

Characteristics of Bi2212 Round Cable Depending on Heat Treatment Conditions

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We have studied electric characteristics of Bi2212 round cable depending on different heat treatment conditions. Bi2212 powder was initially characterized by TGA-DTA to examine the thermodynamic behavior. Cable was drawn after routine PIT process. Cable was divided into 3 pieces with 10 cm in length. The typical diameter of cable was about 2.5mm. 3 cables were heat treated separately by different schedules, such as centrifugally melted, melted in furnace and normal sintering. Pre-heated cables were annealed at 840 °C for 80 hours in oxygen atmosphere. For the structural analysis and phase identification XRD method was employed and microstructure was observed by SEM. T_c and I_c were measured for electric characteristics.

keywords : Bi2212, PIT, heat treatment condition.