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High Energy Milled Ex situ MgB₂ for Tapes and Wires

By Anna Kario

Cuvillier Verlag Mai 2011, 2011. Taschenbuch. Book Condition: Neu. 211x147x12 mm. Neuware - 1. The optimum solution for the difficulties during conductor deformation was to use the ex situ precursor powder which is not sensitive to heat treatments in the range of temperatures needed for the working stress release of the sheath metal. Two different ex situ powders are studied: homemade ex situ (based on mechanically alloyed in situ powder) and commercial powder with reduced crystallite size achieved by high energy ball milling. 2. As the first approach, ex situ powder is prepared using mechanical alloying. A detailed phase analysis shown secondary phases, such as MgO and MgB_{4+x}. A high critical current density for unsintered tapes and wires was obtained. It is observed that non of the applied final heat treatments of the conductors improve their superconducting properties. It is assumed that, heat treatments influence the crystallite size which is explained by MgO at the grain boundaries blocking grain growth. Additional milling or chemical treatment of the powder to clean the grains is needed to accomplish a smaller particle size. However, if medium J_c values are sufficient, the MA in-ex situ powder is an interesting precursor powder for conductors needed...



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Reviews

Very useful to all group of folks. This really is for all who statte there was not a worthy of reading. I am very happy to explain how this is the best pdf i have study inside my personal life and can be he greatest book for actually.

-- **Marcelle Homenick**

This publication is fantastic. It really is full of knowledge and wisdom You are going to like just how the author write this publication.

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