

**TITLE OF THE INVENTION: A CONDUCTIVE COMPOSITE MATERIAL AND
SYNTHETIC FIBRE UNIT**

ABSTRACT

5 Described herein is a composite material and a synthetic fibre unit. The composite material has a plurality of conductive layers, each conductive layer comprises a substrate layer and an electrical conducting element attached to the substrate layer, at least one elastic layer attached between two adjacent conductive layers of the plurality of conductive layers to form a stack of layers, an electrical
10 connection inlet, an electrical connection outlet, and a plurality of intermediate electrical connectors arranged to allow the electrical connection inlet and the electrical connection outlet to be electrically connected to each of the electrical conducting element of the plurality of conductive layers in a parallel circuit arrangement. The synthetic fibre unit contains the composite material, an outer
15 elastic cover to wrap around the composite material, and a support structure to attach the outer elastic cover to the stack of layers.

[FIG. 2]