

34-52 Numerical Simulation of Free Forming Using Underwater Shock Wave

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Explosive forming is metal forming method using underwater shock wave generated by underwater explosion of explosive. This technique is superior to static forming techniques on the duplication of the shape of the die, because the metal plate can obtain a great work-hardening. It is not necessary upper die used for static forming techniques such as the press forming. Moreover, this technique can use not only metals but also resins, plaster and paper as the material of die. As a result, this technique is suitable for production of many kinds and quantity products. We have developed the equipment for lower costs of metal forming obtained appointed shape using underwater explosive forming technique. As a new method, we have considered the free forming. Therefore, in this paper, we pick up some models for free forming of underwater explosive forming. We have made numerical simulation on these models. The results of numerical simulation were discussed.

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