

Title (en)

ELLIPTICAL DESIGN FOR HEXAGONAL SHANKS

Title (de)

ELLIPTISCHES DESIGN FÜR SECHSECKIGE SCHÄFTE

Title (fr)

CONCEPTION ELLIPTIQUE POUR TIGES HEXAGONALES

Publication

**EP 4047178 B1 20230913 (EN)**

Application

**EP 21157645 A 20210217**

Priority

EP 21157645 A 20210217

Abstract (en)

[origin: EP4047178A1] A rock drill component to form part of a drilling assembly, the rock drill component comprising: a main body; a hexagonal shank provided at one end of the rock drill component; a radially projecting shoulder positioned axially between the main body and the hexagonal shank; wherein there is a transition section increases in diameter in a direction from the hexagonal shank to the shoulder; wherein the cross-sectional shape profile of the outer surface of the transition section in the plane of the longitudinal axis comprises a segment of an ellipse having semi-major axis (a); a semi-minor axis (b) and an exponential factor (n) according to the equation:  $x^n + y^n = 1$  characterised in that the ratio of the semi-major to semi-minor axes (a:b) is within the range  $2b < a < 8b$ .

IPC 8 full level

**E21B 17/03** (2006.01); **E21B 17/04** (2006.01); **E21B 17/042** (2006.01)

CPC (source: EP)

**E21B 17/03** (2013.01); **E21B 17/042** (2013.01)

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

DOCDB simple family (publication)

**EP 4047178 A1 20220824**; **EP 4047178 B1 20230913**; WO 2022175378 A1 20220825

DOCDB simple family (application)

**EP 21157645 A 20210217**; EP 2022053920 W 20220217