

Title (en)

HOT-FORMING COMPOSITE MATERIAL, PRODUCTION THEREOF, COMPONENT, AND USE THEREOF

Title (de)

WARMUMFORMVERBUNDMATERIAL, DESSEN HERSTELLUNG, BAUTEIL UND DESSEN VERWENDUNG

Title (fr)

MATÉRIAUX COMPOSÉS DE FORMAGE À CHAUD, SA FABRICATION, COMPOSANT ET SON UTILISATION

Publication

EP 3691889 A1 20200812 (DE)

Application

EP 17788137 A 20171006

Priority

EP 2017075463 W 20171006

Abstract (en)

[origin: WO2019068341A1] The invention relates to a hot-forming composite material (1) formed from an at least three-ply material composite comprising a core ply (1.1) made of a hardenable steel and two outer plies (1.2) connected in an integrally bonded manner to the core ply (1.1) and made of a ferritic, transformation-free FeAlCr steel.

IPC 8 full level

B32B 15/01 (2006.01); **B21D 22/02** (2006.01); **B21D 35/00** (2006.01); **C21D 1/18** (2006.01); **C21D 8/02** (2006.01); **C22C 38/00** (2006.01);
C22C 38/02 (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/18** (2006.01); **C22C 38/22** (2006.01); **C22C 38/24** (2006.01);
C22C 38/26 (2006.01); **C22C 38/28** (2006.01); **C22C 38/30** (2006.01); **C22C 38/32** (2006.01); **C22C 38/38** (2006.01)

CPC (source: EP KR US)

B21D 22/022 (2013.01 - KR US); **B21D 22/201** (2013.01 - KR); **B21D 35/007** (2013.01 - EP KR US);
B32B 15/18 (2013.01 - US); **C21D 1/673** (2013.01 - KR); **C21D 6/002** (2013.01 - EP KR US); **C21D 7/13** (2013.01 - EP KR US);
C21D 8/0263 (2013.01 - EP KR US); **C21D 8/0478** (2013.01 - EP KR US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/008** (2013.01 - US);
C22C 38/02 (2013.01 - EP KR US); **C22C 38/04** (2013.01 - EP KR US); **C22C 38/06** (2013.01 - EP KR US); **C22C 38/08** (2013.01 - US);
C22C 38/10 (2013.01 - US); **C22C 38/105** (2013.01 - US); **C22C 38/12** (2013.01 - US); **C22C 38/14** (2013.01 - US); **C22C 38/16** (2013.01 - US);
C22C 38/18 (2013.01 - EP KR US); **C22C 38/20** (2013.01 - US); **C22C 38/22** (2013.01 - EP KR US); **C22C 38/24** (2013.01 - EP KR US);
C22C 38/26 (2013.01 - EP KR US); **C22C 38/28** (2013.01 - EP KR US); **C22C 38/30** (2013.01 - EP KR US); **C22C 38/32** (2013.01 - EP KR US);
C22C 38/38 (2013.01 - EP KR US); **C22C 38/40** (2013.01 - US); **C22C 38/42** (2013.01 - US); **C22C 38/44** (2013.01 - US);
C22C 38/46 (2013.01 - US); **C22C 38/48** (2013.01 - US); **C22C 38/50** (2013.01 - US); **C22C 38/52** (2013.01 - US); **C22C 38/54** (2013.01 - US);
B21D 22/022 (2013.01 - EP); **B21D 22/201** (2013.01 - EP US); **B21D 35/007** (2013.01 - EP US); **B32B 2255/06** (2013.01 - US);
B32B 2255/20 (2013.01 - US); **C21D 1/673** (2013.01 - EP US); **C21D 2211/005** (2013.01 - EP KR US); **Y10T 428/12611** (2015.01 - US);
Y10T 428/12667 (2015.01 - US); **Y10T 428/12757** (2015.01 - US); **Y10T 428/12958** (2015.01 - US); **Y10T 428/12965** (2015.01 - US);
Y10T 428/12972 (2015.01 - US); **Y10T 428/24942** (2015.01 - US); **Y10T 428/2495** (2015.01 - US)

Citation (search report)

See references of WO 2019068341A1

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 2019068341 A1 20190411; CN 111183026 A 20200519; EP 3691889 A1 20200812; KR 20200064109 A 20200605;
US 2020230917 A1 20200723

DOCDB simple family (application)

EP 2017075463 W 20171006; CN 201780095678 A 20171006; EP 17788137 A 20171006; KR 20207012328 A 20171006;
US 201716652790 A 20171006