**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 Ic 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% Ic degradation critical threshold measured at 77 K in self-field for a 4 mm wide HTS tape with 50 μm Copper encapsulation
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 \( \alpha \)-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