The invention relates to a replication tool (1) for producing a part (4) with a microscale textured replica surface (5a, 5b, 5c, 5d). The replication tool (1) comprises a tool surface (2a, 2b) defining a general shape of the item (4). The tool surface (2a, 2b) comprises a microscale structured master surface (3a, 3b, 3c, 3d) having a lateral master pattern and a vertical master profile. The microscale structured master surface (3a, 3b, 3c, 3d) has been provided by localized pulsed laser treatment to generate microscale phase explosions. A method for producing a part (4) with microscale energy directors on flange portions thereof uses the replication tool (1) to form an item (4) with a general shape as defined by the tool surface (2a, 2b). The formed item (4) comprises a microscale textured replica surface (5a, 5b, 5c, 5d) with a lateral arrangement of polydisperse microscale protrusions. The microscale protrusions may be provided on a flange portion of a first part (40) and are configured to act as energy directors when forming an ultrasonic joint with a cooperating flange portion of a second part (50).

General information
Publication status: Published
Organisations: Department of Micro- and Nanotechnology, BioLabChip, Polymer Micro & Nano Engineering
Contributors: Poulsen, C. E., Wolff, A., Andersen, N. K., Kistrup, K., Taboryski, R. J.
Publication date: 19 May 2016

Publication information
IPC: B29C 65/08 A1
Patent number: WO2016075272
Filing date: 19/05/2016
Priority date: 05/12/2014
Priority number: EP20140196586
Original language: English
Electronic versions:
WO2016075272A1.pdf

Bibliographical note
Also published as: WO2016075276 (A1) WO2016075273 (A1)
Source: espacenet
Source ID: WO2016075272
Research output: Patent › Patent – Annual report year: 2016 › Research