Title (en)
   FLUID JET PROCESSING

Title (de)
   FLÜSSIGKEITSSTRAHLVERARBEITUNG

Title (fr)
   TRAITEMENT DE JET DE FLUIDE

Publication
   EP 3787837 B1 20221012 (EN)

Application
   EP 19718840 A 20190415

Priority
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Abstract (en)
   [origin: GB2573012A] A fluid jet treatment process and apparatus in which a jet 8j of fluid 8 is directed onto a surface of a workpiece 5, the jet 8j including regions 78 of fluid having different density and/or viscosity properties. Regions of reduced fluid density may be formed by entraining micro-bubbles 78 within the jet 8j, or by entraining micro-droplets of a different fluid in the jet 8j. Ultrasonic vibrations may be applied to the treatment fluid using an actuator 75, vibrator plate 74 and concave concentrator plate 76 to produce micro-bubbles 78 by cavitation. The micro-bubbles 78 may alternatively be formed by injection through an injection needle (90 fig. 2B) or by intermittently boiling the treatment fluid 8 by localized heating of the surface of a metallic bead 93 using an induction coil 95 or a laser 98. The micro-bubbles may travel along the jet and impinge on the surface of the workpiece. The fluid may contain abrasive particles of similar size to the micro-bubbles. The process may polish or clean the surface of the workpiece 5 which may be an additively manufactured component such as an artificial joint.

IPC 8 full level
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CPC (source: EP GB)
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