



Rolled Alloys - Aerospace

RA333[®] Explosive Forming Die

This die is used to form the vacuum bags used during the brazing cycle of the Space Shuttle engines. The bags are mated to the nozzle and a vacuum pulled to hold 1080 tubes in place during the braze cycle. Tolerances are critical.

The RA333 die is a parabolic shape, 36" in diameter at the bottom, 91" diameter at top, about 150" high. It was gas metal arc welded of 1-1/4" thick RA333 plate and 2-1/4" thick rolled and welded RA333 rings. 0.045" RA333 wire was used for all welds. The final wall thickness of the die is 1/2" minimum. However the contour is such that after the die is welded together in segments, 1-1/2" plate is required for machining to finish tolerances.