

## Technical Data Sheet



### THEVA Pro-Line TPL4400

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

### Preliminary Version!

### Technical Specifications

#### Tape architecture

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


#### Mechanical properties

Thickness	0.14 – 0.16 mm
Width	4 mm
Minimum double bend diameter (RT)	60 mm (smaller with HTS on the inner side)
Recommended maximum handling force	28 N (2.8 kg) <sup>1</sup>
Maximum rated stress (RT)	450 MPa <sup>2</sup>
Maximum rated tensile strain (77 K)	0.3% <sup>2</sup>

#### Electrical properties

Minimum critical current I <sub>c</sub> (77 K, self-field) <sup>3</sup>	120 A, other ratings upon request
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#### Marks on tape back (substrate) side

Every meter	Meter period and type
Every 20 cm	20 cm period and  (symbol indicating c-axis tilt direction) <sup>4</sup>
Ink	Black ink <sup>5</sup>

#### Handling

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

<sup>1</sup> Recommended maximum pulling strength for handling with rollers (100mm diam.)

<sup>2</sup> 95% I<sub>c</sub>-retention

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

<sup>4</sup> Detailed information on angle definition and magnetic field properties upon request

<sup>5</sup> Ink removable with isopropanol or organic solvents