

Coated Conductors – properties and challenges from the view of industrial use

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Abstract: Today, a number of manufacturers are available to be considered as suppliers for long length coated conductors. Not only the architecture of the tapes is varying, but also several properties relevant for the performance in applications, especially in power technology. Coated conductors due to their layered architecture offer some degrees of freedom to tailor the tapes to the application. Engineering critical current density at operating conditions, mechanical properties in several directions, homogeneity, stabilization, insulation, ac-loss (depending on the application) and available unit lengths are crucial to design a power device with outstanding performance - as required to introduce superconducting technology into such dynamic markets.

This contribution reports on several aspects and mandatory properties of coated conductors for selected specific applications. We will identify the most important fields of improvement which should be addressed.