

Title (en)  
GLASS CERAMIC MASS AND CERAMIC ARTICLE

Title (de)  
GLASKERAMIKMASSE UND KERAMIKKÖRPER

Title (fr)  
MASSE VITROCERAMIQUE ET ARTICLE CERAMIQUE

Publication  
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Application  
**EP 01967053 A 20010831**

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Abstract (en)  
[origin: WO0218285A1] The invention relates to a glass ceramic mass, comprising at least one oxide ceramic, containing barium, titanium and at least one rare earth metal  $Re_k$  and at least one glass material, containing at least one oxide with boron and at least one oxide of a rare earth metal  $Re_k$ . The glass material further contains either an oxide of a tetravalent metal  $Me_4^{+}$ , or at least one oxide of a pentavalent metal  $Me_5^{+}$ . A compression of the glass ceramic mass occurs above all by viscous flow. A low vitrification temperature can thus be achieved. Crystallisation products are produced during and/or after the compression. The rare earth oxide and the crystallisation products can be used to pre-determine each of a dielectric material property of the glass ceramic mass in a wide range such as permittivity (15 - 80), Q (350 - 5000) and  $T_f$  value (+/- 20 ppm/K). The glass ceramic mass is characterised by a vitrification temperature of below 850 DEG C and can thus find application in LTCC (low temperature cofired ceramics) technology for the integration of a passive electrical component in the volume of a ceramic multi-layer body. Suppression of a lateral shrinkage may be achieved in a composite with a ceramic film blank made from another ceramic material compressed at a higher temperature.

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EBERSTEIN M. ET AL: "ADJUSTMENT OF DIELECTRIC PROPERTIES OF GLASS CERAMIC COMPOSITES VIA CRYSTALLIZATION", GLASS SCIENCE AND TECHNOLOGY, DEUTSCHE GLASTECHNISCHE GESELLSCHAFT, OFFENBACH, DE, vol. 73, no. C01, 1 January 2000 (2000-01-01), pages 370 - 373, XP008047391, ISSN: 0946-7475

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