

Title (en)  
LUBRICANT FOR THE HOT FORMING OF METALS

Title (de)  
SCHMIERSTOFF FÜR DIE HEISSUMFORMUNG VON METALLEN

Title (fr)  
LUBRIFIANT POUR LE FAÇONNAGE À CHAUD DE MÉTAUX

Publication  
**EP 3927797 A1 20211229 (DE)**

Application  
**EP 20706258 A 20200221**

Priority  
• DE 102019104540 A 20190222  
• EP 2020054621 W 20200221

Abstract (en)  
[origin: WO2020169800A1] The invention relates to a lubricant for the hot forming of metals, in particular for lubricating the mandrel and/or the hollow block when producing seamless pipes, characterised in that the lubricant, in terms of solid fractions, contains at least the following constituents: - 55 to 85 wt% of a solid lubricating agent, consisting of a mixture of talc and a potassium mica, the ratio of talc to potassium mica in the solid lubricating agent being 2.0 to 5.0, - 10 to 30 wt% of an adhesion promoter, selected from a polyvinyl acetate, sodium water glass and dextrin or a mixture thereof, - 2 to 10 wt% of a thickener, selected from hydroxy cellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethyl cellulose, methyl cellulose, ethyl cellulose, methylethyl cellulose, hydroxyethyl methyl cellulose, hydroxypropyl methyl cellulose, ethylhydroxy methyl cellulose, carboxymethyl hydroxycellulose, dextrin, starch, organically modified bentonite, smectite and xanthan gum, - 0 to 10 wt% of other auxiliary agents, preferably selected from anti-foaming agent, dispersing agent and biocide and - not more than 10 wt% graphite, preferably not more than 5 wt% graphite, particularly preferably no graphite.

IPC 8 full level  
**C10M 173/02** (2006.01)

CPC (source: EP KR US)  
**C10M 173/02** (2013.01 - EP KR US); **C10M 2201/102** (2013.01 - EP KR); **C10M 2201/1026** (2013.01 - EP KR);  
**C10M 2201/103** (2013.01 - EP KR US); **C10M 2201/12** (2013.01 - US); **C10M 2205/022** (2013.01 - EP KR); **C10M 2209/062** (2013.01 - US);  
**C10M 2209/126** (2013.01 - EP KR US); **C10N 2030/04** (2013.01 - US); **C10N 2030/06** (2013.01 - EP KR); **C10N 2030/16** (2013.01 - US);  
**C10N 2030/18** (2013.01 - US); **C10N 2030/40** (2020.05 - US); **C10N 2040/241** (2020.05 - EP KR US); **C10N 2040/242** (2020.05 - EP KR US)

C-Set (source: EP)  
**C10M 2205/022** + **C10M 2209/062**

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**WO 2020169800 A1 20200827**; BR 112021009900 A2 20210908; CA 3119484 A1 20200827; CA 3119484 C 20230919;  
CN 113474442 A 20211001; CN 113474442 B 20221129; DE 102019104540 A1 20200827; DE 102019104540 B4 20210819;  
EA 202192274 A1 20220114; EP 3927797 A1 20211229; EP 3927797 B1 20221228; JP 2022521134 A 20220406; KR 20210127136 A 20211021;  
SA 521430126 B1 20231130; US 11485929 B2 20221101; US 2022162517 A1 20220526; ZA 202104194 B 20221026

DOCDB simple family (application)  
**EP 2020054621 W 20200221**; BR 112021009900 A 20200221; CA 3119484 A 20200221; CN 202080015980 A 20200221;  
DE 102019104540 A 20190222; EA 202192274 A 20200221; EP 20706258 A 20200221; JP 2021540272 A 20200221;  
KR 20217020708 A 20200221; SA 521430126 A 20210822; US 202017310710 A 20200221; ZA 202104194 A 20210618