

Title (en)

ARMOR AGAINST LASER RADIATION

Title (de)

LASERPANZERUNG

Title (fr)

BLINDAGE DE PROTECTION CONTRE LE LASER

Publication

EP 3019813 B1 20180627 (DE)

Application

EP 14747809 A 20140708

Priority

- DE 102013107365 A 20130711
- DE 2014100237 W 20140708

Abstract (en)

[origin: WO2015003690A1] The invention relates to an armor against laser radiation for protecting an object (10) against laser weapons by means of an armor element (2), a cooling system (3) being provided for dissipating the heat that has been introduced into the armor element (2) by the laser weapons. The invention further relates to a method for protecting an object (10) against laser weapons and to a vehicle having an armor against laser radiation.

IPC 8 full level

F41H 3/00 (2006.01); **F41H 5/00** (2006.01)

CPC (source: EP)

F41H 3/00 (2013.01); **F41H 5/00** (2013.01)

Citation (opposition)

Opponent : Rheinmetall Waffe Munition GmbH

- DE 102009040661 A1 20110310 - RHEINMETALL WAFFE MUNITION [DE]
- FR 2719660 A1 19951110 - GIAT IND SA [FR]
- US 5080165 A 19920114 - ENGELHARDT MICHEL [US]
- US 2006147710 A1 20060706 - ROCKENFELLER UWE [US], et al
- US 6016232 A 20000118 - LEIB KENNETH G [US]
- US 4190327 A 19800226 - HUGHES RICHARD S [US]
- DE 3842115 A1 19900621 - HELD MANFRED DR [DE]
- DE 4210415 A1 20090226 - DEUTSCH FRANZ FORSCH INST [FR]
- DE 3836014 A1 19960502 - DIEHL GMBH & CO [DE]
- US 2012256045 A1 20121011 - GAGNE STEVEN [US]
- US 6014274 A 20000111 - LEIB KENNETH G [US]
- DE 19940476 A1 20010426 - MESSER CUTTING & WELDING AG [DE]
- DE 102008016856 A1 20091015 - TRAUTMANN ANDREAS [DE]
- DE 69427319 T2 20020502 - RAYTHEON CO [US]
- DE 102006036500 B3 20080221 - FRAUNHOFER GES FORSCHUNG [DE]
- US 2009184859 A1 20090723 - KLEIN JOHN FREDEICK [US]
- DE 102004012563 A1 20051110 - RHEINMETALL LANDSYSTEME GMBH [DE]
- DE 102005030517 A1 20060223 - COOLIGY INC [US]
- DE 69016770 T2 19950914 - GRUMMAN AEROSPACE CORP [US]
- DE 69635449 T2 20060713 - ALHAMED GHALEB MOHAMED YASSIN [US]
- DE 69726125 T2 20040708 - AUBURN UNIVERSITY AUBURN [US]
- DE 10230939 A1 20040212 - BUCK NEUE TECHNOLOGIEN GMBH [DE]
- DE 4007973 A1 19910919 - MOURAD SELIM DIPL ING [DE]
- DE 10250132 A1 20040513 - GEKE TECHNOLOGIE GMBH [DE]
- DE 19642091 A1 19970417 - PILKINGTON THORN OPTRONICS LTD [GB]

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)

DE 102013107365 A1 20150115; DE 102013107365 B4 20150212; DE 102013107365 C5 20210325; EP 3019813 A1 20160518;
EP 3019813 B1 20180627; EP 3019813 B2 20211201; ES 2683387 T3 20180926; ES 2683387 T5 20220322; WO 2015003690 A1 20150115

DOCDB simple family (application)

DE 102013107365 A 20130711; DE 2014100237 W 20140708; EP 14747809 A 20140708; ES 14747809 T 20140708