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(54) Title (EN): BRAZING NI-CR-FE-P-BASED ALLOY POWDER HAVING LOW MELTING POINT AND HIGH CORROSIVE RESISTANCE AND MANUFACTURING METHOD THEREFOR

(54) Title (FR): POUDRE D'ALLIAGE À BASE DE NI-CR-FE-P POUR BRASAGE AYANT UN POINT DE FUSION BAS ET UNE RÉSISTANCE À LA CORROSION ÉLEVÉE, ET SON PROCÉDÉ DE FABRICATION

(54) Title (KO): 저융점 및 고내식성을 갖는 NI-CR-FE-P계 브레이징용 합금분말 및 이의 제조 방법

(57) Abstract:

(EN): The present invention relates to a brazing Ni-Cr-Fe-P-based alloy powder having a low melting point and high corrosive resistance and a manufacturing method therefor and, more specifically, to a brazing Ni-Cr-Fe-P-based alloy powder comprising 5 to 40 weight% of Cr, 5 to 30 weight% of Fe, 5 to 20 weight% of P, and the balance of Ni and other inevitable impurities, and a method for manufacturing a brazing Ni-Cr-Fe-P-based alloy powder having a low melting point and high corrosive resistance through a gas atomizing process in which a dissolution temperature of 1300 to 1650#, a molten metal nozzle diameter of 3 to 10 mm, and a gas spray pressure of 3 to 15 bar are set. Having a low melting point, compared to preexisting products, the alloy powder according to the present invention advantageously works at joining temperatures in a post-treatment process. When used in brazing, the alloy powder can find various applications as a high functional joining material.

(FR): La présente invention concerne une poudre d'alliage à base de Ni-Cr-Fe-P pour brasage ayant un point de fusion bas et une résistance à la corrosion élevée et son procédé de fabrication et, plus spécifiquement, une poudre d'alliage à base de Ni-Cr-Fe-P pour brasage comprenant de 5 à 40 % massiques de Cr, de 5 à 30 % massiques de Fe, de 5 à 20 % massiques de P et le reste de Ni et d'autres impuretés inévitables, et un procédé de fabrication d'une poudre d'alliage à base de Ni-Cr-Fe-P pour brasage ayant un point de fusion bas et une résistance à la corrosion élevée par le biais d'un procédé d'atomisation de gaz dans lequel sont réglés une température de dissolution allant de 1300 à 1650 °C, un diamètre de buse de métal fondu allant de 3 à 10 mm et une pression de pulvérisation de gaz allant de 3 à 15 bars. Ayant un point de fusion bas en comparaison des produits préexistants,

la poudre d'alliage selon la présente invention fonctionne avantageusement à des températures de jonction dans un processus de post-traitement. Lorsqu'elle est utilisée en brasage, la poudre d'alliage peut trouver diverses applications en tant que matériau d'assemblage hautement fonctionnel.

(KO): 본 발명은 저융점 및 고내식성을 갖는 Ni-Cr-Fe-P계 브레이징용 합금분말 및 이의 제조 방법에 관한 것으로서, 보다 구체적으로는 5 내지 40 중량%의 Cr, 5 내지 30 중량%의 Fe, 5 내지 20 중량%의 P, 잔부인 Ni 및 기타 불가피한 불순물을 포함하는 Ni-Cr-Fe-P계 브레이징용 합금분말 및 가스 아토마이징(Gas atomizing) 공정을 통한 Ni-Cr-Fe-P계 브레이징용 합금분말의 제조방법으로, 용해온도는 1300 내지 1650 ℃이며, 용탕노즐구경은 3 내지 10 mm이고, 가스분사압력은 3 내지 15 bar인 저융점 및 고내식성을 갖는 Ni-Cr-Fe-P계 브레이징용 합금분말의 제조방법에 관한 것이다. 본 발명에 따른 합금분말은 기존제품 대비 저융점을 가짐으로써 후처리 공정에서 접합 온도에 유리하게 작용하며, 브레이징에 적용함으로써 고기능성 접합재로서의 다양한 활용이 가능하다.

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