



## SiO<sub>2</sub> insulated signal transmission cables: Low capacitance

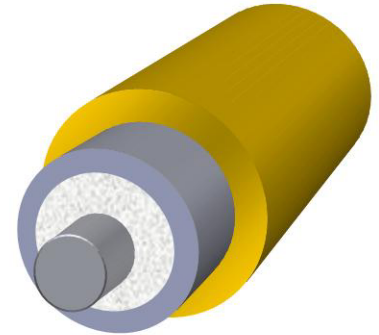
These cables are assigned to be used at very high temperature (600°C) and under very aggressive media.

They are specifically suitable for the transmission of hyper frequency signals up to 20 GHz.

Radars, civil or military transmitters, equipment for television, satellite broadcasting, electronic devices for medical, nuclear... are among the

possible fields of applications for this kind of THERMOCOAX cables.

Their design gives them exceptional mechanical and electrical features to facilitate their use. As for instance, the standing wave ration (SWR) is only <17.7 dB and complies with the MIL-T81492 standard. Moreover, the attenuation of this cable remains very low at 0.5 Db/m/GHz up to 20 GHz for an outer diameter of 3 mm.



Type	1 C CAc 10 Si	1 C CAc 15 Si	1 C CAc 20 Si	1 C CAc 30 Si	1 C CAc 36 Si	1 C CAc 40 Si
<b>Materials of Construction</b>						
Conductor	Copper					
Inner Jacket	Copper					
Outer sheath	Stainless Steel 304L or Inconel 600					
<b>Electrical data</b>						
Characteristic Impedance	50	50	50	50	50	50
Line resistance Ω/m (Ω/feet)	1 (0.3)	0.45 (0.13636)	0.25 (0.075757)	0.12 (0.03636)	0.06 (0.01818)	0.03 (0.00909)
Insulation resistance at 20°C [ohm.m]	≥ 10 <sup>13</sup>	≥ 10 <sup>13</sup>	≥ 10 <sup>13</sup>	≥ 10 <sup>13</sup>	≥ 10 <sup>12</sup>	≥ 10 <sup>12</sup>
Insulation resistance at 350°C [ohm.m]	≥ 10 <sup>7</sup>	≥ 10 <sup>7</sup>	≥ 10 <sup>7</sup>	≥ 10 <sup>7</sup>	≥ 10 <sup>7</sup>	≥ 10 <sup>7</sup>
Insulation resistance at 600°C [ohm.m]	≥ 10 <sup>3</sup>	≥ 10 <sup>3</sup>	≥ 10 <sup>3</sup>	≥ 10 <sup>3</sup>	≥ 10 <sup>3</sup>	≥ 10 <sup>3</sup>
Capacitance at 20°C [pF/m]	100	100	100	100	120	120
Operating frequency	up to 20 GHz					
High frequency losses - 100 MHz - (dB/meter)	0.08	0.08	0.08	0.08	0.08	0.08
Max voltage withstand RMS	300	500	800	1000	1500	1500
EMI Shielding	120dB	120dB	120dB	120dB	120dB	120dB
<b>Geometry</b>						
Inner conductor mm (inch)	0.18 (0.007)	0.25 (0.009842)	0.31 (0.0122)	0.44 (0.017323)	0.6 (0.023622)	0.8 (0.031496)
Outer sheath mm (inch)	1 (0.03937)	1.5 (0.059055)	2 (0.07874)	3 (0.11811)	3.6 (0.14173)	4 (0.15748)
Weight [gr/meter]	15	40	70	170	230	290
Length [meter]	10 to 80 m	10 to 60 m	10 to 60 m	10 to 60 m	20 to 60 m	up to 50 m
<b>Environmental Data</b>						
Operating Temperature Range	Zero absolute up to 1000°C (1832°F)					
Vibration	20 G, 2000 Hz					
Acceleration	50G					
Pyrotechnic Shock	7 000 g, 10 KHz					



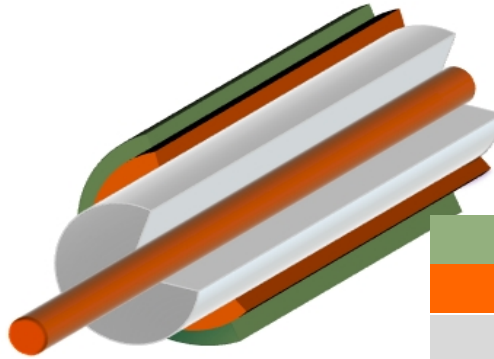
## SiO<sub>2</sub> insulated signal transmission cables: Low capacitance

### Particular specifications

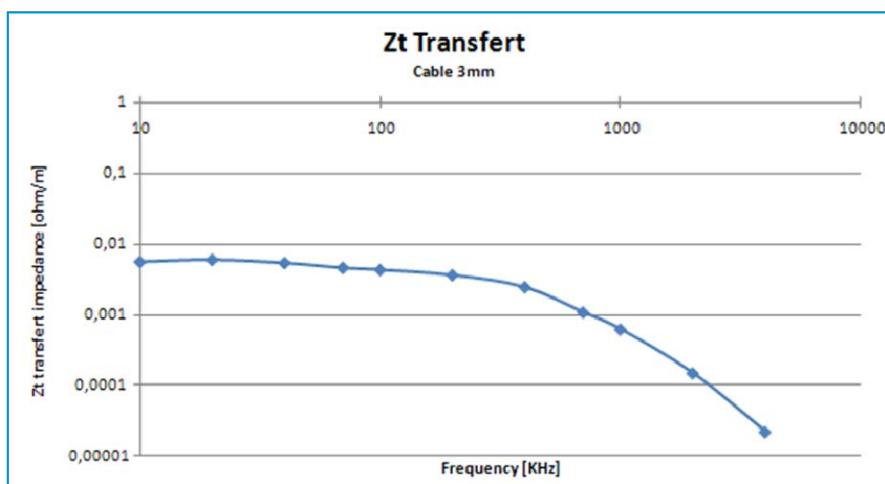
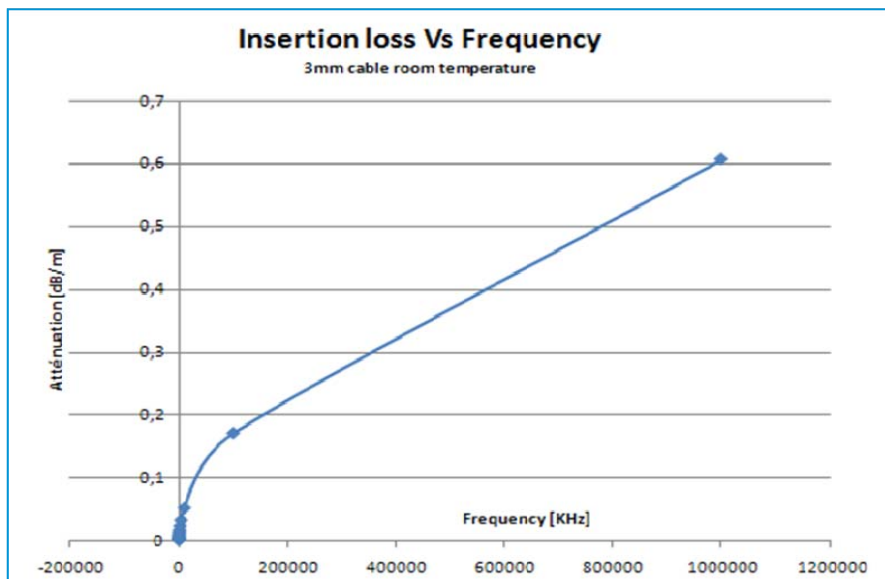
On request, the THERMOCOAX cables can be submitted to several tests such as :

- helium leak test,
- steam tightness test,
- material analysis,
- electrical and metallurgical tests,

according to specifications stipulated by the customer and after discussion with the THERMOCOAX technical team.



- Stainless steel or Inconel® sheath
- Copper Jacket
- SiO<sub>2</sub> insulator
- Copper conductor



Data subject to alteration without notice - THERMOCOAX SAS - RCS CONDE-SMORREAU B 323 459 925 - VAT N° - CEE FR 32 323 459 92