

Title (en)  
ACOUSTIC METAMATERIAL AND PROCESS FOR MANUFACTURING THE SAME

Title (de)  
AKUSTISCHES METAMATERIAL UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)  
MÉTAMATÉRIAU ACOUSTIQUE ET SON PROCÉDÉ DE FABRICATION

Publication  
**EP 4030420 B1 20230607 (EN)**

Application  
**EP 21382026 A 20210115**

Priority  
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Abstract (en)  
[origin: EP4030420A1] An acoustic metamaterial, which comprises at least one resonating layer (2a, 2b) made of a single material having a constant resonating thickness ( $t_{<sub>2</sub>}$ ) and a plurality of resonating unit cells (20); wherein each resonating unit cell (20) comprises a resonating opening (21) and a resonating element (22) extending into said resonating opening (21); wherein the resonating elements (22) are coplanar to the resonating layer (2a, 2b), having said resonating layer (2a, 2b) and said resonating elements (22) the same constant resonating thickness ( $t_{<sub>2</sub>}$ ). A process for manufacturing an acoustic metamaterial, comprising the steps of laminating a solid single material to obtain an unfinished resonating layer of a constant resonating thickness ( $t_{<sub>2</sub>}$ ); and die cutting the unfinished resonating layer to obtain a resonating layer (2a, 2b) having a plurality of resonating unit cells (20).

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