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Common Coil Design for Various Applications*

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The common coil design is attractive for 2-in-1 dipoles because it offers a geometry that is suitable for dealing with the large Lorentz forces associated with high fields and provides a conductor friendly geometry for winding coils with brittle materials (HTS, Nb3Sn). This paper will present field quality common coil designs at various field levels and compare the conductor requirements with other designs. The paper will also present the impact of improvements in conductor performance.

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