

- HIGH TEMPERATURE SUPERCONDUCTORS HTS

BHTS pilot-line production



- BHTS pilot-line plant with more than 2000sqm operation area, located in the Industrial Park North, Röntgenstr. 9, 63755 Alzenau, Germany
- Manufacturing of HTS coated conductors tailored for its application at ultra-high magnetic fields at intermediate and low temperatures
- Processing route based on vacuum coating technology (e.g. Pulsed Laser Deposition) with a current maximum capacity for 4 mm wide HTS tapes of 25 km p.a. (ramp-up to 100 km p.a. possible within the plant)
- Comprehensive testing devices for quality control including I_c in field measurement @ 4.2 K

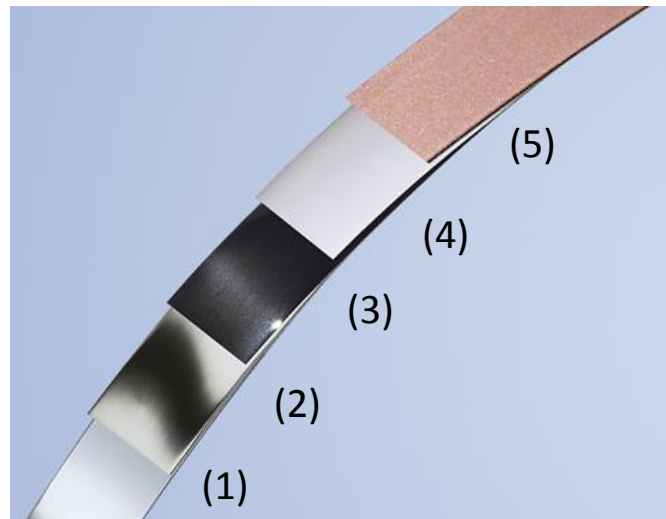


- **HIGH TEMPERATURE SUPERCONDUCTORS HTS**

HTS coated conductors

Standard tape configuration

- (1) Stainless steel substrate
- (2) YSZ buffer layer
- (3) YBCO superconductor
- (4) Silver metal contact
- (5) Copper encapsulation

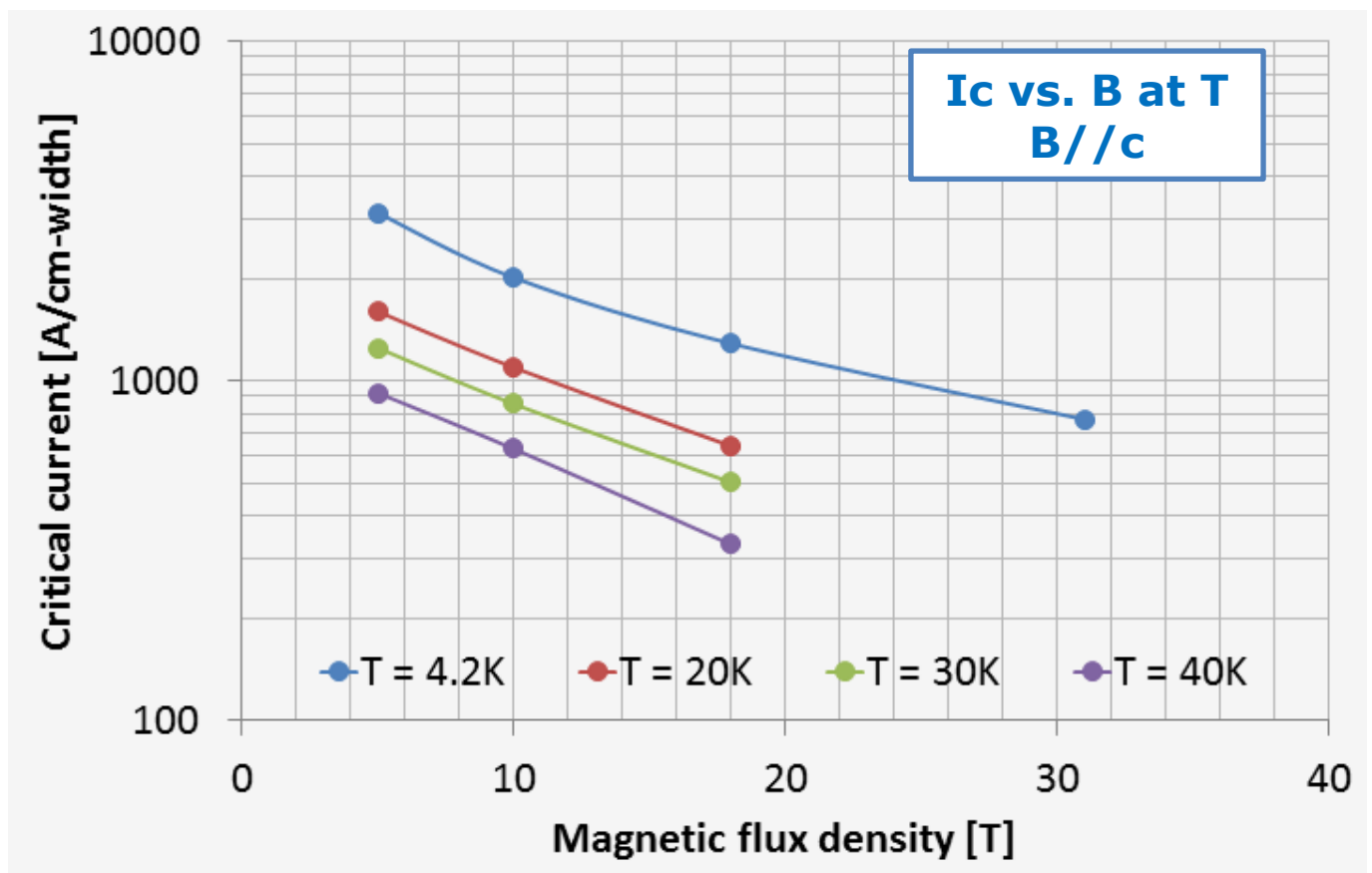


- HTS tape width 4 mm, 12 mm (optionally 40 mm)
- Standard stainless steel substrate thickness is 100 μm
- Single piece length process capability for 4 mm width up to 600 m
- Single piece length process capability for 12 mm width up to 100 m
- Copper layer thickness in the range of 10 to 50 μm per side possible
- HTS tape insulation if requested (e.g. KAPTON)
- Critical tensile stress*: 580 MPa
- Critical bending diameter*: < 20 mm

* 5% I_c degradation critical threshold measured at 77 K in self-field for a 4 mm wide HTS tape with 50 μm Copper encapsulation

- HIGH TEMPERATURE SUPERCONDUCTORS HTS

HTS tape performance



- Superior I_c in-field performance of HTS tapes exceeding 750 A/cm-width in ultra high magnetic fields at 4.2 K, 30 T, B//c,
- Typically, n-values in the range of 35 to 50 and α -values in the range of 0.85 to 0.89
- I_c self-field performance of HTS tapes at 77K in the range of 125 to 250 A/cm-width
- Continuous reel-to-reel Hall-probe measurements at 77 K reveal the I_c drop-free single piece length of HTS tapes