

Pro-Line Product Overview

| Product Type | TPL1100 | TPL1120 | TPL2100 | TPL2120 | TPL4121 | TPL5121 |
|---|--|---|--|--|---|--|
| Description | HTS wire with surround silver metallization | thin HTS wire with surround silver metallization | HTS wire with laminated Cu stabilization | thin HTS wire with laminated Cu stabilization | thin HTS wire with surround copper stabilization | thin HTS wire with surround copper stabilization and SnPb solder coating |
| Typical applications | stacks or stacked conductors for levitation and cables | high current density stacks or stacked conductors for levitation and cables | medium magnetic field coils for rotating machines etc. | 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 |
| Substrate | 100 µm Hastelloy C276 | 50 µm Hastelloy C276 | 100 µm Hastelloy C276 | 50 µm Hastelloy C276 | 50 µm Hastelloy C276 | 50 µm Hastelloy C276 |
| Buffer layer | MgO | MgO | MgO | MgO | MgO | MgO |
| Superconducting layer | GdBaCuO | GdBaCuO | GdBaCuO | GdBaCuO | GdBaCuO | GdBaCuO |
| Metallization | Ag | Ag | Ag | Ag | Ag | Ag |
| Stabilization | none | none | 100 µm Cu soldered on HTS side | 100 µm Cu soldered on HTS side | 10 µm Cu surround | 10 µm Cu surround coated with a thin layer of SnPb40 |
| Thickness | 0.11 mm | 0.06 mm | 0.22 mm | 0.17 mm | 0.08 mm | 0.08 mm |
| Width | 12 mm | 12 mm | 12 mm | 12 mm | 12 mm | 12 mm |
| Min. double bending diameter (RT, 95 %) | 60 mm | 40 mm | 60 mm | 40 mm | 40 mm | 40 mm |
| Recommended max. handling force | 100 N (10 kg) | 50 N (5 kg) | 100 N (10 kg) | 50 N (5 kg) | 50 N (5 kg) | 50 N (5 kg) |
| Maximum rated stress (RT) | 600 MPa | 600 MPa | 300 MPa | 300 MPa | 500 MPa | 500 MPa |
| Maximum rated tensile strain (95 %) | 0.30 % | 0.30 % | 0.30 % | 0.30 % | 0.30 % | 0.30 % |
| I _C (77 K, sf) | 275 A to 500 A | 275 A to 500 A | 275 A to 500 A | 275 A to 500 A | 275 A to 500 A | 275 A to 500 A |