

Title (en)  
METHOD FOR PLASMA WELDING

Title (de)  
VERFAHREN ZUM PLASMASCHWEISSEN

Title (fr)  
PROCEDE DE SOUDAGE AU PLASMA

Publication  
**EP 1369001 A1 20031210 (DE)**

Application  
**EP 02717991 A 20020306**

Priority  
• DE 0200813 W 20020306  
• DE 10112494 A 20010315

Abstract (en)  
[origin: WO02076158A1] The invention relates to a method for plasma welding by means of a free microwave induced plasma jet which is produced according to the following method: microwaves are produced in a high frequency microwave source; the microwaves are guided in a wave guide (1); process gas is introduced into a microwave transparent tube (2) which comprises a gas inlet (4) and a gas outlet (3) at a pressure  $p \leq 1$  bar, the process gas being introduced into the microwave transparent tube (2) via the gas inlet (4) so that it comprises a tangential flow component; a plasma (7) is produced in the microwave transparent tube (2) by igniting the process gases without electrodes; a jet of plasma (17) is produced by introducing the plasma into the work chamber (16) through a metallic expansion nozzle (5) arranged on the gas outlet (3) of the tube (2).

IPC 1-7  
**H05H 1/34**; **H05H 1/30**

IPC 8 full level  
**B23K 10/00** (2006.01); **H05H 1/30** (2006.01); **H05H 1/34** (2006.01)

CPC (source: EP US)  
**H05H 1/30** (2013.01 - EP US); **H05H 1/3421** (2021.05 - EP); **H05H 1/3484** (2021.05 - EP); **H05H 1/3421** (2021.05 - US); **H05H 1/3484** (2021.05 - US)

Citation (search report)  
See references of WO 02076158A1

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)  
**WO 02076158 A1 20020926**; DE 10112494 A1 20021002; DE 10112494 C2 20031211; EP 1369001 A1 20031210; JP 2004523869 A 20040805; JP 4250422 B2 20090408; US 2004149700 A1 20040805; US 6982395 B2 20060103

DOCDB simple family (application)  
**DE 0200813 W 20020306**; DE 10112494 A 20010315; EP 02717991 A 20020306; JP 2002573492 A 20020306; US 47185804 A 20040213