

Title (en)
COMPOSITE MATERIAL, METHODS FOR THE PRODUCTION THEREOF AND ITS USE

Title (de)
KOMPOSITWERKSTOFF, VERFAHREN ZU DESSEN HERSTELLUNG UND DESSEN VERWENDUNG

Title (fr)
MATERIAU COMPOSITE, SON PROCEDE DE PRODUCTION ET SON UTILISATION

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Abstract (en)
[origin: WO02089228A2] The invention relates to a composite material (5) comprising a first and a second constituent (11, 12) that are interconnected with material fit. The first constituent (11) behaves like a piezoelectric material, and the second constituent (12) behaves like a magnetoelastic material. The composite material is especially well-suited for use in a sensor element or in an actuator element, for example, a rotational-speed sensor, current sensor, torque sensor, force sensor or a passive sensor element. The invention also relates to methods for producing the composite material. A first method involves the compaction and sintering of a powder mixture, which consists of a first powder containing the first constituent (11) and of a second powder containing the second constituent (12). A second method involves the application of a coating containing one of the two constituents (11, 12) onto nanoscalar powder particles containing the other respective constituent (11, 12). A third method involves the creation of a layer (13, 14) containing one of both constituents (11) by sputter deposition or vapor deposition on a substrate, and a layer (13, 14) containing the other respective constituent is subsequently applied to this layer (13, 14).

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