

Title (en)

Brazed copper heat exchanger manufacturing method.

Title (de)

Verfahren zum Herstellen mittels Schweißen von aus Kupfer hergestellten Wärmetauschern.

Title (fr)

Procédé de fabrication par soudage d'échangeurs thermiques en cuivres brasés.

Publication

EP 1450980 A1 20040901 (FR)

Application

EP 02785546 A 20021014

Priority

- FR 0203509 W 20021014
- FR 0115118 A 20011122

Abstract (en)

[origin: FR2832336A1] The invention concerns a method for arc-welding of at least a metal workpiece (1) on a matrix (2) comprising at least a brazed zone (3) whereof the brazing contains copper and phosphorus, which comprises the following steps: (a) producing on at least part of the brazed zone (3), a deposition of at least a layer (5, 6, 7) of pure copper or of a copper alloy for which the phosphorus solubility limit is between about 0.1 and 3.5 % at solidification temperature; and (b) welding the metal workpiece (1) on said at least one copper layer (5, 6, 7) deposited in step (a). The invention also concerns a method for making a brazed heat exchanger using such a welding process. The invention further concerns the resulting heat exchangers and their use in cryogenic gas separation, in particular air separation in a cryogenic separating unit.

[origin: FR2832336A1] Arc welding of a metal component (1) on a matrix (2) incorporating a brazing zone (3) containing copper and phosphorus, comprises: deposition on the brazing zone of layers (5, 6, 7) of pure copper or copper alloy for which the limit of phosphorus solubility is between 0.1 and 3.5% at solidification temperature; and welding the component on these copper layers. Independent claims are also included for: (a) a method for the fabrication of a heat exchanger using this method of welding; (b) a copper heat exchanger fabricated by this method; (c) an installation for the separation of fluid using this heat exchanger; (d) a method for the coating of a matrix using this method of welding.

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