金屬管件擴口成形製程之分析

A methodology for formulating and elasto-plastic finite element model,which based on an Updated Lagrangian Formulation (ULF), Prandtl-Reussflow rule and von Mises yield criterion, was developed to simulate theflaring process of metal tubes. Simulation results, such as the entireloading history, the whole deformation history, the thicknessdistribution of the tube, the critical flaring ratio of the tube andthe final shape of tubes after unloading can be obtained. A set offlaring die was designed for experiments. The predicted value of thepunch load and thickness distribution in the simulation correlate wellwith the experimental results.