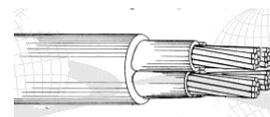


DISTRIBUTION COMMISSIONING FORM (DCF)2.5 – Low Voltage XLPE Cable

Purpose: This instruction covers the testing and commissioning of all replacements or new installations of low voltage cross-linked polyethylene (XLPE) cable.



For more information refer to the *Distribution Commissioning Forms Guideline (EDM 34137510)*

Note: The following tests must be carried out after installation, alteration, repair or jointing and before the cable is put into service.

Work Package No:		SPIDAWeb Pick ID:	
Test Site:			
Location of Cable:	From:		
	To:		

1. Cable Description

Size of Cable :	mm ²	Length of cable (approximately)	m	Aluminium	Copper
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2. Visual Inspection and Safety Check

Check that the cable is installed correctly.	
Confirm that the cable is de-energised (with an approved testing device) before proceeding further.	
Wherever possible, check that there is no physical damage to the cable or equipment.	
Check that the cable is clearly marked with each phase colour and labelled (if applicable).	
Disconnect the relevant MEN link and N-E connections for the cable under test.	

3. End to End Phasing Test

Use a resistor box in conjunction with a 500 V insulation resistance tester to identify the cable end and phases.	Test Connection	Resistor Values	Test Results
	Red phase – screen	MΩ	MΩ
	White phase – screen	MΩ	MΩ
	Blue phase – screen	MΩ	MΩ

4. Insulation Resistance Test

Use a 1 kV insulation resistance tester for 1 minute from conductor to conductor and from conductor to neutral (never use 5 kV insulation testers for this test). Record actual results. Values greater than 10 MΩ for new cables and 1 MΩ for existing cables are acceptable. This test may not be practical for existing cables because of connected services.	New cable	Existing cable		
	Test Connection		Minimum Values	Test Results
		Red phase - white phase	>10 MΩ/1 MΩ	MΩ
		White phase - blue phase	>10 MΩ/1 MΩ	MΩ
		Blue phase - red phase	>10 MΩ/1 MΩ	MΩ
		Red phase - neutral	>10 MΩ/1 MΩ	MΩ
		White phase - neutral	>10 MΩ/1 MΩ	MΩ
		Blue phase - neutral	>10 MΩ/1 MΩ	MΩ

5. Sheath Integrity Test: Neutral to Earth Test at 1kV

<p>This test confirms the integrity of the cable sheath. Damaged or punctured sheaths allow moisture to enter the cable. Use a 1 kV insulation resistance tester for 1 minute with all the neutral connections disconnected within the circuit of the cable being tested. If the sheath integrity is <10 MΩ for new cable or <1 MΩ for existing cable, report unsatisfactory results to the appropriate authorities for further testing or repair. For testing purposes, use an effective earthed reference point spaced more than 2 meters from any electrically conductive object embedded in the ground.</p>	<p>MΩ</p>	
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6. Reinstatement of Connections

<p>Reinstate all connections which were disconnected as per item 2 above.</p>	
<p>Note: If NO (Remarks/comments). If energisation does not immediately follow the commissioning tests, conduct a final insulation resistance test to ensure that the circuit is safe to be energised.</p>	

7. Handover of Responsibility for the Completion of Items 1-6

<p>I hereby certify that items 1 to 6 have been completed with satisfactory results and transfer control to the person responsible for commissioning.</p>			
<p>Testing officer/cable jointer/CPM</p>		<p>NAC</p>	
<p>Signature</p>		<p>Date & Time</p>	

8. Phase Out Test

If the LV network is to be interconnected with another LV network, phase out at the normally open point; otherwise phase out as required; with phase out tester for energised. Otherwise, with resistor box for de-energised circuits.

9. Handover of Responsibility

The person responsible for commissioning must ensure that all checks are completed and the test results comply with the minimum standards.

<p>I hereby certify that all items have been completed with satisfactory results and transfer control to the network operating authority.</p>			
<p>Commissioned by</p>		<p>NAC</p>	
<p>Signature</p>		<p>Date & Time</p>	

1. Ensure the work area is left tidy with no hazards to the public.
2. Hand over responsibility to the operating authority.
3. The completed form must be returned to the project file/work pack.