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Abstract



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Superconducting cable and method for the production thereof

The invention relates to a superconducting hollow cable and to a method for the production thereof. The superconducting hollow cable (1) has an outer tube (2) which has a circular inner cross-section and a cylindrical inner wall (3). In addition, the superconducting hollow cable (1) has a central cooling channel (4) of a polygonal or circular cross-section that is, however, smaller than the inner cross-section of the outer tube (2). Arranged between the outer tube (2) and the cooling channel (4) are profiled superconducting wires (5). These profiled superconducting wires (5) have a cross-sectional profile which corresponds to a key stone as known for Roman stone bridges or for groin vaults. For the purpose, the cross-sectional profile has at least one outer region (7) of curvature and an inner region (8), the outer region (7) of curvature being matched to the inner radius of the outer tube (2) and the inner region (8) being matched to the cooling channel (4). The side edges (12, 13) too can be profiled either rectilinearly towards the centre-point (11) of the cooling channel (4) or by means of an offset from that rectilinearity.

[Figure 1]