

Title (en)
CERAMIC ELEMENT COMPRISING A HOMOGENEOUS CERAMIC LAYER, AND METHOD FOR THE PRODUCTION OF SAID CERAMIC ELEMENT

Title (de)
KERAMISCHER KÖRPER MIT EINER HOMOGENEN KERAMIKSCHICHT UND VERFAHREN ZUM HERSTELLEN DES KERAMISCHEN KÖRPERS

Title (fr)
CORPS CERAMIQUE COMPRENANT UNE COUCHE CERAMIQUE HOMOGENE ET PROCEDE DE PRODUCTION DE CE CORPS

Publication
EP 1537611 A1 20050608 (DE)

Application
EP 03750280 A 20030820

Priority
• DE 0302776 W 20030820
• DE 10241731 A 20020911

Abstract (en)
[origin: WO2004027888A1] The invention relates to a ceramic element (1) comprising at least one substantially homogeneous ceramic layer (2) which is provided with a plurality of superimposed partial ceramic layers (4). Said ceramic element can be produced by stacking partial homogeneous ceramic layers on top of each other in the form of ceramic green films, removing the binding agent, and sintering, for example. The inventive ceramic element can be compacted at a lower sintering temperature than conventional block sinters. Moreover, the ceramic layer of the ceramic element is provided with a low number of pores, enclosures, foreign phases, and other flaws and is highly homogeneous. The ceramic element particularly represents a piezoelectric bending transducer (12) or a piezoelectric transformer (11). Advantageously, said bending transducer or transformer comprises electrodes (8) so as to be electrically triggered, the electrodes (8) being buried underneath another ceramic layer (13). The additional ceramic layer and/or the electrode layer are used as a diffusion barrier. The homogeneous ceramic layer does not become poor in highly volatile components during sintering while moisture is prevented from diffusing into the homogeneous ceramic layer during use in a humid environment.

IPC 1-7
H01L 41/24; C04B 35/491

IPC 8 full level
H10N 30/50 (2023.01); **H10N 30/072** (2023.01); **H10N 30/093** (2023.01); **H10N 30/097** (2023.01); **H10N 30/853** (2023.01); **H10N 30/20** (2023.01); **H10N 30/40** (2023.01)

CPC (source: EP US)
B32B 18/00 (2013.01 - EP US); **H10N 30/097** (2023.02 - EP US); **H10N 30/883** (2023.02 - EP US); **B32B 2315/02** (2013.01 - EP US); **C04B 2235/656** (2013.01 - EP US); **C04B 2237/348** (2013.01 - EP US); **C04B 2237/62** (2013.01 - EP US); **C04B 2237/68** (2013.01 - EP US); **C04B 2237/704** (2013.01 - EP US); **H10N 30/204** (2023.02 - EP US); **H10N 30/40** (2023.02 - EP US); **Y10T 428/24926** (2015.01 - EP US)

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
WO 2004027888 A1 20040401; EP 1537611 A1 20050608; JP 2006512750 A 20060413; US 2005249928 A1 20051110

DOCDB simple family (application)
DE 0302776 W 20030820; EP 03750280 A 20030820; JP 2004536830 A 20030820; US 52715805 A 20050309