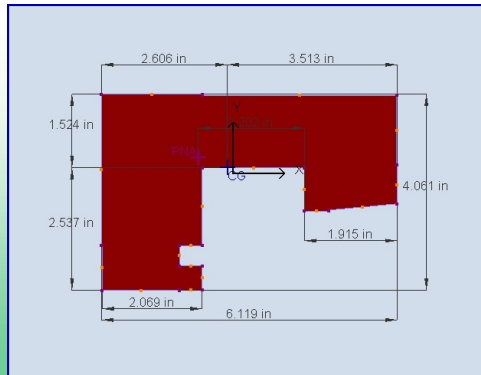


# ShapeBuilder Success Story

## The Project

### ASME Pressure Vessel



## The Engineer

### Nurul Amin, PE, Ph.D, NIMA GROUP LLC



## The Problem

Vacuum furnace design is complex, but ShapeBuilder and VisualAnalysis helped with the design of thick flanges of the vessel. The existing vacuum furnace structure was analyzed for different conditions using the provisions of ASME Section VIII, Division I codes and then verified with finite element analysis.

## The Solution

Using ShapeBuilder in conjunction with VisualAnalysis I was able to reduce the thickness of the slip-on flange from 7.6 inches down to 4.6 inches. The thickness of the welded neck was able to be reduced from 2.6 inch to 2 inch. The forces from the elliptical formed heads were transferred to the flanges in ShapeBuilder to better understand the stresses in the member, which was then designed manually using ASME formulae. Instead of very difficult solid modeling, I was able to successfully analyze and design the furnace using the integration between ShapeBuilder and VisualAnalysis.



Solve your next problem in minutes!

**IES ShapeBuilder**

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