

Title (en)
LUBRICATING PROCESS FOR HEAVY-DUTY FORMING OPERATIONS

Title (de)
SCHMIERVERFAHREN FÜR SCHWERE UMFORMUNGEN

Title (fr)
PROCEDE DE LUBRIFICATION POUR GROS TRAVAUX DE FORMAGE

Publication
EP 0837744 B1 19990407 (DE)

Application
EP 96922900 A 19960703

Priority
• DE 19525407 A 19950712
• EP 9602904 W 19960703

Abstract (en)
[origin: DE19525407A1] A process for lubricating metallic workpieces during forming operations by drawing, deep-drawing or cold extrusion is characterised in that a non-homogeneous mixture of (a) 40 to 90 % by volume of a water-miscible cooling lubricant concentrate, (b) 10 to 60 % by volume of a non water-miscible cutting oil, (c) 0 to 25 % by volume of a sulphur-based lubricant additive and (d) 0 to 20 % by volume water is applied on the workpiece. The percentages of the constitutive elements of the mixture add up to 100 %.

IPC 1-7
B21C 9/00

IPC 8 full level
B21C 9/00 (2006.01); **C10M 173/00** (2006.01)

CPC (source: EP)
C10M 101/02 (2013.01); **C10M 101/04** (2013.01); **C10M 105/34** (2013.01); **C10M 105/38** (2013.01); **C10M 133/04** (2013.01); **C10M 133/08** (2013.01); **C10M 133/16** (2013.01); **C10M 135/00** (2013.01); **C10M 145/36** (2013.01); **C10M 173/00** (2013.01); **C10M 2201/02** (2013.01); **C10M 2203/1006** (2013.01); **C10M 2203/1025** (2013.01); **C10M 2203/1045** (2013.01); **C10M 2203/1065** (2013.01); **C10M 2203/1085** (2013.01); **C10M 2207/281** (2013.01); **C10M 2207/2815** (2013.01); **C10M 2207/282** (2013.01); **C10M 2207/283** (2013.01); **C10M 2207/2835** (2013.01); **C10M 2207/2845** (2013.01); **C10M 2207/286** (2013.01); **C10M 2207/40** (2013.01); **C10M 2207/401** (2013.01); **C10M 2207/404** (2013.01); **C10M 2207/4045** (2013.01); **C10M 2209/104** (2013.01); **C10M 2209/108** (2013.01); **C10M 2215/02** (2013.01); **C10M 2215/04** (2013.01); **C10M 2215/042** (2013.01); **C10M 2215/08** (2013.01); **C10M 2215/082** (2013.01); **C10M 2215/086** (2013.01); **C10M 2215/12** (2013.01); **C10M 2215/122** (2013.01); **C10M 2215/26** (2013.01); **C10M 2215/28** (2013.01); **C10M 2219/00** (2013.01); **C10N 2040/24** (2013.01); **C10N 2040/241** (2020.05); **C10N 2040/242** (2020.05); **C10N 2040/243** (2020.05); **C10N 2040/244** (2020.05); **C10N 2040/245** (2020.05); **C10N 2040/246** (2020.05); **C10N 2040/247** (2020.05); **C10N 2050/01** (2020.05)

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
DE 19525407 A1 19970116; DE 59601619 D1 19990512; EP 0837744 A1 19980429; EP 0837744 B1 19990407; WO 9702909 A1 19970130

DOCDB simple family (application)
DE 19525407 A 19950712; DE 59601619 T 19960703; EP 9602904 W 19960703; EP 96922900 A 19960703