

**BaTiO₃ FERROELECTRIC CERAMICS SINTERED
AT LOW TEMPERATURE WITH THE AID
OF A MIXTURE OF CaF₂ AND LiF.**

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A mixture of CaF₂ and LiF has been used in view to sinter BaTiO₃ at low temperature. A new solid solution has been thus obtained at 930°C for 2 hours. Mixing, grinding and heating are performed in air atmosphere for various starting compositions [(1-x)BaTiO₃ + x CaF₂ + x LiF]. The solid solution occurs in the $0 \leq x \leq 0.10$ composition range. The composition dependence of the unit cell parameters has been determined. The sintering conditions have been optimized. The shrinkage coefficient increase with the rate of fluorine content. Dielectric measurements performed at low frequency on ceramic samples show a decrease of the ferroelectric Curie temperature T_C with rising x: T_C varies from 393 K (x = 0) to 260 K (x = 0.10). The ferroelectric phase transition is diffuse. The high values of permittivity associated with the low values of $\tan \delta$ give to these ceramics an interest in the field of multilayer capacitors.