Color options. The position of the color bar, relative to the plot can be changed in the graphics area by: using the Pan option to move the body, or by clicking on the color bar and dragging it to the location you want. Here, the ambient lighting level was also raised to make the following contours brighter, and the plot Settings were changed from continuous to discrete.