

Technical Data Sheet



THEVA Pro-Line TPL4600

High current second generation HTS wire with surround copper stabilization for high electrical stability and mechanical robustness

Preliminary Version!

Technical Specifications

Tape architecture

Substrate	Hastelloy™ C-276, non-magnetic
Buffer layer	MgO
HTS layer	GdBa ₂ Cu ₃ O ₇
Metallization	~ 1 μm Silver surround
Stabilizer	20 μm Copper surround (effectively 2 × 20 μm)


Mechanical properties

Thickness	0.14 – 0.16 mm
Width	5.7 – 6.3 mm
Minimum double bend diameter (RT)	60 mm (smaller with HTS on the inner side)
Recommended maximum handling force	50 N (5 kg) ¹
Maximum rated stress (RT)	450 MPa ²
Maximum rated tensile strain (77 K)	0.3% ²

Electrical properties

Minimum critical current I _c (77 K, self-field) ³	ratings upon request
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Marks on tape back (substrate) side

Every meter	Meter period and type
Every 20 cm	 , symbol indicating the c-axis tilt direction ⁴
Ink	Black ink ⁵

Handling

	handle with care
	handle with gloves
	store in dry ambient (<50% rel. humidity) below 50°C

¹ Recommended maximum pulling strength for handling with rollers (100mm diam.)

² 95% I_c-retention

³ Measured by high resolution continuous TapeStar™ XL scanning (Hall sensors) calibrated to 1 μV/cm

⁴ Detailed information on angle definition and magnetic field properties upon request

⁵ Ink removable with isopropanol or organic solvents