

Pro-Line Product Overview - 50 μm Substrate

Product Type	Base Conductor TPL1000 series	Laminated Tape TPL2000 series	Copper Surround TPL4000 series	Enhanced solder wetting TPL5000 series
Description	HTS wire with surround silver metallization	HTS wire with single-sided Cu lamination	HTS wire with surround copper stabilization	HTS wire with surround copper stabilization and Sn coating
Typical applications	stacked conductors for levitation or high current density stacks	cables, medium magnetic field coils for rotating machines etc.	coils or stacks with very high current density, small bending radii designs	solder cast coils and stacked conductors
Stabilization	none	50 / 100 μm Cu-foil soldered on HTS side brass-foil available on request	10 μm Cu surround different thicknesses available on request	10 μm Cu surround + tin layer
Thickness	0.06 mm	0.17 mm (100 μm Cu-foil)	0.08 mm	0.08 mm
Maximum rated stress (RT)	500 MPa	250 / 165 MPa	350 MPa	500 MPa
Substrate	50 μm Hastelloy C-276			
Buffer layer	MgO			
Superconducting layer	GdBaCuO			
Metallization	Ag			
Width	12 / 6 / 4 / 3 mm			
Min. double bending diameter (RT, 95 %)	30 mm (without force)			
Recommended max. handling force (12 mm width, depending on bend)	50 N (5 kg)			
Maximum rated tensile strain (95 %)	0.20 %			
I_c (77 K, sf)* (standard tape without AP)	typical 400 A - 650 A /cm width			
Piece length	typical 25 - 300 m longer pieces available on request			