

**COMPOSITE SOLDER GLASS WITH REDUCED MELTING TEMPERATURE,
FILING MATERIAL FOR SAME AND METHODS OF USING SAME**

ABSTRACT OF THE DISCLOSURE

An improved filling material for a composite solder glass based on doped PbTiO_3 with a lower melting temperature is disclosed, in which up to 35 atom % of the Pb atoms and up to 35 % Ti atoms are replaced by Mg and/or Ca and a
5 portion of O atoms in the doped PbTiO_3 is replaced with halogen atoms, preferably fluorine. This filling material and composite solder glasses containing it are useful for hermetic sealing, soldering and/or coating of individual components made of glass material, glass-ceramic material, ceramic material and metal in the manufacturing of components and devices for electrical engineering and
10 electronics, for hermetic encapsulation of electronic components, vacuum-tight seals or closures of display tubes or for display devices. They are also useful for coating and bonding of special glasses. The filling material can be made by reaction sintering of a powder mixture at temperatures of 800°C to 1250°C.