

Title (en)
Steel for cold forming

Title (de)
Stahl zur Kaltformung

Title (fr)
Acier pour le formage à froid

Publication
EP 0856591 A1 19980805 (FR)

Application
EP 98400178 A 19980129

Priority
FR 9701459 A 19970204

Abstract (en)
Steel suitable for cold-shaping is prepared by melting and refining and contains by weight 0.80-1.50% carbon, 6.25-9% chromium, 1.80-3% molybdenum, 0.20-0.40% vanadium, 0.60-1.50% niobium, 500-1500 ppm of titanium or zirconium and up to the following levels of other ingredients: 1% manganese, 1% silicon, 0.030% phosphorous, 0.005% sulphur, 0.50% nickel, 0.15% aluminium, 150 ppm nitrogen and 50 ppm oxygen, the balance being iron and impurities.

Abstract (fr)
Acier pour le formage à froid qui présente notamment une excellente résistance à l'usure abrasive. Cet acier est obtenu par fusion et affinage d'un acier. L'alliage a la composition pondérale suivante : ,Fourchette préférée, Fourchette large; Carbone, 1 - 1,20 %, 0,80 - 1,50 %; Manganèse, 0,30 - 0,50%, < 1%; Silicium, 0,80 - 1 %, < 1%; Phosphore, < 0,020 %, <= 0,030%; Soufre, < 0,005, <= 0,005%; Chrome, 8 - 8,50%, 6,25 - 9 %; Nickel, < 0,30, < 0,50%; Molybdène, 2 - 2,30%, 1,80 - 3%; Aluminium, < 200ppm, < 0,15%; Vanadium, 0,20 - 0,40%, 0,20 - 0,40%; Niobium, 0,60 - 0,90%, 0,60 - 1,5%; Azote, < 130 ppm, < 150 ppm; Oxygène, < 30 ppm, < 50 ppm; Titane ou Zirconium, 500 - 1000 ppm, 500 - 1500 ppm; Le complément étant du fer plus les impuretés caractéristiques de la pratique de la fabrication du métal.

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Citation (search report)
• [A] EP 0425471 A1 19910502 - BOEHLER GMBH [AT]
• [A] WO 9100371 A1 19910110 - BROKEN HILL PTY CO LTD [AU]
• [A] DE 3926232 A1 19900329 - KLOECKNER HUMBOLDT DEUTZ AG [DE], et al

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