

Title (en)

METHOD AND DEVICE FOR FLUX-FREE SOLDERING WITH REACTIVE GAS-ENRICHED MOLTEN METALS

Title (de)

VERFAHREN UND VORRICHTUNG ZUM FLUSSMITTELFREIEN LÖTEN MIT REAKTIVGASANGEREICHERTEN METALLSCHMELZEN

Title (fr)

PROCEDE ET DISPOSITIF DE BRASAGE SANS FONDANTS, AVEC BAIN DE FUSION METALLIQUE ENRICHI PAR UN GAZ REACTIF

Publication

**EP 1233842 A1 20020828 (DE)**

Application

**EP 00984980 A 20001108**

Priority

- DE 19955659 A 19991119
- EP 0010993 W 20001108

Abstract (en)

[origin: WO138032A1] In prior art, fluxing agents are used in wave soldering devices to prevent the metal parts to be soldered or the soldering bath from oxidizing (formation of scabs). The remainders of said fluxing agents can impair the quality of the soldered joint or of the soldered workpiece. The aim of the invention to provide a method and a device with which the use of fluxing agents for soldering can be reduced. To this end, before the actual soldering step, a reducing reactive gas, for example hydrogen, is dissolved in the liquid soldering agent by introducing a gas electrode into the soldering bath. When the soldering agent cools off on the workpiece once the soldering is completed, a part of the dissolved reactive gas evaporates and has a reducing effect on the workpiece or on the soldering agent, thereby at least substantially reducing the need for using a fluxing agent.

IPC 1-7

**B23K 1/20**

IPC 8 full level

**B23K 1/20** (2006.01)

CPC (source: EP)

**B23K 1/203** (2013.01); **B23K 2101/36** (2018.07)

Citation (search report)

See references of WO 0138032A1

Citation (examination)

- EP 0685287 A1 19951206 - BOC GROUP INC [US]
- EP 0045909 A1 19820217 - AIWA CO [JP]

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 0138032 A1 20010531**; DE 19955659 A1 20010531; EP 1233842 A1 20020828

DOCDB simple family (application)

**EP 0010993 W 20001108**; DE 19955659 A 19991119; EP 00984980 A 20001108