

Title (en)

PROTECTIVE ELEMENT WITH DRAINAGE, FOR CONNECTING TO A CONCRETE ELEMENT OF A TUNNEL EXTENSION

Title (de)

SCHUTZELEMENT ZUM VERBINDEN MIT EINEM BETONELEMENT EINES TUNNELAUSBAUS MIT DRAINAGE

Title (fr)

ÉLÉMENT DE PROTECTION DESTINÉ À ÊTRE RELIÉ À UN ÉLÉMENT EN BÉTON D'UNE CONSTRUCTION DE TUNNEL PRÉSENTANT UN DRAINAGE

Publication

EP 3146156 A1 20170329 (DE)

Application

EP 16741235 A 20160715

Priority

- DE 102015009063 A 20150716
- EP 2016001245 W 20160715

Abstract (en)

[origin: WO2017008913A1] The invention relates to a protective element for connecting to a concrete element of a tunnel extension, which has a protective section having a first side facing the concrete element (10), on which first side at least one connecting element (17) is provided for establishing a retaining connection of the protective section to the concrete element (10), wherein the protective section is made from at least one plastic material, characterized in that the protective section (20) has at least one drainage element (40) through which a fluid can pass from the first side of the protective section (20) to the opposite side of the protective section (20) facing away from the concrete element (10).

IPC 8 full level

E21D 11/08 (2006.01); **E04C 1/41** (2006.01); **E21D 11/38** (2006.01)

CPC (source: EP US)

E21D 9/0607 (2013.01 - US); **E21D 11/08** (2013.01 - EP); **E21D 11/38** (2013.01 - EP); **E04B 2002/0265** (2013.01 - EP US);
E04B 2002/0286 (2013.01 - EP US); **E21D 11/08** (2013.01 - US); **E21D 11/38** (2013.01 - US)

Citation (search report)

See references of WO 2017008913A1

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 2017008913 A1 20170119; CA 2992503 A1 20170119; CA 2992503 C 20200331; CN 107923244 A 20180417; CN 107923244 B 20200522;
EP 3146156 A1 20170329; EP 3146156 B1 20180103; ES 2667246 T3 20180510; NZ 745650 A 20200424; SG 11201800377Y A 20180227;
US 10830043 B2 20201110; US 2019309625 A1 20191010

DOCDB simple family (application)

EP 2016001245 W 20160715; CA 2992503 A 20160715; CN 201680046630 A 20160715; EP 16741235 A 20160715; ES 16741235 T 20160715;
NZ 74565016 A 20160715; SG 11201800377Y A 20160715; US 201615742851 A 20160715