34−50 ON FREE METAL FORMING USING UNDERWATER SHOCK WAVE

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Explosive forming is a 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 us the press forming. We have researched this method and 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 metal forming. Before proceeding with this research, we must cover a fundamental problem. Therefore, we have done experimental and analytic investigation for free metal forming using underwater shock wave. In this paper, we present experimental and numerical simulation results.

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