

Title (en)

Nickel-iron based soldering material and soldering method

Title (de)

Hartlot auf Nickel-Eisen-Basis sowie Verfahren zum Hartlöten

Title (fr)

Matériau de brasage à base de nickel et de fer et procédé de brasage

Publication

EP 1897650 A3 20080514 (DE)

Application

EP 07115281 A 20070830

Priority

DE 102006042792 A 20060908

Abstract (en)

[origin: EP1897650A2] Hard solder has the general formula FeaNiRestSibBcMd . $a = 5 - 35 \text{ atom\%}$; $b = 1 - 15 \text{ atom\%}$; $c = 5 - 15 \text{ atom\%}$; $d = 0 - 4 \text{ atom\%}$; and Rest indicates the content of nickel and incidental impurities; M is one or more of: cobalt, chromium, manganese, niobium, molybdenum, tantalum, copper, silver, palladium or carbon. The solder has a maximum liquidus temperature of $1025[\text{deg}] \text{ C}$. Independent claims are included for: (A) amorphous, ductile hard solder sheets of the same composition; (B) heat exchangers with solder beads produced from the hard solder; (C) heat exchangers with solder beads produced from the hard solder sheets; (D) a bonding method for two components comprising soldering with the hard solder; (E) a bonding method for two components comprising soldering using the hard solder sheets; (F) a method for making the hard solder sheets by heating a melt of the solder and preparing the sheets by cooling the melt at a rate of more than $105 > [\text{deg}] \text{ C/sec}$; (G) a bonding method for two components comprising preparing hard solder sheets using the method described and soldering the components using the product; (H) hard soldered objects produced using the solder; and (I) hard soldered objects produced using the solder sheets.

IPC 8 full level

B23K 35/30 (2006.01); **C22C 19/03** (2006.01); **C22C 38/08** (2006.01); **C22C 45/02** (2006.01); **C22C 45/04** (2006.01)

CPC (source: EP)

C22C 19/03 (2013.01); **C22C 38/08** (2013.01); **C22C 45/02** (2013.01); **C22C 45/04** (2013.01)

Citation (search report)

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Designated contracting state (EPC)

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Designated extension state (EPC)

AL BA HR MK RS

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