

Title (en)
Abrasive water jet nozzle and abrasive water jet machine

Title (de)
Schleifwasserstrahldüse und Schleifwasserstrahlmaschine

Title (fr)
Buse à jet d'eau abrasif et machine à jet d'eau abrasif

Publication
EP 2650083 A1 20131016 (EN)

Application
EP 13162744 A 20130408

Priority
JP 2012089748 A 20120410

Abstract (en)
Provided is an abrasive water jet nozzle (1) comprising a mixing chamber (3) for absorbing the abrasives (G) therein with air through a supply port (31) ; a water nozzle (4) ; a mixing nozzle (5) disposed on a downstream side against the water nozzle, to mix the abrasives in a water jet (WJ) jetted out of the water nozzle, and to jet the water jet (AW) mixed with the abrasives into the mixing chamber out of a through hole (51) of the mixing nozzle; and an abrasive nozzle (6) disposed on a downstream side against the mixing nozzle, to introduce the water jet thereinto, and to jet an abrasive water jet (AWJ). A diameter (D3) of the through hole of the mixing nozzle is larger than a diameter (D1) of the water nozzle so that the abrasives in the mixing chamber are absorbed together with air in a clearance ("1) formed between the through hole (51) and the water jet passing through the through hole to mix the abrasives in the water jet in the through hole.

IPC 8 full level
B24C 1/04 (2006.01); **B24C 7/00** (2006.01)

CPC (source: EP US)
B24C 1/045 (2013.01 - EP US); **B24C 5/04** (2013.01 - EP US); **B24C 7/0076** (2013.01 - EP US); **B24C 7/0092** (2013.01 - EP US)

Citation (applicant)
• JP H081515 A 19960109 - MITSUBISHI HEAVY IND LTD
• JP 4653962 B2 20110316

Citation (search report)
• [X] US 5799688 A 19980901 - YIE GENE G [US]
• [X] US 5851139 A 19981222 - XU JIAN [US]
• [X] DE 4120613 A1 19920305 - SUESSE HARALD [DE]
• [A] DE 202011102957 U1 20110819 - TQ SYSTEMS GMBH [DE]

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2650083 A1 20131016; JP 2013215854 A 20131024; US 2013267152 A1 20131010

DOCDB simple family (application)
EP 13162744 A 20130408; JP 2012089748 A 20120410; US 201313859501 A 20130409