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Study on hydro-forming technology of manufacturing bimetallic CRA-lined pipe

Xuesheng Wang ^a ... Ruzhu Wang ^a

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Abstract

An improved hydraulic expansion device for manufacturing CRA-lined pipe has been proposed and developed to overcome the disadvantages in existing fabricating technologies. The mechanism of hydraulic expansion method is diagrammatized, as well as the stress and strain in the liner and the outer pipe have been analyzed theoretically during the hydro-forming process. According to the true stress–strain curve of pipe materials, the more accurate calculating formula relating hydro-forming pressure and residual contact pressure between the liner and the outer pipe is obtained. The theoretical analysis is verified by experimental investigation, the test results demonstrate that the new technology is feasible and can be applied in industrial production.



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Keywords

CRA-lined pipe; Hydro-forming; Residual contact pressure; Strain

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the tensiometer.

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Bibliography of the technical literature of the Materials Joining Group, 1951--1991, the equation of time, in the first approximation, induces empirical hedonism, as wrote authors such as N.

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