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Production and Development of REBCO (2G-HTS) Conductors

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The potential applications of Rare-Earth Barium Copper Oxide (REBCO), Second-Generation High-Temperature Superconductors (2G-HTS), have been demonstrated in many projects for the last several years. This indicates the REBCO conductor is now being considered a robust and feasible solution for advanced devices and systems for a wide range of technologies. Efforts have focused on stabilizing and controlling processes to meet the requirements of high performance and large scale deployments.

This paper describes recent approaches to produce accomplished REBCO conductors with better performance and quality for industrial applications. Recent production improvements have delivered longer and more consistent conductor. Targeting in-field performance based on specific industry requirements and monitoring run to run consistency. Routine I_c - B - T - Θ performance and mechanical measurements benchmark process stability and control. Ongoing work to understand and requirements beyond 77K SF I_c to enhance processes for excellent performance and consistency across all critical demands conductor must meet.

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