

Title (en)  
FRICTION BOLT

Title (de)  
REIBROHRANKER

Title (fr)  
BOULON D'ANCRAGE PAR FRICTION TUBULAIRE

Publication  
**EP 2480760 A2 20120801 (DE)**

Application  
**EP 10744652 A 20100701**

Priority  
• AT 15012009 A 20090924  
• AT 2010000240 W 20100701

Abstract (en)  
[origin: WO2011035353A2] The invention relates to a tube (1) of a friction bolt having an outer part (3) and an inner part (5) folded inward and a gap (7) extending in the longitudinal direction of the tube (1), at which gap the outer part (3) transitions into the inner part (5) of the tube (1). The lateral wall areas (9) of the inner part (5) are flat and have a shape in which the free space between the outer part (3) and the inner part (5) is substantially lenticular as in known tubes. Moreover, the bottom (15) of the inner part (5) lies against the outer part (3) of the tube (1), and the weld (13) is arranged at a lateral offset from the plane of symmetry (11) as the area where the bottom (15) lies against the outer part (3) of the tube (1). Finally, the radii of curvature (R3) in the area of the transitions (4) from the outer part (3) of the tube (1) into the inner part (5) of the tube (1) are greater than in known tubes of this type.

IPC 8 full level  
**E21D 21/00** (2006.01)

CPC (source: EP KR US)  
**E21D 20/00** (2013.01 - KR); **E21D 21/00** (2013.01 - KR); **E21D 21/004** (2013.01 - EP US); **E21D 21/0073** (2016.01 - EP US)

Citation (search report)  
See references of WO 2011035353A2

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 SE SI SK SM TR

Designated extension state (EPC)  
RS

DOCDB simple family (publication)  
**WO 2011035353 A2 20110331**; **WO 2011035353 A3 20120503**; AT 508761 A4 20110415; AT 508761 B1 20110415; AU 2010300076 A1 20120419; BR 112012007428 A2 20161213; CA 2772637 A1 20110331; CL 2010000741 A1 20110916; CN 102597423 A 20120718; EP 2480760 A2 20120801; IL 218151 A0 20120628; JP 2013506064 A 20130221; KR 20120081162 A 20120718; RU 2012116352 A 20131027; RU 2533389 C2 20141120; US 2012308310 A1 20121206; US 8651769 B2 20140218; ZA 201201328 B 20130529

DOCDB simple family (application)  
**AT 2010000240 W 20100701**; AT 15012009 A 20090924; AU 2010300076 A 20100701; BR 112012007428 A 20100701; CA 2772637 A 20100701; CL 2010000741 A 20100712; CN 201080042398 A 20100701; EP 10744652 A 20100701; IL 21815112 A 20120216; JP 2012530048 A 20100701; KR 20127009967 A 20100701; RU 2012116352 A 20100701; US 201013497355 A 20100701; ZA 201201328 A 20120222