Advances in Nb_3Sn Performance

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The status of background knowledge for the manufacture of very high current density Nb_3Sn wires is discussed. An overview is presented on the influence of compositional variations, morphology, and strain, on the transport properties of Nb_3Sn. It is shown how various modern conductor processes utilize this background information to develop commercial unit length Nb_3Sn wires that can carry 2000 to 3000 A/mm^2 at 12 T and 4.2 K in small filaments. The latest results are presented from companies that target the commercial market for Nb_3Sn wires. The presentation concludes with an outlook on future methods to further increase the current carrying capacity in Nb_3Sn wires.

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