

Title (en)

High pressure water shot peening.

Title (de)

Strahlverfestigung mit Hochdruckwasser.

Title (fr)

Grenaillage d'écrouissage au moyen d'eau à haute pression.

Publication

**EP 0218354 A1 19870415 (EN)**

Application

**EP 86306633 A 19860828**

Priority

US 77413085 A 19850909

Abstract (en)

High pressure water shot peening is used to process the surface of metallic material, regardless of the surface configuration. By impacting the surface with a supersonic water jet for a predetermined minimum time dependent on the feed rate, the surface is cleaned and decontaminated. When the jet is directed against the inner surface of a tubular member at 2200-2800 ft./sec. for a predetermined dwell time in the range of 0.3 to 0.6 seconds, in./min. a compressive stress is induced in the surface which increases the local micro-hardness of the material. When the jet is impacted against the surface at a velocity in this range, using a self-rotating peener as illustrated, the induced stress is of sufficient magnitude to reduce the susceptibility of the surface to stress corrosion cracking.

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**C21D 7/06**; B08B 9/02; B08B 3/02

IPC 8 full level

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CPC (source: EP)

**B05B 3/06** (2013.01); **B08B 3/028** (2013.01); **C21D 7/06** (2013.01); **B08B 2230/01** (2013.01)

Citation (search report)

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