

The proposed method of producing rigid metal shells of high accuracy from rolled sheet implies that a preliminarily bent sheet workpiece is welded into the cylindrical one under conditions when the workpiece is tightly pressed against the mandrel in order to obtain tight fit. Then the mandrel is positioned with a possibility of rotation, and straightening and calibration of the cylindrical workpiece are performed, rolling the workpiece by rollers. In this process, residual stresses in the finished shell walls are reduced with the result that warping of the workpiece is minimal after removing the workpiece from the mandrel, the metal structure is equalized, residual stresses in the weld joints are removed, hardening of the outside workpiece surface is achieved as a result of modification of the surface layer structure, diametrical stiffness of the shell is increased, and a possibility of serial production of shells with stable accurate dimensions is provided.