

Title (en)  
COMPOSITE ARMOR PLATE

Title (de)  
VERBUNDPANZERPLATTE

Title (fr)  
BLINDAGE COMPOSITE

Publication  
**EP 1080337 A1 20010307 (EN)**

Application  
**EP 99921114 A 19990516**

Priority  
• IL 9900260 W 19990516  
• IL 12454398 A 19980519

Abstract (en)  
[origin: EP0959321A1] The invention provides a composite armor plate (10; 22) for absorbing and dissipating kinetic energy from high velocity projectiles, the plate comprising a single internal layer of pellets (14; 24) which are directly bound and retained in plate form by a solidified material (16) such that the pellets are bound in a plurality of adjacent rows, characterized in that the pellets (14; 24) have a specific gravity of at least 2 and are made of a material selected from the group consisting of glass, sintered refractory material, ceramic material which does not contain aluminium oxide and ceramic material having an aluminium oxide content of not more than 80%, the majority of the pellets each have at least one axis of at least 3 mm length and are bound by the solidified material in the single internal layer of adjacent rows such that each of a majority of the pellets is in direct contact with at least 4 adjacent pellets in the same layer to provide mutual lateral confinement therebetween, the pellets each have a substantially regular geometric form and the solidified material and the plate are elastic. <IMAGE>

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IPC 8 full level  
**F41H 5/04** (2006.01)

CPC (source: EP)  
**F41H 5/0414** (2013.01); **F41H 5/0492** (2013.01)

Citation (search report)  
See references of WO 9960327A1

Citation (third parties)  
Third party :  
• US 3523057 A 19700804 - BUCK NORMAN R  
• EP 0699887 A2 19960306 - A F H INVESTMENT LTD [VG]  
• US 4061815 A 19771206 - POOLE JR ROBERT E J  
• LAIBLE R.C.: "BALLISTIC MATERIALS AND PENETRATION MECHANICS", 1980, ELSEVIER SCIENTIFIC PUBLISHING COMPANY, article  
LAIBLE R.C.: "CERAMIC COMPOSITE ARMOR", pages: 135 - 140, XP002954274  
• Brochure from Diamonite Products USA 'Technical Ceramics'  
• ALCOA INDUSTRIAL CHEMICALS Product Data: 'Highly Pre Sintered Alpha Alumina Especially Useful as Inert Catalyst Bed Supports', Pages 1 - 3  
• KO F.K.: "BEHAVIOR OF GRADIENT DESIGNED COMPOSITE UNDER BALLISTIC IMPACT", PROCEEDINGS OF ICCM-11, 14 July 1997  
(1997-07-14) - 18 July 1997 (1997-07-18), GOLD COAST, AUSTRALIA, pages 1 - 10, XP002976629

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