

Tubing Encapsulated Cable

(TEC)



Qteq's TEC provides a reliable, high performance electrical pathway for transmission of measurements from a variety of downhole sensors offered by the company. The cable is engineered to maintain mechanical and electrical integrity for the life of the well. The cable is comprised of an insulated multi-strand conductor wire inside a pressure-rated control line armour. This armour isolates the insulated conductor from the well environment. TEC is protected from damage during deployment by means of a thermoplastic encapsulation that is suited to contend with in-situ chemical and temperature conditions.



Features and Benefits

- The small armour OD provides superior crush resistance and allows the cable to be easily coiled and routed in confined spaces.
- Use of a metal control line as armour facilitates use of metal-to-metal sealing systems with the downhole sensors and wellhead feedthrough.
- A range of thermoplastic encapsulation materials and control line armour metallurgies are available to suit a wide variety of in-situ conditions and temperatures.
- In the event of accidental damage during deployment the cable can be spliced at the wellsite with minimal interruptions to rig operations.
- TEC packaging is identical to other in-well hydraulic control and chemical injection lines, allowing use of standard handling and installation techniques.
- Continuous cable lengths up to 10,000m can be manufactured, enabling multiple systems to be deployed with no internal splices.

Specifications

	Tubing Deployed	Suspended
Armour Metallurgy	316 Stainless Steel, Inconel 825 available upon request	
Armour OD	4 mm	
Armour Wall Thickness	0.76 mm	
Armour Weld	GTAW Weld	
Armour Quality Assurance	Eddy Inspection	
Armour DC Resistance	75 Ω /km	
Insulation Material	Tefzel ETFE Fluoroplastic	
Conductor Metallurgy	Stranded Tinned Copper	
Conductor Size	18 AWG	
Conductor DC Resistance	MAX 21 Ω /km	
Capacitance	158 pf/m	
Inductance	0.49 μ H/m	
Test Rating	200G Ω /1000 m @ 500V	
Operating Voltage	32 V DC	
Encapsulation Material	Polypropylene (PP)	None
Encapsulation Colour	Orange, Yellow	N/A
Encapsulation Size	11mm Square or Round	N/A
Weight	133.9 kg/km	75.9 kg/km
Breaking Tension	970 kg	
Safe Operating Tension	590 kg	
External Collapse Pressure	2,413 Bar	