
 <p>Sri Lanka Telecom One Country. One Voice.</p>	<p><b>Specification for OSP Material</b> <b>Polythene Insulated /PVC</b> <b>Sheathed Telephone Distribution</b> <b>Cable (PVC Twin)</b> <b>OQMS SGD 012</b></p>	<p>Issue No. : 01 Date of Issue : 20-Mar-2012 Revision No. : 01 Date of Revision : 06-Sep-2014 Page : 1 of 8</p>
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## 1 Scope

This *specification* covers requirement for the interior wire to be installed for in-house wiring in customer's premises between a station protector or wire terminal and sets of telephone instruments.

The cable referred to above shall be manufactured to confirm to the requirements in British Standard Specifications 3573 of 1990 or any later BSS (BS 6234 of 1987, BS 6746 of 1990) relating to such cables. This shall in addition confirm to the requirements set out below.

## 2 References

OSP Manual - 2009

## 3 Materials and Construction

### 3.1 Conductors


The conductors shall be made from the highest quality solid annealed copper wire, shall be smoothly drawn, circular in section, pliable, uniform in quality free from all defect and having a nominal diameter of 0.65 mm. **The required dimensions for PVC Twin Telephone Cable are given in page-8.**

### 3.2 Insulation

The insulation of copper pair shall be made from polyethylene of orange and white as shown in the drawing 1 in page 5. The insulation resistance shall be more than 20Meg-ohm per Km in a 500V DC Megger scale. Thickness of insulation between two conductors shall be less than 1.2mm, and shall be able to withstand a voltage up to 600V AC applied between conductors. Overall diameter of insulation shall be 1.2 mm.

### 3.3 Sheath

Sheath thickness shall not be less than 0.8mm type 6 –PVC. Overall diameters of sheath shall be 4.1 mm. The colour of sheath shall be of gray colour.

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## 4 Characteristics and Requirements

### 4.1 Mechanical Properties

- Conductor Elongation –18%
- Minimum Tensile Strength of non- aged (Insulation) – 10 N/mm<sup>2</sup>
- Minimum Tensile Strength of non- aged (Sheath) – 6 N/mm<sup>2</sup>
- Minimum Elongation at break of non- aged (Insulation) – 300%
- Minimum Elongation at break of non- aged (Sheath) – 125%

### 4.2 Electrical Properties

- Conductor resistance – 58 Ω/km
- Insulation resistance at 500V DC – 20 MΩ/km
- A.C voltage test on conductors for One minute – 600V

### 4.3 Other Requirement

The minimum weight of Copper per kilometer shall be 5.922kg for a 16 twists per meter cable.

**Note: The test certificates to prove the properties mentioned above shall be supplied from a recognized third party with the sample.**

## 5 Packaging & marking


Length of wire of coils of 100-meter rolls and length of each roll shall be clearly marked on the roll.

### 5.1 Marking

#### 5.1.1 On Cable:

Following indelible markings at 1meter interval shall be made on the surface of the PVC insulated sheath and be clearly seen.

- a Manufacturer's Name
- b Month and year of Manufacture
- c Marking of length indication at 1meter interval.
- d SLT Identity.


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### 5.1.2 On Packaging:

The outside of the reel or coil shall be labeled with the following.


- Conductor diameter
- Manufacturer's name
- Length in meters
- Year of Manufacture
- SLT Logo – Branding Unit approved Logo is given below:



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## 6 Supplier Compliance Sheet – to be filled by the supplier

No	Item Description	SLT Requirement	Complied/ Not
1.	Material & Construction- Conductors	Complied to clause 3.1	
2.	Material & Construction- Insulation	Complied to clause 3.2	
3.	Material & Construction- Sheath	Complied to clause 3.3	
4.	Mechanical Properties-Conductor Elongation	18%	
5.	Mechanical Properties: <ul style="list-style-type: none"> <li>Conductor Elongation</li> <li>Minimum Tensile Strength of non- aged (Insulation)</li> <li>Minimum Tensile Strength of non- aged (Sheath)</li> <li>Minimum Elongation at break of non- aged (Insulation)</li> <li>Minimum Elongation at break of non- aged (Sheath)</li> </ul>	18%  10 N/mm <sup>2</sup>  6 N/mm <sup>2</sup>  300%  125%	
6.	Electrical Properties <ul style="list-style-type: none"> <li>Conductor resistance</li> <li>Insulation resistance at 500V DC</li> <li>A.C voltage test on conductors for One minute</li> </ul>	58Ω/km 20 MΩ/km  600V	
7.	Minimum Weight of Copper per kilometre	5.922kg	
8.	No. of twists per metre	16	
9.	Certificate(s) from recognised third party supplied	Yes	
10.	Length marking at one meter interval	Yes	
11.	Marking on cable	Complied to clause 5.1.1	
12.	Marking on reel	Complied to Clause 5.1.2	
	Signature : Name : Date:	Company Name & Date	

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## 7 QA Section Test Sheet – to be filled by the QA Staff

Test Parameter	Standard values	Test Values	Remarks
Thickness	> 0.8mm		
Conductor Elongation	18%		
Min. Tensile Strength (Insulation)	10 N/mm <sup>2</sup>		
Min. Tensile Strength (Sheath)	6 N/mm <sup>2</sup>		
Min. Elongation at Break ( Insulation)	300%		
Min. Elongation at Break ( Sheath)	125%		
<b>Electrical Properties</b>			
Condition	Standard values	Test Values	Remarks
Conductor Rest.	58 Ω/km		
Insulation Rest.	20 MΩ		
Max. AC Voltage	600 V		
<b>Marking</b>			
Manufacturer's Name			
Date of Manufacture			
Marking of Length at One Meter Intervals			
SLT Identification			
Certificates of ensuring specification compliance			
Signature:			

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Name:	
Date:	

## 8 Field Test Report – to be filled by the field staff


Material Description: PVC Twin wire

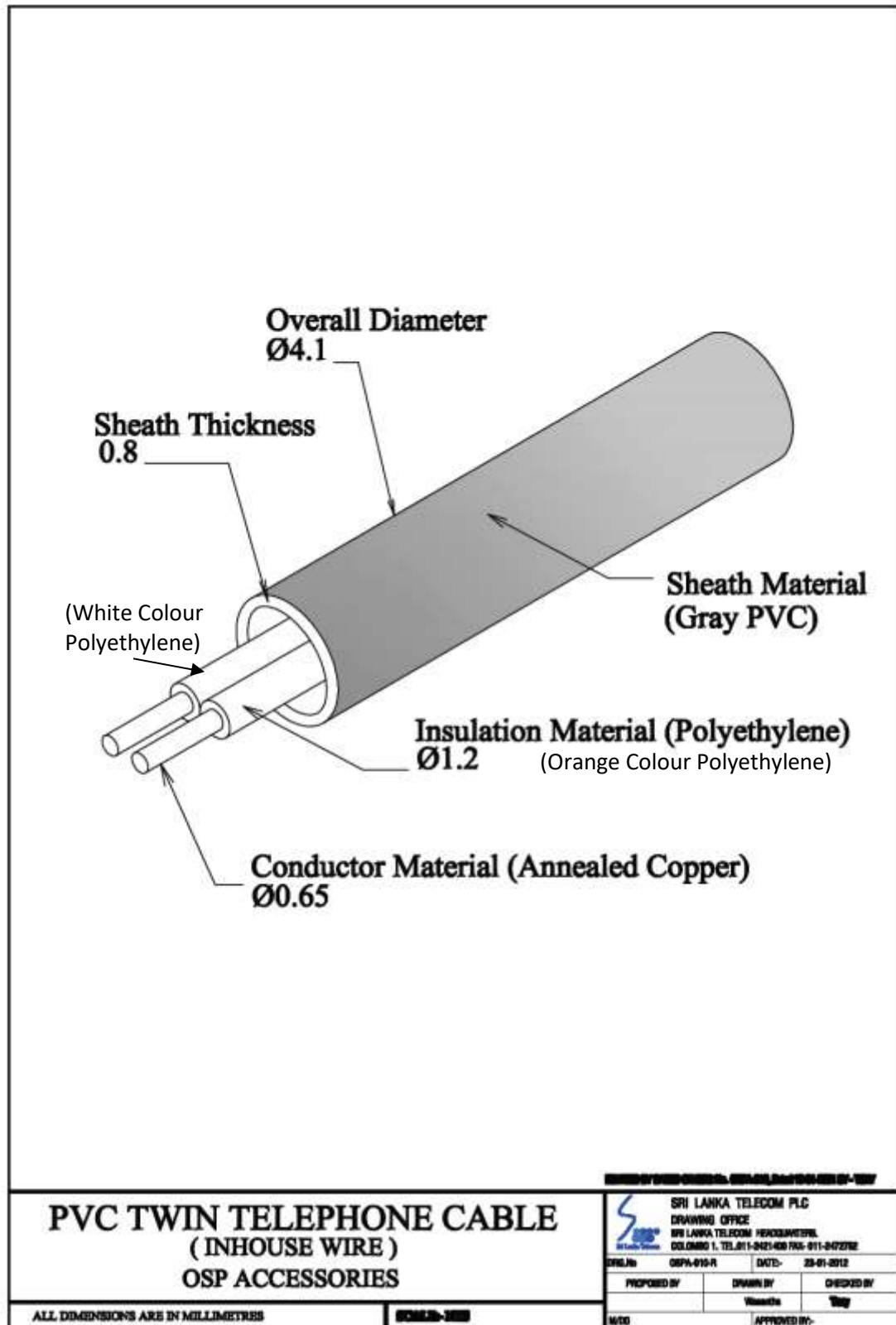
Part No:

Area Installed:

Date:

Field Test Report – to be filled by the field staff at the Installation		
No	Observations/ Experience at the Installation/ subsequent	Comment
1.	Diameter of Conductor is 0.65mm	Yes/ No
2.	Overall Diameter of sheath is 4.1mm	Yes/ No
3.	Length of wire Coil is 100M	Yes/No
4.	Easy to remove insulation	Yes/No
5.	Easy to wiring	Yes/No
6.	Can insert into staple wire clip	Yes/No
7.	Availability of manufacturer's name, Year, Month and length indication at 1 meter interval.	Available/Not
8.	Uniformity in insulation	Yes/No
9.	Recommendation to install in SLT network	Recommended/ Not Recommended
10.	Name:  Signature.....	Service No.....

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Drawing 1