

Inspection and Test Plan for Power Cable

| No. | Inspection and Test Plan | Reference Document | Acceptance Criteria | Verifying Document | Activity By | | | Remark |
|-----------------------------|--|--|--|-----------------------|-------------|-----|--------|--------|
| | | | | | Manuf. | TPI | Client | |
| 1 | Pre-Inspection Meeting | Spec. | Spec. | MOM | H | H | H | - |
| Before Manufacturing | | | | | | | | |
| 2 | DWG, Design, Calculation Document | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | DWG, Calculation book | H | R | A | - |
| 3 | Power Cable Conductor Resistance Test Procedure | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | Procedure | H | R | A | |
| 4 | Power Cable Withstand Voltage Test Procedure | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | Procedure | H | R | A | |
| 5 | Power Cable Insulation Resistance Test Procedure | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | Procedure | H | R | A | |
| 6 | Power Cable Discharge Test Procedure | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | Procedure | H | R | A | |
| 7 | Power Cable Tensile Strength and Elongation Test Procedure | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | Procedure | H | R | A | |
| 8 | Power Cable Aging Test Procedure | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | Procedure | H | R | A | |

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| 9 | Power Cable Heat Shock Procedure | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | Procedure | H | R | A | |
| 10 | Power Cable Heat Distortion Procedure | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | Procedure | H | R | A | |
| 11 | Power Cable Flame Resistance Test Procedure | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | IEC, NEC, NEMA, FDF, ISO ANSI, CI, IPCEA | Procedure | H | R | A | |
| Materials | | | | | | | | |
| 12 | Raw Material Inspection | ASTM | ASTM | Original Material Certificates | H | H | - | - |
| 13 | Review of Certificates | ASTM | ASTM | Certificates | H | H | - | - |
| 14 | Material Identification | ASTM | ASTM | Report | H | H | - | |
| During Fabrication | | | | | | | | |
| 15 | Fabrication Inspection | DWG/Spec | DWG/Spec | Report | H | SW | - | |

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|----|--|-----------|-----------|----------|---|----|---|--|
| 16 | Configuration Inspection for Cable Type, Number of Conductors, Conductor Size, Conductor Color Coding, Insulation Type and size, Fillers, Water Stoppers, Armour, Shield, Outer diameter, Other Specified Elements/Dimensions and Cable Identification | DWG/Spec | DWG/Spec | DWG/Spec | H | SW | - | |
| 17 | Drum Inspection for Labeling, Sealing, Lagging Drum quantity and Conformance of quantity | DWG/Spec | DWG/Spec | Report | | | | |
| 18 | Power Cable Conductor Resistance Test | Procedure | Procedure | Report | H | H | - | |
| 19 | Power Cable Withstand Voltage Test | Procedure | Procedure | Report | H | H | - | |
| 20 | Power Cable Insulation Resistance Test | Procedure | Procedure | Report | H | H | - | |
| 21 | Power Cable Discharge Test | Procedure | Procedure | Report | H | H | - | |

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| 22 | Power Cable Tensile Strength and Elongation Test | Procedure | Procedure | Report | H | H | - | |
| 23 | Power Cable Aging Test | Procedure | Procedure | Report | H | H | - | |
| 24 | Power Cable Heat Shock | Procedure | Procedure | Report | H | H | - | |
| 25 | Power Cable Heat Distortion | Procedure | Procedure | Report | H | H | - | |
| 26 | Power Cable Flame Resistance Test | Procedure | Procedure | Report | H | H | - | |
| Final Inspection | | | | | | | | |
| 27 | Final Visual & Dimensional Check | DWG | DWG | Report | H | H | - | - |
| 28 | Check of Final Book | Spec. | Spec. | DWG/ P.O | H | R | - | |
| Documentation | | | | | | | | |
| 29 | Inspection Reports | Spec./DWG | Spec./DWG | Report | H | R | - | - |
| 30 | NCR | Spec./DWG | Spec./DWG | Report | H | R | - | - |
| 31 | Review Final Data Report | Spec./DWG | Spec./DWG | Report | H | R | - | - |
| Pre-Shipment Inspection | | | | | | | | |
| 32 | Preservation and Packing | Spec. | Spec. | Report | H | H | - | - |
| 33 | Marking | Spec. | Spec. | Report | H | H | - | - |

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| 34 | Loading Inspection | Spec. | Spec. | Report | H | H | - | - |
| 35 | Shipping Document Control | Procedure | Spec. | Packing List | H | H | - | - |

Abbreviations:

H: Hold Point = Hold on the production till TPI Inspector performs inspection and supervise the required test

W: Witness Point = Manufacture shall notify client and TPI Inspector but there is no hold on the production;
Client can waive this inspection based on his discretion and informs TPI Inspector accordingly.

R: Document Review = Review means Review document, which includes of material test certificates, WPS, PQR, NDT Procedures and etc.

A: Approval

SW: Spot Witness = for items with spot witness manufacture shall notify TPI inspector as fulfilling the monitoring;
For example one random visit for whole UT tests or one or two visits for whole surface preparation works for painting.

MOM: Minute of Meeting

P.O: Purchase Order

for more information review following articles:

<http://www.inspection-for-industry.com/third-party-inspection-for-power-cable.html>

<http://www.inspection-for-industry.com/inspection-and-test-plan-for-power-cable.html>