

Title (en)  
PROTECTIVE WEAR SLEEVE FOR CUTTING ELEMENT

Title (de)  
VERSCHLEISSSCHUTZHÜLSE FÜR SCHNEIDELEMENT

Title (fr)  
MANCHON D'USURE PROTECTEUR POUR ÉLÉMENT DE COUPE

Publication  
**EP 3207216 A4 20180725 (EN)**

Application  
**EP 15851034 A 20151013**

Priority  
• US 201462065400 P 20141017  
• US 2015055336 W 20151013

Abstract (en)  
[origin: WO2016061105A1] A protective wear sleeve for a cutting tool assembly that includes a solid body that has a shaft portion, a radial collar portion, and a central bore that defines a central axis. The shaft has a forward end and a rearward end, wherein the radial collar is integral with the forward end. The radial collar has a ring support surface that faces at least partially in an outward radial direction. The forward end of the shaft and the radial collar together define a tooth support surface that faces in a forward direction and has an outer diameter. At least one wear ring is disposed on the ring support surface and extends around the radial collar. The at least one wear ring has a hardness greater than that of the radial collar and has an outer diameter greater than that of the outer diameter of the tooth support surface.

IPC 8 full level  
**E21C 35/18** (2006.01); **E02F 3/64** (2006.01); **E02F 3/815** (2006.01); **E02F 9/28** (2006.01); **E21C 35/183** (2006.01); **E21C 35/19** (2006.01); **E21C 35/197** (2006.01)

CPC (source: EP US)  
**E02F 9/2825** (2013.01 - EP US); **E02F 9/2841** (2013.01 - EP US); **E02F 9/2866** (2013.01 - EP US); **E21C 35/18** (2013.01 - EP US); **E21C 35/19** (2013.01 - EP US); **E21C 35/197** (2013.01 - US); **E02F 9/28** (2013.01 - US); **E02F 9/2816** (2013.01 - US); **E21C 35/183** (2013.01 - US); **E21C 35/188** (2020.05 - US)

Citation (search report)  
• [XYI] US 2008035386 A1 20080214 - HALL DAVID R [US], et al  
• [Y] US 2007290547 A1 20071220 - HALL DAVID R [US], et al  
• [A] WO 2005093214 A1 20051006 - SANDVIK INTELLECTUAL PROPERTY [SE], et al  
• [A] US 2005035649 A1 20050217 - MERCIER GREGORY DAVID [US], et al  
• See references of WO 2016061105A1

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)  
**WO 2016061105 A1 20160421**; **WO 2016061105 A9 20160519**; EP 3207216 A1 20170823; EP 3207216 A4 20180725;  
US 2017254201 A1 20170907

DOCDB simple family (application)  
**US 2015055336 W 20151013**; EP 15851034 A 20151013; US 201515519744 A 20151013