

Title (en)  
Electroplating of low-stress nickel

Title (de)  
Elektrobeschichtung von spannungsarmem Nickel

Title (fr)  
Electroplacage de nickel à faibles contraintes

Publication  
**EP 0892087 A3 20000607 (EN)**

Application  
**EP 98304642 A 19980611**

Priority  
• US 5014097 P 19970618  
• US 6492398 A 19980423

Abstract (en)  
[origin: EP0892087A2] Nickel and nickel alloys can be electroplated from an aqueous acidic solution containing nickel alkane sulfonic acid and a stress-reducing additive that imparts compressive stress to an electrodeposit. The electroplating bath is acidic with a pH of 0 to 5.

IPC 1-7  
**C25D 3/12**

IPC 8 full level  
**C25D 3/12** (2006.01); **C25D 21/14** (2006.01)

CPC (source: EP)  
**C25D 3/12** (2013.01); **C25D 21/14** (2013.01)

Citation (search report)  
• [A] US 3312604 A 19670404 - HERBERT WELLS FREDERICK, et al  
• [A] GB 1213267 A 19701125 - NICKEL LE [FR]  
• [A] US 4108740 A 19780822 - WEARMOUTH WILLIAM RONALD  
• [A] US 3726768 A 19730410 - LUNDQUIST J, et al  
• [DX] KUDRYAVTSEV ET AL.: "Nickel Electrodeposition from Methansulfonic Acid-Based Bath", PROCEEDINGS OF AMERICAN ELECTROPLATERS, SURFACE FINISHING, 1996, pages 837 - 841, XP000884995  
• [XA] PATENT ABSTRACTS OF JAPAN vol. 017, no. 446 (C - 1098) 17 August 1993 (1993-08-17)  
• [X] PATENT ABSTRACTS OF JAPAN vol. 1996, no. 06 28 June 1996 (1996-06-28)  
• [A] PATENT ABSTRACTS OF JAPAN vol. 013, no. 379 (C - 628) 22 August 1989 (1989-08-22)

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**EP 0892087 A2 19990120; EP 0892087 A3 20000607**; CA 2236933 A1 19981218; CN 1142327 C 20040317; CN 1213019 A 19990407; JP H1171695 A 19990316; SG 63851 A1 19990330

DOCDB simple family (application)  
**EP 98304642 A 19980611**; CA 2236933 A 19980610; CN 98114933 A 19980618; JP 18572298 A 19980617; SG 1998001409 A 19980612