

# Well**Connect™**

## Downhole Electrical Mechanical Splice

The Permanent Downhole Cable Mechanical Splice is designed to join two seperate 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  $\Omega$  

 Insulative Resistance at 20°C:
 > 10G  $\Omega$  

 Insulative Resistance at 121°C:
 > 500M  $\Omega$  

 Number of Contacts:
 1

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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 Hydrogenated Nitrile Rubber, Flurosilicone, 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

