

Title (en)
HIGH PRESSURE WATER SHOT PEENING

Publication
EP 0218354 B1 19901107 (EN)

Application
EP 86306633 A 19860828

Priority
US 77413085 A 19850909

Abstract (en)
[origin: EP0218354A1] 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.

IPC 1-7
B08B 3/02; B08B 9/02; C21D 7/06

IPC 8 full level
C21D 7/02 (2006.01); **B05B 3/06** (2006.01); **B08B 3/02** (2006.01); **B08B 9/032** (2006.01); **B24C 1/10** (2006.01); **B24C 5/00** (2006.01); **C21D 7/06** (2006.01)

CPC (source: EP)
B05B 3/06 (2013.01); **B08B 3/028** (2013.01); **C21D 7/06** (2013.01); **B08B 2230/01** (2013.01)

Cited by
US6099391A; CN108998654A; NL2019915B1; CN108626500A; CN103419137A; DE19634636C1; US6341151B1; US6345083B1; CN100465474C; EP0960950A1; EP1323836A1; EP1500712A1; EP1170387A4; US11738357B2; US6639962B2; WO2019098831A1

Designated contracting state (EPC)
BE CH FR GB IT LI SE

DOCDB simple family (publication)
EP 0218354 A1 19870415; EP 0218354 B1 19901107; ES 2001668 A6 19880601; JP S6263614 A 19870320

DOCDB simple family (application)
EP 86306633 A 19860828; ES 8601699 A 19860905; JP 20978286 A 19860908