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# The Influence of heat treatments on NbTi/Cu superconducting filaments

Different performances are required for NbTi/Cu Superconducting materials for different magnets. The proper heat treatment scenario plays an important role on the performance of NbTi/Cu superconducting strands. The aim of heat treatment is to generate α-Ti pinning phase which can improve Jc. Different heat treatment strain, duration time and times directly affect Jc. But the heat treatment also may cause the Cu-Ti particles formed on the surface of filament, which is harmful to filament stretch and final performance of strand. So under the condition of meeting the performance, it is very necessary to choose a proper heat treatment terms. This research focuses on the influence of 3 different heat treatment scenario on the Cu-Ti component particles and the performance. The results show that the decrease of HT total time and times can reduce the Cu-Ti component particles. So it is possible to reduce the HT times and total time under the condition of required performance.

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