

Magnetization, susceptibility and critical currents of $(Tl_{1.85}Re_{0.15})Ba_2CaCu_2O_y$ thin films

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The magnetization and the *a.c.* susceptibility versus temperature as well as the applied magnetic field of a $Tl_{1.85}Re_{0.15}Ba_2CaCu_2O_y$ thin film on *R*-plane sapphire substrate with CeO₂ buffer layer were measured and analyzed. The results were compared with the rhenium free film on the same substrate. XRD measurements show *c*-axis as well as a - b plane oriented Tl-1212 superconducting phase. The zero resistance critical temperature is 98.8 K. The critical current densities versus temperature were calculated using the Bean's critical state model. Susceptibility data were analyzed within the Ginzburg-Landau strong coupling limit approach.