

管材内高压成形工艺参数优化设计

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摘要: 运用动力显式有限元分析软件DYNAFORM对大变形圆柱壳零件的内高压成形过程进行了模拟分析。针对内压和轴向力的载荷匹配关系、管坯与模具之间的摩擦因数及管坯材料性能等因素进行模拟与分析,得到了在不同工艺条件下工件的成形状态、材料流动特点、应力、应变及壁厚分布等结果。分析了不同工艺参数对工艺过程的影响。The finite element software DYNAFORM was applied to simulate the whole tube hydroforming process. The stress distribution, strain distribution and thickness distribution at different process conditions and different times were presented. The effect of different matching of internal pressure and axial force, the different friction coefficients between tube and die were simulated and analyzed. In addition, the material characters of tube were considered too.

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