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US2009047539A1 SURFACE-TREATED ELECTRO-DEPOSITED COPPER FOIL AND METHOD FOR MANUFACTURING THE SAME

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Classifications:

IPC **B21C37/02; B32B3/00; C25D5/00; H10B12/00;**

CPC

B32B15/08 (KR); C25D1/04 (EP,KR,US); C25D3/38 (EP,US); C25D5/18 (EP,US); C25D5/48 (EP,US); C25D5/605 (EP,US); C25D5/617 (EP,US); C25D5/627 (EP,US); C25D7/06 (EP,KR,US); H05K1/09 (KR); H05K3/384 (EP,US); H05K2201/0355 (EP,US); H05K2203/0307 (EP,US); H05K2203/0723 (EP,US); H05K2203/1476 (EP,US); Y10T428/12438 (EP,US); Y10T428/12451 (EP,US); Y10T428/12472 (EP,US); Y10T428/12882 (EP,US); Y10T428/12903 (EP,US); Y10T428/12993 (EP,US); Y10T428/24355 (EP,US); Y10T428/24917 (EP,US);

Priorities: JP2006066806A 2006-03-10; JP2006272326A 2006-10-03; JP2007054681W 2007-03-09

Application: US28223107A·2007-03-09

Publication: US2009047539A1·2009-02-19

Published as: **CN101395304A; CN101395304B; EP1995354A1; EP1995354A4; EP1995354B1; JP2013019056A; JP2013147755A; JP5180815B2; JP5502174B2; JP5686840B2; JPWO2007105635A1; KR101049997B1; KR20080100822A; TW200738913A; TWI354715B; US2009047539A1; US8715836B2; WO2007105635A1**

SURFACE-TREATED ELECTRO-DEPOSITED COPPER FOIL AND METHOD FOR MANUFACTURING THE SAME

Abstract

It is an object to provide a surface-treated electro-deposited copper foil which has a low profile at a level equal to or excellent than that of low-profile surface-treated electro-deposited copper foils that have conventionally been supplied to the market and in which waviness affecting the straight line performance of wiring is small, and a method for manufacturing the same. In order to achieve this object, in the surface-treated electro-deposited copper foil, the maximum waviness height (Wmax) of the bonding surface to be bonded with an insulation layer-constituting material to be 0.05 mum to 0.7 mum, the maximum peak to valley height (PV) to be 0.05 to 1.5 mum, and the surface roughness (Rzjis) to be 0.1 mum to 1.0 mum. The electro-deposited copper foil used for the manufacturing of this surface-treated electro-deposited copper foil is manufactured by using a sulfuric acid base copper electrolytic solution obtained by adding 3-mercapto-1-propanesulfonic acid or bis(3-sulfopropyl)disulfide, a quaternary ammonium salt polymer having a cyclic structure, and chlorine, and using a cathode having small surface roughness, under electrolysis conditions of carrying out continuous first-step electrolysis to n-th-step electrolysis at two or more different levels of electric current density.