

WellConnect™

Downhole Electrical Mechanical Splice

The Permanent Downhole Cable Mechanical Splice is designed to join two separate cables providing a continuous electrical connection. The Splice is sealed against the environment in an outer Metallic body and is mechanically joined to both ends of the PDC which provides a metal to metal seal. It is also fully insulated against electrical tracking through thermoplastic and elastomeric sleeves.

Operational Requirements

Design Life:	10 years
Location within Completion:	Downhole
Rated Pressure:	10,000 Psi
Test Pressure:	5,000 Psi
Operating Temperature Range:	-18°C to 121°C (0°F to 250°F)
Storage Temperature Range:	-40°C to 70°C (-40°F to 158°F)

Mechanical Requirements

Crimp Termination Strength:	>75% UTS of Cable
Cable Pull Out Force:	>1300 lbf (5783N)
Sealing:	M-M Primary, Elastomeric Secondary
Orientation:	Keyed Interfaces if Required

Electrical Specification

Maximum Working Voltage:	1000 Vdc
Test Voltage:	2500 Vdc
Max Working Current:	5A
Max Contact Resistance at 20°C:	<2.5m Ω
Insulative Resistance at 20°C:	> 10G Ω
Insulative Resistance at 121°C:	> 500M Ω
Number of Contacts:	1
Electrical Insulation:	Thermoplastic or Elastomer

Material Specification

Housing Options:	Stainless Steel 316 or Inconel Alloy
Contact:	Gold Plated Copper Alloy
Insulation:	PEEK 450G or Equivalent
Seal Options:	Hydrogenated Nitrile Rubber, Fluorosilicone, Silicone

Design Philosophy

Ease of termination
Pressure testable
Metal/Metal Primary seal
Suitable for 1/8" and 1/4" PDC

Cable

Cable Option 1: 1/8" Encapsulated Cable/Hydraulic Tube to 1/4"
Encapsulated Cable/Hydraulic Tube - 16 & 18 AWG
Cable Option 2: 1/4" Encapsulated Cable/Hydraulic Tube to 1/4"
Encapsulated Cable/Hydraulic Tube - 16 & 18 AWG

Qualification Testing

Standard Electrical Integrity Test
Hydrostatic Pressure Test
Thermal Cycling Test

Key Performance Features

Metal to Metal Sealing
Elastomeric Back-up
1/4 & 1/8 Cables
Test Port for Onsite Verification

