

QS/STR/PIJF CABLE/

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GOVERNMENT OF INDIA

Ministry of Railways

Telecom Directorate

Schedule of Technical Requirement (STR) NO: 01-03

FOR

(Polythene Insulated Polythene Sheathed Jelly Filled Telephone Cable with poly-AL
Moisture Barrier)

Research Designs & Standards Organisation

Manak Nagar Lucknow-226011

LOW VOLTAGE POLYETHYLENE SHEATHED
INSULATED TELEPHONE CABLE WITH POLY-AL MOIST
BARRIER
(TC 41-97)

I. ESSENTIAL MACHINERY & PLANTS REQUIRED FOR PRODUCTION

- 1.1 Copper wire drawing from 8mm to 2.5 mm continuous annealer (Thermostatic controlled) (Optional).
- 1.2 Insulating/extrusion line production of high quality telecommunication core
 - 1.2.1 core diameter, core tension and core capacitance etc.
- 1.3 Group twinness and no.
- 1.4 Jelly filling line automatic with automatic temperature controlled and provision filling jelly at different pressures as recommended for different sizes two stage filling.
- 1.5 Heavy duty strander cum drum twister suitable for stranding telephone cables 50 & 100 pairs in unit of 10 and 20 pairs respectively.
- 1.6 Sheathing/jacketing line with provision of
 - 1.6.1 Radi frequency generator for heating of cable core.
 - 1.6.2 Core wrap applicator
 - 1.6.3 Core wrap binder head
 - 1.6.4 Poly-al patch unit
 - 1.6.5 Accumulator for poly-al tape
 - 1.6.6 Poly-al tape applicator
 - 1.6.7 Extruder screw of requisite diameter
 - 1.6.8 Spark tester
 - 1.6.9 Embossing unit
 - 1.6.10 Sequential length marking unit
 - 1.6.11 Dual take up suitable for 2500m drums.
- 1.7 Steel tape armouring machine with provision of
 - 1.7.1 Polythene/polyester taping head for bedding
 - 1.7.2 Take up suitable for 2500m drums.
 - 1.7.3 Pay off suitable for 2500 m drums.
- 1.8 Light rewinding machine suitable for 500m reels provided with
 - 1.8.1 Length meter counter
 - 1.8.2 Cold pressure welding machine or butt welding
- 1.9 Heavy rewinding machine provided with counter meter, pay off and take up suitable for 2500m drums.

ESSENTIAL TESTING EQUIPMENTS REQUIRED FOR QUALITY ASSURANCE.

- (1) Senior Kelvin bridge (2) Million Meg Ohm meter
- (3) Resistance test apparatus (ohm meter).
- (1) H.V. Tester 0-10 KV 30 Amps capacity & 0-10 KV 100 Amps capacity.
- (2) Water bath (with sealing arrangement) for 50 deg C size (4'x2') & for 60 deg C size (4'x2')
- (3) D.C.H.V. Tester 0-5 KV for DC test (5 amps capacity)
- (4) AVO meter. Motwani make (8) Calibration box for C.R.
- (9) Calibration box for I.R.
- (10) Tensile testing machine 0-50 Kgt. & 0-250 kgt.
- (11) Stamping die (for cutting dumbbell)
- (12) Conditioning chamber 25 dg C.
- (13) Digital/Analog vernier
- (14) Digital/Analog thermometer
- (15) Digital/Analog stop watch.
- (16) Digital/Analog thermometer.
- (17) Travelling microscope for thickness measurement
- (18) Digital chemical balance, chemicals & glass apparatus for testing.
- (19) App. for colour fastness to water
- (20) Torsion testing machine for steel wire (Motor drive with counter arrangement)
- (21) Spark tester 0-15 KV (one each for an entruder)
- (22) Ageing oven 0-150 deg.C
- (23) Heating oven 0-300 deg.C
- (24) Small water bath for small coils
- (25) Thermal stability test apparatus
- (26) Fire resistance test ap.
- (27) Tensile testing machine 0-1500 Kgf (for steel tape in screen signalling cable)
- (28) Mutual capacitance test equipment (for axle counter only)
- (29) Capacitance unbalance test equipment (for axle counter cables only).

QUALITY ASSURANCE FLOW CHART FOR INSULATED POLYETHYLENE SHEATHED JELLY FILLED TELEPHONE CABLE WITH POLY-AL MOISTURE BARRIER JELLY FILLED TELEPHONE CABLE

