

Title (en)  
Frequency-selective laminated ultrasound transducer

Title (de)  
Frequenzselektiver Ultraschall-Schichtwandler

Title (fr)  
Transducteur stratifié d'ultrason à sélectivité de fréquence

Publication  
**EP 0451306 B1 19970716 (DE)**

Application  
**EP 90106773 A 19900409**

Priority  
EP 90106773 A 19900409

Abstract (en)  
[origin: EP0451306A1] For certain applications, for example in glass fracture detection, it is of advantage to use frequency-selective ultrasonic transducers. In this case, it is not necessary to connect elaborate follow-up filter arrangements for filtering out relevant frequency components of the recorded ultrasonic spectrum. A laminated ultrasonic transducer which has high response sensitivity for particular frequencies to be specified can be created by at least one of its geometric dimensions being specifically adapted to the frequency selectivity required from it. The laminated ultrasonic transducer preferably has a piezoceramic platelet (1) which is surrounded by a layer (2) of low acoustic impedance on at least one of its two plate surfaces. The piezoceramic platelet (1) is suitably rectangular, resulting in a cuboid body. One of the dimensions of height, length and width is determined in such a manner that it corresponds to a desired fundamental frequency of oscillation. <IMAGE>

IPC 1-7  
**G10K 9/12**

IPC 8 full level  
**G01N 29/24** (2006.01); **B06B 1/06** (2006.01); **G10K 9/122** (2006.01); **H04R 17/00** (2006.01)

CPC (source: EP US)  
**B06B 1/067** (2013.01 - EP US); **G10K 9/122** (2013.01 - EP US)

Cited by  
CN113504307A; DE4431511B4; WO9910874A1

Designated contracting state (EPC)  
AT CH DE FR GB IT LI

DOCDB simple family (publication)  
**EP 0451306 A1 19911016**; **EP 0451306 B1 19970716**; AT E155601 T1 19970815; DE 59010738 D1 19970821; JP H04227399 A 19920817; US 5457353 A 19951010

DOCDB simple family (application)  
**EP 90106773 A 19900409**; AT 90106773 T 19900409; DE 59010738 T 19900409; JP 10037391 A 19910405; US 30152194 A 19940907