

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: 15,000 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
 Maximum Working Current: 5 A
 Maximim Contact Resistance at 20°C: <2.5m Ω
 Insulative Resistance at 20°C: > 10G Ω
 Insulative Resistance at 121°C: > 200M Ω
 Number of Contacts: 1
 Electrical Insulation Thermoplastic or Elastomer

Key Performance Features

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

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 Test

