

Title (en)
METHOD FOR HYDROFORMING AN ALUMINUM TUBULAR BLANK

Title (de)
VERFAHREN ZUM INNENHOCHDRUCKUMFORMEN EINES ALUMINIUMROHRES

Title (fr)
PROCEDE D'HYDROFORMAGE D'UNE EBAUCHE TUBULAIRE D'ALUMINIUM

Publication
EP 1220725 A1 20020710 (EN)

Application
EP 00965703 A 20001010

Priority

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- US 15957099 P 19991015

Abstract (en)
[origin: WO0128708A1] A method of hydroforming a tubular aluminum alloy blank (T) into a desired configuration, including providing a tubular blank having opposing longitudinal end portions; rapidly heating the blank to an elevated temperature for a brief period of time, the values of the elevated temperature and the brief period of time being selected such that, after the rapid heating, the blank has a reduced hardness below an initial hardness without otherwise significantly changing the microstructure of the blank; quenching the blank while the blank is at or near the elevated temperature; disposing the quenched blank in a die cavity of a hydroforming die (102, 104), the hydroforming die having interior surfaces (106, 108) that provide the die cavity with a shape corresponding to the desired configuration of the tubular blank; sealing the opposing longitudinal end portions of the tubular blank; supplying pressurized fluid to the hollow interior of the tubular blank and relatively forcing the opposing end portions of the tubular blank inwardly toward one another such that the pressurized fluid diametrically expands the temporarily softened portions of the tubular blank such that the temporarily softened aluminum alloy of the blank is caused to flow longitudinally along the blank.

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