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Optimization of the react and wind coil manufacturing process using MgB2 twisted cable

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Generally, the wind and react process is used to manufacture MgB2 coil. The react temperature is relatively high, around 650 ℃, and this may increase the magnetic field inhomogeneity as a result of the distortion of the winding former. To solve this problem, Kiswire Advanced Technology has developed a twisted cable with fine MgB2 strands that can be wound after heat treatment. In this study, we developed optimized processes that can prevent damage to the MgB2 cable during winding and termination. The charging characteristics of the manufactured coil were evaluated at the temperature of liquid helium.

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