

Title (en)
COMPONENT COMPRISING A DETECTION STRUCTURE FOR MECHANICAL DAMAGE

Title (de)
BAUTEIL MIT EINER ERFASSUNGSSTRUKTUR FÜR MECHANISCHE BESCHÄDIGUNGEN

Title (fr)
COMPOSANT COMPORTANT UNE STRUCTURE DE DÉTECTION DE DÉGÂTS MÉCANIQUES

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Application
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Abstract (en)
[origin: WO2008031792A1] The invention relates to a component (11) which is made of electrically insulating material and comprises a detection structure for mechanical damage such as cracks (18), said detection structure being embodied as a conductor (14a, 14b, 14c). The electrical properties of the detection device are modified as more and more cracks are formed (arrow 20) such that the component (11) can be replaced in time before breaking. According to the invention, the electrical conductor is formed by particles that are in contact with each other and have a metallic surface such that an electrical conductor is created which, advantageously, is particularly sensitive to mechanical damage, thus rendering the detection structure (14a, 14b, 14c) highly sensitive. Furthermore, if the metallic surface is produced merely by cladding the particles while the inside of the particles is made of the same material as the component (11), a conductor featuring an adapted thermal expansion behavior can be created for components (11) that are subject to great thermal stress, e.g. heat shield panels.

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