

## New MOD Approach for YBCO Coated Conductor on the IBAD-MgO Template

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High performance YBCO coated conductor (CC) on the IBAD-MgO template has been realized via metal-organic deposition (MOD) approach with non-fluorine Y & Cu precursor materials but trifluoroacetate (TFA) for Ba element. The total calcination time could be reduced only to 1 h, and the cracking problem of thicker YBCO films prepared by the conventional TFA-MOD method could be avoided. The precursor solutions were coated on the metal substrates using the multiple dip-coating methods. Dip-coated gel films were calcined by the heat treatment up to 500°C in humidified oxygen, fired at high temperatures with various holding time in a reduced oxygen atmosphere. The high performance film with critical temperature ( $T_c$ ) of 90 K and critical current density ( $J_c$ ) over 1 MA/cm<sup>2</sup> at 77.3 K for 1 μm YBCO CC on the IBAD-MgO template were obtained through optimization of the holding time at firing temperature. The correlation of the processing parameters and superconducting properties of YBCO CC will be discussed in this paper.

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