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(54) Title (EN): PLATING SOLUTION FOR PIPE THREADED COUPLING AND MANUFACTURING METHOD FOR PIPE THREADED COUPLING

(54) Title (FR): SOLUTION DE PLACAGE POUR ACCOUPLEMENT FILETE DE TUYAUX ET PROCEDE DE FABRICATION POUR ACCOUPLEMENT FILETE DE TUYAUX

(54) Title (JA): 管用ねじ継手用めっき液及び管用ねじ継手の製造方法

(57) Abstract:

(EN): Provided is a plating solution for a pipe threaded coupling in order to form a plating film having superior seizure resistance, crevice corrosion resistance, and resistance to corrosion from exposure. A plating solution for a pipe threaded coupling according to an embodiment does not contain a cyanide, and does contain copper pyrophosphate, tin pyrophosphate, zinc pyrophosphate, a pyrophosphate serving as a metal complexing agent, and 40 g/L or less (not including 0) of a sulfur-containing compound. The sulfur-containing compound is one or more of a mercapto compound and sulfide compound as defined by formula (1), a dimer

obtained by disulfide bonding of a mercapto compound, and salts thereof. $RS-(CHX^1)_m-(CHX^2)_n-CHX^3X^4$ (1), where m and n are integers of 1 or 0. X^1, X^2, X^3 and X^4 are any one of hydrogen, OH, NH_2 , SO_3H , and CO_2H . However, X^1, X^2, X^3 and X^4 are not all hydrogen. R is any one of hydrogen, a methyl group, and an ethyl group.

(FR): La présente invention concerne une solution de placage pour un accouplement fileté de tuyaux pour la formation d'un film de placage ayant de meilleures propriétés de résistance au grippage, de résistance à la corrosion cavernueuse et de résistance à la corrosion due à l'exposition. Selon un mode de réalisation, l'invention concerne une solution de placage pour un accouplement fileté de tuyaux ne contenant pas un cyanure, et contenant du pyrophosphate de cuivre, du pyrophosphate, d'étain, du pyrophosphate de zinc, un pyrophosphate agissant comme un agent complexant de métaux, et une quantité égale ou inférieure à 40 g/L (excluant 0) d'un composé contenant du soufre. Le composé contenant du soufre est un ou plusieurs parmi un composé mercapto et un composé de sulfure tel que défini par la formule (1), un dimère obtenu par liaison disulfure d'un composé mercapto, et des sels de ceux-ci. $RS-(CHX^1)_m-(CHX^2)_n-CHX^3X^4$ (1), dans laquelle m et n sont des nombres entiers de 1 ou 0. X^1, X^2, X^3 et X^4 sont un quelconque parmi un hydrogène, OH, NH_2 , SO_3H , et CO_2H . Cependant, X^1, X^2, X^3 et X^4 ne sont pas tous hydrogène. R est un quelconque parmi l'hydrogène, un groupe méthyle, et un groupe éthyle.

(JA): 耐焼付き性、耐隙間腐食性及び耐暴露腐食性に優れたためつき皮膜を形成するための管用ねじ継手用めっき液を提供する。本実施形態の管用ねじ継手用のめっき液は、シアン化合物を含有せず、ピロリン酸銅と、ピロリン酸スズと、ピロリン酸亜鉛と、金属錯化剤としてのピロリン酸塩と、40 g/L以下(0を含まない)の硫黄含有化合物とを含有する。硫黄含有化合物は、化学式(1)で定義されるメルカプト化合物及びスルフィド化合物、メルカプト化合物のジスルフィド結合による二量体、及びこれらの塩類の1種又は2種以上である。 $RS-(CHX^1)_m-(CHX^2)_n-CHX^3X^4$ (1) ここで、m、nは、1又は0の整数である。 X^1, X^2, X^3 及び X^4 は、水素、OH、 NH_2 、 SO_3H 及び CO_2H のいずれかである。ただし、 X^1, X^2, X^3 及び X^4 のいずれもが水素であることはない。Rは水素、メチル基及びエチル基のいずれかである。

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