Title (en)

COMPOSITE MATERIALS AND STRUCTURES

Title (de)

VERBUNDWERKSTOFFE UND STRUKTUREN

Title (fr)

MATÉRIAUX COMPOSITES ET STRUCTURES

Publication

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Application

EP 21907356 A 20210628

Priority

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Abstract (en)

[origin: WO2022132228A1] Described herein are details for designing and manufacturing enhanced shock and impact resistant helicoidal lay-ups by combining nanomaterials, variable pitch and partial spirals, Thin unidirectional fiber plies, hybrid materials, and/or curved fibers within a ply. The helicoidal structures created in the prescribed manners can be tuned and pitched to desired wavelengths to dampen propagating shock waves initiated by ballistics, strike forces or foreign material impacts and can arrest the propagation of fractures including catastrophic fractures. These enhancements open the helicoidal technology up for use in such applications as consumer products, protective armor, sporting equipment, crash protection devices, wind turbine blades, cryogenic tanks, pressure vessels, battery casings, automotive/aerospace components, construction materials, and other composite products.

IPC 8 full level

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Citation (search report)

See references of WO 2022132228A1

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