	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
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1. SCOPE

This document lists the underground cables and cable accessories which are Approved for connection to the SP Distribution Ltd, SP Manweb plc and SP Transmission Ltd networks. The categories of equipment covered by this document include the following:-

- Cables.
- Jointing & Terminating Accessories and consumables.
- Ducts, Warning Tapes and Tiles.

Users should always ensure that they are referring to the latest issue of this document.

2. ISSUE RECORD

This is a maintained document.


Issue Date	Issue No	Author	Amendment Details
February 2002	Issue 1	Paul Cunningham	Original issue
July 2005	Issue 2	Paul Cunningham	Updated to include new equipment.
March 2007	Issue 3	Jim Livie	Addition of MV Re-enterable Resin
June 2007	Issue 4	Paul Cunningham	Detail added for 132kV and above
May 2008	Issue 5	Paul Cunningham	Approved ducting updated and other minor changes.
February 2009	Issue 6	Paul Cunningham	General updates
February 2011	Issue 7	Clark Sherry	Reviewed and updated to include new equipment.

3. ISSUE AUTHORITY

Author	Owner	Issue Authority
Clark Sherry Senior Engineer	Alastair Graham Cables & Overhead Lines Asset Manager	Jeff Hunt Head of Asset Management


4. REVIEW

This document will be reviewed as required by Approval of new equipment and materials or as items are removed from the Approved list.


	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

CONTENTS


1. SCOPE	1
2. ISSUE RECORD.....	1
3. ISSUE AUTHORITY	1
4. REVIEW	1
5. REFERENCES.....	6
5.1 POWERSYSTEMS TECHNICAL SPECIFICATIONS.....	6
5.2 POWERSYSTEMS DRAWINGS	6
5.3 BRITISH STANDARDS (BS)	7
5.4 ELECTRICITY ASSOCIATION TECHNICAL SPECIFICATIONS (EATS).....	7
5.5 ELECTRICITY ASSOCIATION ENGINEERING RECOMMENDATIONS (ER)	7
5.6 INTERNATIONAL ELECTROTECHNICAL COMMISSION	7
6. GLOSSARY	8
7. EQUIPMENT APPROVAL CATEGORIES	9
8. STANDARD REQUIREMENTS.....	9
8.1 33kV, 11kV, LOW VOLTAGE, MULTICORE AND MULTIPAIR CABLES.....	9
8.2 PLASTIC DUCTS FOR UNDERGROUND CABLES	9
8.3 PLASTIC WARNING TAPES AND TILES.....	9
8.4 11kV AND 33kV JOINTS AND TERMINATIONS.....	9
9. APPROVED CABLES UP TO AND INCLUDING 33KV.....	10
9.1 APPROVED MANUFACTURER REFERENCES	10
9.2 33kV CABLES	11
<i>XLPE Insulated Single Core with 50mm² Copper Wire Screen.</i>	11
9.3 11kV CABLES	11
<i>XLPE Insulated Single Core cables</i>	11
<i>XLPE Insulated Three Core cables</i>	12
<i>XLPE Insulated 1-core cables with LSOH Oversheath (Orange)</i>	12
9.4 LOW VOLTAGE CABLES	12
<i>3-core & 4-core Waveform cable with Copper CNE or Earth conductor</i>	12
<i>3-core & 4-core solid sectoral Aluminium Mains cable with concentric Copper CNE or Earth conductor and LSOH Oversheath (Orange)</i>	13
<i>LV Substation Cables, Single Core</i>	13
<i>Service Cables</i>	14

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------


<i>Service cables with LSOH Oversheaths (Orange)</i>	14
9.5 MULTI CORE CABLES.....	15
9.6 MULTI PAIR CABLES	15
9.7 GENERAL WIRING CABLES	16
10. APPROVED DUCTS, WARNING TAPES AND TILES.....	17
10.1 PLASTIC DUCTS & ACCESSORIES FOR UNDERGROUND CABLE.....	17
10.2 WARNING TAPES AND TILES	20
11. APPROVED JOINTS & TERMINATIONS	21
11.1 33kV JOINTS	21
<i>33kV Straight & Branch joints for XLPE 1-core cables</i>	21
<i>33kV Transition Straight Joints for XLPE to PILC Cables</i>	22
<i>33kV Pot End Module Kits</i>	23
11.2 33kV TERMINATIONS.....	24
<i>33kV Indoor Terminations for 1-core XLPE cables</i>	24
<i>33kV Outdoor Terminations for XLPE 1-core cables</i>	25
<i>33kV "Inner cone" Connectors for XLPE 1-core cables</i>	25
<i>33kV Transformer Separable Tee connectors for XLPE 1-core cables</i>	25
11.3 33kV SUPPLEMENTARY CONNECTORS/MODULES.....	26
11.4 11kV JOINTS	27
<i>11kV Straight Joints for XLPE cables</i>	27
<i>11kV Transition Straight Joints for XLPE to PILC/PICAS cables</i>	27
<i>11kV Trifurcating Straight Joints for XLPE cables</i>	28
<i>11kV Transition Trifurcating Straight Joints for XLPE to PILC/PICAS cables</i>	28
<i>11kV Pot End Module Kits</i>	30
<i>11kV Loop Joint Module Kits (XLPE-XLPE)</i>	30
<i>11kV Transition Loop Joint Kits (XLPE-PILC/PICAS)</i>	31
<i>11kV Branch Joints (XLPE-XLPE)</i>	31
<i>11kV Transition Branch Joints (XLPE onto PILC/PICAS)</i>	32
<i>Build up, Earthing and screening kits for XLPE to XLPE and XLPE to PILC/PICAS joints</i>	33
11.5 11kV TERMINATIONS.....	34
<i>Indoor Terminations</i>	34
<i>Separable "Elbow" & "T" Connectors</i>	35
<i>Outdoor Terminations</i>	35
12. APPROVED LV JOINT KITS & COMPONENTS.....	37
12.1 LOW VOLTAGE SERVICE CABLE JOINTS	37

	<p style="text-align: center;">APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-</p>	<p style="text-align: center;">CAB-06-001 Issue 7</p>
---	---	---

<i>LV Service Stop Ends</i>	37
<i>LV Service Straight Joints</i>	38
<i>LV Service Cut, Test and Remake and/or Branch Joints</i>	38
12.2 LOW VOLTAGE MAINS CABLE JOINTS.....	39
<i>LV Mains Straight Joints (3-core waveform to 3-core waveform)</i>	39
<i>LV Mains Straight Joints (4-core waveform to 4-core waveform)</i>	40
<i>LV Mains Straight Joints (3-core waveform to 4-core waveform)</i>	40
<i>LV Mains Straight Joint Transitional; (3-core or 4-core waveform to 4-core PILC)</i>	41
<i>LV Single Core Solidal Sectoral Aluminium Straight Joint</i>	41
<i>LV Mains Branch Joints (3-core waveform to 3-core waveform)</i>	42
<i>LV Mains Branch Joints (4-core waveform to 4-core waveform)</i>	42
<i>LV Mains Branch Joints (3-core waveform to 4-core waveform)</i>	43
<i>LV Mains Branch Joint Transitional (3-core waveform to 4-core PILC)</i>	43
<i>LV Mains Branch Joint Transitional (4-core waveform to 4-core PILC)</i>	44
<i>LV Mains Loop Joints (3-core & 4-core waveform)</i>	44
<i>LV Mains Loop Joints (Transitional or PILC to PILC)</i>	44
<i>LV Mains 3-Loose End Joints</i>	45
<i>LV Mains Stop Ends (3-core)</i>	45
<i>LV Mains Stop Ends (4-core)</i>	46
<i>LV Mains Stop Ends (Consac)</i>	46
<i>LV Mains Stop Ends (PILC) including old concentric mains</i>	46
<i>LV Mains Service Branch Joints</i>	47
12.3 LOW VOLTAGE MAINS PILLAR, TOC, OR INDUSTRIAL CUT-OUT TERMINATION	48
<i>3-core Waveform</i>	48
<i>4-core Waveform</i>	48
12.4 LOW VOLTAGE SERVICE & MAINS CABLE POLE TERMINATION.....	49
<i>3-core Waveform to Droppers</i>	49
<i>3-core Waveform to Pole Mounted Fuses</i>	49
<i>4-core Waveform to Droppers</i>	49
<i>4-core Waveform to Pole Mounted Fuses</i>	50
<i>LV Service Pole Terminations</i>	50
12.5 MODULES FOR LV SERVICE CONNECTIONS.....	51
12.6 MODULES FOR LV TEMPORARY JOINTING DURING FAULT LOCATION/REPAIR PROCESSES.....	52
12.7 LV ABANDONMENT KITS	53
13. APPROVED LV LINK BOXES & SERVICE DISTRIBUTION UNITS	53
13.1 LV LINK BOXES	53

	<p align="center">APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-</p>	<p align="right">CAB-06-001 Issue 7</p>
---	--	---

13.2	LV SERVICE DISTRIBUTION UNIT.....	54
13.3	CABLE SEALING CAPS	55
	<i>Heatshrink cable sealing caps</i>	55
	<i>Coldshrink cable sealing caps</i>	55
13.4	APPROVED TAPES.....	56
14.	APPROVED ISOCYANATE FREE RESINS.....	57
14.1	PERMANENT RESINS.....	57
14.2	TEMPORARY RE-ENTERABLE RESINS	57
15.	APPROVED PLUMBING METALS.....	57
15.1	SOLDER AND PLUMBING METAL	57
16.	CABLE SYSTEMS FOR USE AT 132 KV AND ABOVE.....	59
16.1	132kV XLPE CABLES AND ASSOCIATED ACCESSORIES	59
16.2	275kV XLPE CABLES AND ASSOCIATED ACCESSORIES	60
16.3	400kV XLPE CABLES AND ASSOCIATED ACCESSORIES	60

 <p>SP ENERGY NETWORKS</p>	<p>APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-</p>	<p>CAB-06-001 Issue 7</p>
---	---	-------------------------------


5. REFERENCES

5.1 PowerSystems Technical Specifications

CAB-03-020	Technical Specification for power cables up to and including 33kV and associated auxiliary cables..
CAB-03-027	Technical Specification for Joints & Terminations on 11kV & 33kV Polymeric Insulated cables.
CAB-03-028	Specification for ducting for power cables
CAB-03-031	Specification for 132kV cable and Accessories'
CAB-03-618	Plumbing metals and solders.

5.2 PowerSystems Drawings

00012642	Service cable lead-in tube (Hockey stick).
00031148	Hockey stick details (D.C.M. version).
00247207	Arrangement of polythene insulated telephone cables ScottishPower.
00401952	Ducting for fibre optic cables

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

5.3 British Standards (BS)

BS 441	Specification of purchasing requirements for flux-cored and solid soft solder wire.
BS 6234	Specification for polyethylene insulation and sheaths of electric cables.
BS 6346	Specification for armoured electric cables having PVC insulation.
BS 7870	LV and MV polymEric-S insulated cables for use by distribution and generation utilities (Implementation of HD 603, 604, 605, 620, 622, 626 and 627).
HD629	Test requirements on accessories for use on power cables of rated voltage 6-36kV -Part 1 Cables with Extruded Insulation -Part 2 Cables with impregnated insulation
BS EN 29453	Soft solder alloys. Chemical composition and forms.

5.4 Electricity Association Technical Specifications (EATS)


EATS 12-23	Polyethylene warning tape and protection tape for buried electricity supply cable.
EATS 12-24	Plastic ducts for buried electrical cables.

5.5 Electricity Association Engineering Recommendations (ER)

ER C81	Type approved tests for joints for 600/1000 volt cable systems.
ER C93	Type approval tests for mechanical connections to metallic sheaths of cables.

5.6 International Electrotechnical Commission


IEC 61238	Compression and mechanical connectors for power cables for rated voltages up to 36kV
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	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

6. GLOSSARY

For the purpose of this Specification the following definitions shall apply: -

<i>The Company</i>	Refers to SP Distribution Ltd, SP Transmission Ltd and SP Manweb plc.
<i>SP Distribution</i>	The Distribution Licence Holder for the distribution service area formerly known as ScottishPower.
<i>SP Transmission</i>	The Transmission Licence Holder for the transmission service area formerly known as ScottishPower.
<i>SP Manweb plc</i>	The Distribution Licence Holder for the distribution service area formerly known as Manweb.
<i>Energy Networks</i>	The brand name for the division of ScottishPower group of Companies that encompasses SP Distribution Ltd, SP Transmission Ltd, SP Manweb plc and SP Power Systems Ltd.
<i>The Engineer</i>	The Energy Networks nominated representative having authority over technical matters contained in this specification.
<i>Approved</i>	Equipment approved in accordance with the Energy Networks Equipment Approvals Procedure and which is considered suitable for installation on The Company's networks.
<i>The Tenderer</i>	The supplier invited to submit a tender in accordance with this specification.
<i>PILC</i>	Paper Insulated Lead Covered cable.
<i>PICAS</i>	Paper Insulated Corrugated Aluminium Sheathed cable.
<i>XLPE</i>	Cross-Linked Polyethylene
<i>LSOH</i>	Low Smoke Zero Halogen sheathed cable
<i>MDPE</i>	Medium Density Polyethylene
<i>HDPE</i>	High Density Polyethylene
<i>PE</i>	Polyethylene
<i>SAC</i>	Solid Aluminium Conductor
<i>N/E</i>	Neutral Earth
<i>CNE</i>	Combined Neutral Earth
<i>SNE</i>	Separate Neutral and Earth

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-----------------------

7. EQUIPMENT APPROVAL CATEGORIES

Cables and cable accessories listed in the Approved Equipment Register may, where appropriate, have been assigned particular Approval categories. The categories are defined below:

Category S – Category S equipment is that for which approval has been granted only for a specific contract or site.

Category A – Category A equipment is that which is fully Approved for use on the SP Distribution Ltd, SP Manweb plc and SP Transmission Ltd networks.

Where no approval category is indicated in the attached tables then Category A approval may be assumed.

8. STANDARD REQUIREMENTS

Only equipment listed as Approved in the Appendices to this document may be installed on the Company's networks. Items not listed in the Appendices may be considered for Approval by the Company, however, the Approval process may take some time and a charge for this work may be made.

8.1 33kV, 11kV, Low Voltage, Multicore and Multipair Cables

Shall comply with the requirements of SP PowerSystems Technical Specification CAB-03-020.

8.2 Plastic Ducts for Underground Cables

Shall comply with the requirements of in SP PowerSystems Technical Specification CAB-03-028.

8.3 Plastic warning tapes and tiles

Shall comply as appropriate with the requirements of EATS 12-23.

8.4 11kV and 33kV Joints and Terminations

Shall comply with the requirements of PowerSystems Technical Specification CAB-03-27.



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-


CAB-06-001
Issue 7

9. APPROVED CABLES UP TO AND INCLUDING 33KV

9.1 Approved Manufacturer References

Single or multiple “Approved Manufacturer” References are listed for each cable type in sections 9.2 to 9.9 below. This table is a key to the Approved Manufacturer References used.

Reference	Manufacturer	Manufacturing location	Note
CCC-B	Copper Cable Company	BFK Plant, Poland	
Eric-S-S	Ericsson	Falun, Sweden	
Nex-H	Nexans	Hanover, Germany	This factory has 3 extrusion lines, only cable manufactured on the extrusion line designated “S119” is Approved for use.
Nex-N	Nexans	Namsos, Norway	
NKT-D	NKT	Asnaes, Denmark	
NKT-G	NKT	Cologne, Germany	
NKT-C	NKT	Changzhou, China	
Pry-W	Prysmian	Wrexham, Clwyd	
Trat-PSS	Tratos	Pieve San Stefano, Italy	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

9.2 33kV Cables

XLPE Insulated Single Core with 50mm² Copper Wire Screen.

SAP Number	Description	Approved Manufacturer References (see section 9.1 for key)
30982960	150mm ² circular stranded Copper 33kV XLPE single core	Nex-H*, Nex-N, NKT-D, NKT-C, NKT-G, Pry-W
30026576	150mm ² circular stranded Aluminium 33kV XLPE single core	
30982971	240mm ² circular stranded Copper 33kV XLPE single core	
30026185	240mm ² circular stranded Aluminium 33kV XLPE single core	
30026186	400mm ² circular stranded Aluminium 33kV XLPE single core	
30982961	500mm ² circular stranded Copper 33kV XLPE single core	Nex-H*, NKT-G, Pry-W
30982962	630mm ² circular stranded Copper 33kV XLPE single core	

* The Nexans, Hanover factory has 3 extrusion lines. Only cable manufactured on the extrusion line designated "S119" is Approved for use.

9.3 11kV Cables

XLPE Insulated Single Core cables

SAP Number	Description	Approved Manufacturer References (see section 9.1 for key)
30980100	95 mm ² circular solid Aluminium 11kV single core with red oversheath.	NKT-D, Pry-W
30980101	185 mm ² circular solid Aluminium 11kV single core with red oversheath.	
30980102	300 mm ² circular solid Aluminium 11kV single core with red oversheath.	
30980098	300 mm ² circular stranded Copper 11kV single core with red oversheath.	NKT-D, Pry-W
30980099	500 mm ² circular stranded Copper 11kV single core with red oversheath.	
30026565	630 mm ² circular stranded Copper 11kV single core with red oversheath.	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

XLPE Insulated Three Core cables

SAP Number	Description	Approved Manufacturer References (see section 9.1 for key)
30980092	95 mm ² circular solid Aluminium 11kV 3-core with 70mm ² Copper wire screen and red oversheath.	NKT-D, Pry-W
30980093	185 mm ² circular solid Aluminium 11kV 3-core with 95mm ² Copper wire screen and red oversheath.	
30980094	300 mm ² circular solid Aluminium 11kV 3-core with 95mm ² Copper wire screen and red oversheath.	


XLPE Insulated 1-core cables with LSOH Oversheath (Orange)

SAP Number	Description	Approved Manufacturer References (see section 9.1 for key)
30980103	95 mm ² circular solid Aluminium 11kV single core with LSOH oversheath.	NKT-D, Pry-W
30980104	185 mm ² circular solid Aluminium 11kV single core with LSOH oversheath.	
30980105	300 mm ² circular solid Aluminium 11kV single core with LSOH oversheath.	

9.4 Low Voltage Cables

3-core & 4-core Waveform cable with Copper CNE or Earth conductor

SAP Number	Description	Approved Manufacturer References (see section 9.1 for key)
30980172	3-core 95mm ² solid sectoral Aluminium waveform cable.	NKT-D, Pry-W
30980173	3-core 185mm ² solid sectoral Aluminium waveform cable.	
30980174	3-core 300mm ² solid sectoral Aluminium waveform cable.	
30980150	4-core 95mm ² solid sectoral Aluminium waveform cable.	
30980151	4-core 185mm ² solid sectoral Aluminium waveform cable.	
30980149	4-core 240mm ² solid sectoral Aluminium waveform cable.	


	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

3-core & 4-core solid sectoral Aluminium Mains cable with concentric Copper CNE or Earth conductor and LSOH Oversheath (Orange)

SAP Number	Description	Approved Manufacturer References (see section 9.1 for key)
30980175	3-core 95mm ² Cu concentric N/E with LSOH oversheath.	NKT-D, Pry-W
30980176	3-core 185mm ² Cu concentric N/E with LSOH oversheath.	
30980177	3-core 300mm ² Cu concentric N/E with LSOH oversheath.	
30980152	4-core 95mm ² Cu concentric N/E with LSOH oversheath.	
30980153	4-core 185mm ² Cu concentric N/E with LSOH oversheath.	
30980154	4-core 300mm ² Cu concentric N/E with LSOH oversheath.	

LV Substation Cables, Single Core

SAP Number	Description	Approved Manufacturer References (see section 9.1 for key)
30980166	480mm ² circular solid sectoral aluminium, armoured	CCC-B
30980167	600mm ² circular solid sectoral aluminium, un-armoured	
30980168	740mm ² circular solid sectoral aluminium, armoured	


	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

Service Cables

SAP Number	Description	Approved Manufacturer References (see section 9.1 for key)
30026305	1-phase CNE 4mm ² copper straight concentric	Eric-S
30980161	1-phase CNE 25mm ² aluminium straight concentric	
30980155	1-phase CNE 35mm ² aluminium straight concentric	
30026306	3-phase CNE 25mm ² aluminium straight concentric	
30026307	3-phase CNE 35mm ² aluminium straight concentric	
30980165	1-phase SNE 4mm ² copper split concentric	
30980162	1-phase SNE 25mm ² aluminium split concentric	
30026308	1-phase SNE 35mm ² aluminium split concentric	
30026309	3-phase SNE 25mm ² aluminium split concentric	
30980159	3-phase SNE 35mm ² aluminium split concentric	
30980158	3-phase SNE 35mm ² copper split concentric	

Service cables with LSOH Oversheaths (Orange)

SAP Number	Description	Approved Manufacturer References (see section 9.1 for key)
30980156	1-phase CNE 35mm ² aluminium straight concentric with LSOH oversheath.	Eric-S
30980160	3-phase CNE 35mm ² aluminium straight concentric with LSOH oversheath.	
30980163	1-phase SNE 35mm ² aluminium split concentric with LSOH oversheath.	
30980164	3-phase SNE 35mm ² aluminium split concentric with LSOH oversheath.	
30980157	1-phase CNE 25mm ² aluminium straight concentric with LSOH oversheath.	
30982986	1-phase SNE 25mm ² aluminium split concentric with LSOH oversheath.	
30026310	3-phase SNE 25mm ² aluminium split concentric with LSOH oversheath.	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

9.5 Multi Core Cables

SAP Number	Description	Approved Manufacturer References (see section 9.1 for key)
30980086	3-core cable with 2.5mm stranded copper conductors	CCC-B
30980087	4-core cable with 2.5mm stranded copper conductors	
30980088	7-core cable with 2.5mm stranded copper conductors	
30980089	7-core composite metering cable	
30982048	12-core cable with 2.5mm stranded copper conductors (7/0.67mm)	
30982049	19-core cable with 2.5mm stranded copper conductors (7/0.67mm)	

9.6 Multi Pair Cables

SAP Number	Pairs	Conductor	Remarks	Approved Manufacturer References (see section 9.1 for key)
30982050	7	1/0.8mm Cu	Unfilled. Induced voltage < 5kV	CCC-B, Trat-PSS
30980090	7	1/0.8mm Cu	Filled. Induced voltage >5kV <15kV	
30982053	10	1/0.8mm Cu	Unfilled. Induced voltage < 5kV	
30982051	19	1/0.8mm Cu	Unfilled. Induced voltage < 5kV	
30982052	37	1/0.8mm Cu	Unfilled. Induced voltage < 5kV	
Not on Stock	61	1/0.8mm Cu	Unfilled. Induced voltage < 5kV	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

9.7 General Wiring Cables

SAP Number	Type	Conductor Size (csa)	Colour	Remarks	Approved Supplier
30980072	37/2.03	120mm ² Cu	Grey/Brown	Double Insulated	Batt Cables Cable Express Cables & Flexibles Strathclyde Cables Copper Cable Company
30980073			Grey/Blue	Double Insulated	
30980070	19/2.14	70mm ² Cu	Grey/Brown	Double Insulated	
30980071			Grey/Blue	Double Insulated	
30980061			Green/Yellow	Non Sheathed	
30980068	19/1.53	35mm ² Cu	Grey/Brown	Double Insulated	
30980069			Grey/Blue	Double Insulated	
30980059			Green/Yellow	Non Sheathed	
30980066	19/1.35	25mm ² Cu	Grey/Brown	Double Insulated	
30980067			Grey/Blue	Double Insulated	
30980064	7/1.70	16mm ² Cu	Grey/Brown	Double Insulated	
30980065			Grey/Blue	Double Insulated	
30980057			Green/Yellow	Non Sheathed	
30980062	7/1.35	10mm ² Cu	Grey/Brown	Double Insulated	
30980063			Grey/Blue	Double Insulated	
30980055			Green/Yellow	Non Sheathed	
30980054	7/1.04	6mm ² Cu	Green/Yellow	Non Sheathed	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

10. APPROVED DUCTS, WARNING TAPES AND TILES

10.1 Plastic Ducts & Accessories for Underground Cable

The following list of **Approved** plastic ducts and associated accessories are all manufactured and supplied by Emtelle.

SAP Number	Emtelle Product Code	Emtelle Description	Scottish Power Description	Resistance To Deformation	Length
30980890	5846	RED HDPE 38/32MM X 100M COIL	32mm id ducting suitable for trenchless installation (38mm OD)	Class 2	100m Coils
30980879	5847	RED HDPE 58/50MM X 50M COIL	50m X 50mm id ducting suitable for trenchless installation (58mm OD)	Class 2	50m Coils
30980878	TBA	RED HDPE 58/50MM X 100M COIL	100m X 50mm id ducting suitable for trenchless installation (58mm OD)	Class 2	100m Coils
30980891	9676	90MM PE100 SDR11 X 100M RED	74mm id ducting suitable for trenchless installation(90mm OD SDR 11)	Class 1	100m Coils
30980904	9676S	90MM PE100 SDR11 X 50M RED	74mm id ducting suitable for trenchless installation(90mm OD SDR 11)	Class 1	50m coils
30980895	9667 (9677)	110MM PE100 SDR11 X 100M RED	90mm id ducting suitable for trenchless installation (110mm OD SDR 11)	Class 1	100m Coils
30980905	9667S	110MM PE100 SDR11 X 50M RED	90mm id ducting suitable for trenchless installation (110mm OD SDR 11)	Class 1	50m Coils
30980894	9678	125MM HDPE SDR11 X 100M RED	110mm id ducting suitable for trenchless installation (125mm OD SDR 11)	Class 1	100m coils
30980906	9678S	125MM HDPE SDR11 X 50M RED	110mm id ducting suitable for trenchless installation (125mm OD SDR 11)	Class 1	50m Coils
30980893	9679	160MM HDPE SDR11 X 100M RED	125mm id ducting suitable for trenchless installation (160mm OD SDR 11)	Class 1	100m coils
30980907	9679S	160MM HDPE SDR11 X 50M RED	125mm id ducting suitable for trenchless installation (160mm OD SDR 11)	Class 1	50m Coils
30980903	9680	200MM HDPE SDR11 X 100M RED	180mm id ducting suitable for trenchless installation (200mm OD SDR 11)	Class 1	100m coils
30980909	9680S	200MM HDPE SDR11 X 50 RED	180mm id ducting suitable for trenchless installation (200mm OD SDR 11)	Class 1	50m Coils
30980892	9681	180MM HDPE SDR11 X 100M RED	147mm id ducting suitable for trenchless installation (180mm OD SDR 11)	Class 1	100m coils
30980908	9681S	180MM HDPE SDR11 X 50M RED	147mm id ducting suitable for trenchless installation (180mm OD SDR 11)	Class 1	50m coils
30982914	9494	CABLE GUARD 3M X 25MM	Guard Cable PVC 25*3.0m	n/a	3m
30982915	9495	CABLE GUARD 3M X 55MM	Guard Cable PVC 50*3.0m	n/a	3m
30982916	9496	CABLE GUARD 3M X 80MM	Guard Cable PVC 80*3.0m	n/a	3m
30982913	TBA	CABLE GUARD 3M X 40MM	Guard Cable PVC 40*3.0m	n/a	3m



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7


SAP Number	Emtelle Product Code	Emtelle Description	Scottish Power Description	Resistance To Deformation	length
30980884	20046	RED 110MM 3M C1 ELECTRIC	100mm id straight duct, single socket end (110mm OD uPVC Duct)	Class 1	3m effective length
30025594	5302	RED 110MM 6M C1 ELECTRIC	100mm id straight duct, single socket end (110mm OD uPVC Duct)	Class 1	6m effective length
30980888	20047	RED 110MM X 3M C2 ELECTRIC	100mm id straight duct, single socket end (110mm OD uPVC Duct)	Class 2	3m effective length
30980885	5303S	RED 160MM 3M C1 ELECTRIC	150mm id straight duct, single socket end (160mm OD uPVC Duct)	Class 1	3m effective length
30025593	5303	RED 160MM 6.6M C1 ELECTRIC	150mm id straight duct, single socket end (160mm OD uPVC Duct)	Class 1	6.6m effective length
30980889	20048	RED 160MM X 3M C2 ELECTRIC	150mm id straight duct, single socket end (160mm OD uPVC Duct)	Class 2	3m effective length
30980883	5077	RED 38MM HOCKEYSTICK BEND	House service entry tube c/w integral socket to suit 32mm duct (38mm OD)	Class 2	n/a
30980886	5236	CONN SLEEVE 110MM RED	Duct Couplers as required. PVC cable duct coupler 100mm id straight duct	n/a	n/a
30980887	5235	CONN SLEEVE 160MM RED	Duct Couplers as required. PVC cable duct coupler 150mm id straight duct	n/a	n/a
30980882	5581	DOUBLE COUPLER 32MM RED	Duct Couplers as required. PVC cable duct – 32mm	n/a	n/a
30980896	20049	RED 110MM 11.25 C1 1200 RAD	100mm ID x 11.25 Degree bend	Class 1	n/a
30980897	20050	RED 110MM 22.5 C1 1200 RAD	100mm ID x 22.5 Degree bend	Class 1	n/a
30980900	20051	RED 110MM 45DEG C1 1200 RAD	100mm ID x 45 Degree bend	Class 1	n/a
30980367	20052	RED 110MM 90DEG C1 1200 RAD	100mm ID 90 x Degree bend	Class 1	n/a
30980899	5452U	RED 160MM 11.25 C1 1200 RAD	150mm ID x 11.25 Degree bend	Class 1	n/a
30980898	5453U	RED 160MM 22.5 C1 1200 RAD	150mm ID x 22.5 Degree bend	Class 1	n/a
30980901	5454U	RED 160MM 45DEG C1 1200MM RAD	150mm ID x 45 Degree bend	Class 1	n/a
30980902	5455U	RED 160MM 90DEG C1 1200MM RAD	150mm ID x 90 Degree bend	Class 1	n/a
30980880	9710 (5862)	BEND 90 DEG 50MM ID 250MM RAD	Bend 90 Deg PVC Duct 50mm (3 phase service cables only)	Class 1	n/a
30025765	TBA	RED 110MM 90DEG C1 450MM RAD	100mm ID x 90 Degree bend (For building entry only)	n/a	n/a
30025766	TBA	RED 160MM 90DEG C1 560MM RAD	150mm ID x 90 Degree bend (For building entry only)	n/a	n/a
30025566	4156	GREEN OPTICOM 4 WAY SP	110mm OD straight duct, single socket with 4 pre-installed sub ducts	n/a	6.6m effective length



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7


30025570	2147	GREEN 11.25 DEG OPTICOM BEND	Opticom Green 110mm duct + 4 fibre sub ducts 11.25 deg bend	Class 1	n/a
30025569	2145	GREEN 22.5 DEG OPTICOM BEND	Opticom Green 110mm duct + 4 fibre sub ducts 22.5 deg bend	Class 1	n/a
30025568	3340	GREEN OPTICOM FLEXI BEND	Opticom Green 110mm duct + 4 fibre sub ducts flexible bend	Class 1	n/a
2469900	2609	BLOWING GUN	Rope blowing gun for Opticom		
TBA	3218	TYPE B TERMINATOR			
TBA	3613	OPTICOM REPAIR KIT			
30025566	5730	GREEN OPTICOM 4WAY SP MANWEB	Opticom Green 110mm duct + 4 fibre sub ducts x 6.6m SP Manweb printing	Class 1	6.6m, MoQ 524m
30025565	5715	GREEN 110MM X 6M	110mm Duct, No subduct	Class 1	6m MoQ 540
TBA	3818	GREEN 110MM 11.25 DEG BEND		Class 1	
TBA	3817	GREEN 110MM 22.5 DEG BEND		Class 1	
TBA	3839	GREEN 110MM 45 DEG BEND		Class 1	
TBA	3840	GREEN 110MM 90 DEG BEND		Class 1	
30025567	3823	GREEN 110MM CONNECTOR SLEEVE	Opticom Green 110mm duct + 4 fibre sub ducts Coupling	Class 1	
TBA	5505	RED 110MM X 11.25 DEG 3.9M RAD BEND C1		Class 1	
TBA	5506	RED 110MM X 22.5 DEG 1.75M RAD BEND C1		Class 1	
TBA	5482R	RED 160MM X 11.25 DEG 3.9M RAD BEND C1		Class 1	
TBA	5479R	RED 160MM X 22.5 DEG 3.9M RAD BEND C1		Class 1	
TBA	5640	RED 160MM X 6M RINGSEAL SP 132KV C1		Class 1	
TBA	5420R	RED 160MM X 22.5 DEG 3.9M RAD BEND RING SEAL C1		Class 1	
TBA	5453U	RED 160MM X 11.25 DEG 3.9M RAD BEND RING SEAL C1		Class 1	
TBA	5339	BLK 160MM CONNECTOR DOUBLE		Class 1	
TBA	5645	RED 160MM X 6M RINGSEAL SP 275KV C1		Class 1	
TBA	20132	RED 200MM X 6M RINGSEAL 275KV SP C1		Class 1	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

TBA	20111	RED 200MM X 22.5 DEG 3.9M RAD RINGSEAL BEND C1		Class 1	
TBA	20110	RED 200MM X 11.25 DEG 3.9M RAD RINGSEAL BEND C1			
TBA	5505	RED 110MM X 11.25 DEG 3.9M RAD BEND C1		Class 1	

10.2 Warning tapes and tiles

SAP Number	Type	Voltage	Remarks	Approved Manufacturer
30980838	LV Warning tape	LV	0.1mm thick, 365m rolls inc. SPEN logo	Boddingtons
30980837	11kV Protection Tape	11kV	2.5mm thick, 40m rolls inc. SPEN logo	Centriforce
30980214	33kV protection Tiles	33kV	1000mm x 244mm x 12mm inc. SPEN logo	


	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

11. APPROVED JOINTS & TERMINATIONS

11.1 33kV Joints

33kV Straight & Branch joints for XLPE 1-core cables

SAP Number	Description	SP Reference	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980260	Straight joint for 1-core XLPE 150mm ² up to 240mm ² Cu cables	33-001	CSJA-36D/1XU-1XU-GB02	Includes connector	TYCO
30980261 + 30025661	Straight joint for 1-core XLPE 400mm ² Alu	33-004	CSJA-36E/1XU-1XU-GB01 + BSMB185-400	Without connector. BSMB185-400 connector required.	
30980261	Straight joint for 1-core XLPE 500mm ² -630mm ² Cu	33-004	CSJA-36E/1XU-1XU-GB01	Without connector. See section 11.3 for full range of connectors for this kit	
30025658	Branch joint for 1-core XLPE 150mm ²	33-020	SMOE-64212	Includes connector	
N/A	Straight joint for 1-core XLPE 150mm ²	N/A	SJ1430D-Wire185SP	Includes connector	Pirelli Components
N/A	Straight joint for 1-core XLPE 500mm ² or 630mm ² Cu cables	N/A	SJ1430D-Wire630SP	Without connectors. Crimps available from Prysmian	
N/A	Straight joint for 1-core 150mm ² up to 240mm ² XLPE cables	N/A	94-AP632-1-SP	Includes connector. Requires a 6mm Allen key socket to shear off	3M
N/A	Straight joint for 1-core XLPE 150mm ² to 1-core lead sheath covered XLPE 150-240mm ²	N/A	94-AP633-1-SP	Includes connector. Requires a 6mm Allen key socket to shear off	
N/A	Straight joint for 500mm ² cables	N/A	94-AC641-1-SP-C500C11W42	Includes crimp	
N/A	Straight joint for 630mm ² cables	N/A	94-AC641-1-SP-C630C11W44	Includes crimp	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

33kV Transition Straight Joints for XLPE to PILC Cables

SAP Number	Description	SP Reference	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980257	1-core XLPE 150mm ² -240mm ² to 1-core PILC 0.3 sq inch Cu	33-007	CATJ-36D/1XU-1HL-GB01	Includes connector	TYCO
30025657	1-core XLPE 500mm-630mm ² to 1-core PILC 0.75-1.0 sq inch Cu	33-009	CATJ-36F/1XU-1HL-GB01	Without connector. See section 11.3 for full range of connectors for this kit	
N/A	1-core XLPE 500mm-630mm ² to 1-core PILC 1.5sq inch Cu (Standard or Milliken conductor)	N/A	SMOE 64222	Without connector. See section 11.3 for full range of connectors for this kit	
30980258 + 30025688	3 x 1-core XLPE 150mm ² to 3-core PILC 0.1 sq inch Cu H type trifurcating joint	33-014	CATJ-36D/1XU-3SB-GB02 + SMOE-64171	SMOE-64171 kit contains smaller tubes and connectors for small PILC cable	
30980258	3 x 1-core XLPE 150mm ² -240mm ² to 3-core PILC 0.3 sq inch Cu H type trifurcating joint	33-014	CATJ-36D/1XU-3SB-GB02	Includes connectors	
30980258 + 3 x 30025689	3 x 1-core XLPE 150mm ² -240mm ² to 3-core PILC 0.4-0.5 sq inch Cu H type trifurcating joint	33-014	CATJ-36D/1XU-3SB-GB02 + 3 x BAH-022100035	Phase connectors in joint kit are too small use 3 x BAH022100035 connectors.	
30980259	3 x 1-core XLPE 150mm ² -240mm ² to 3-core PILC 0.3 sq inch Cu HSL trifurcating joint	33-017	CATJ-36D/1XU-3HL-GB01	Includes connectors	
N/A	1-core XLPE 150mm ² to 1-core PILC 185mm ²	N/A	JSCPX33CSP	Includes connector	Prysmian



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

33kV Pot End Module Kits

SAP Number	Description	SP Reference	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
3 x 30980260 1 x 30025691	1-core XLPE 150-240mm ²	33-022/33-023	33-001	CSJ-EndSeal-Kit-C-GB02	SAP Numbers quoted per circuit – set of 3. 1-core Pot ends are made off by using an appropriately sized straight joint kit plus a set of polymeric rods from an End Seal kit.	TYCO
3 x 30980261 1 x 30025692 3 x 30025661	1-core XLPE 400mm ²		33-004	CSJ-EndSeal-Kit-E-GB01	As above + larger connector	
3 x 30980261 1 x 30025692 3 x 30025685	1-core XLPE 500mm ²	33-024	33-004	CSJ-EndSeal-Kit-E-GB01	As above + larger connector.	
3 x 30980261 1 x 30025692 3 x 30025687	1-core XLPE 630mm ²	33-025	33-004	CSJ-EndSeal-Kit-E-GB01	As above + larger connector	
3 x 30980257 1 x 30025691	1-core PILC 0.3 sq inch Cu	33-026	33-007	CSJ-EndSeal-Kit-C-GB02	As above (connector included in kit)	
3 x 30025657 1 x 30025692 3 x 30025685	1-core PILC 0.75 sq inch Cu	33-027	33-009	CSJ-EndSeal-Kit-E-GB01	As above + larger connector	
3 x 30025657 1 x 30025692 3 x 30025690	1-core PILC 1.0 sq inch Cu	33-028	33-010	CSJ-EndSeal-Kit-E-GB01	As above + larger connector	
1 x 30980258 1 x 30025688 1 x 30025691	3-core PILC 0.1 sq inch Cu H type	N/A	33-014	CATJ-36D/1XU-3SB-GB02 + SMOE-64171 + CSJ-EndSeal-Kit-C-GB02	3-core PILC pot ends made off using an appropriately sized trif joint kit + a set of poly rods from an End Seal kit. SMOE-64171 kit is for small PILC cables	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

1 x 30980258 1 x 30025691	3-core PILC 0.3 sq inch Cu H type	N/A	33-014	CATJ-36D/1XU-3SB-GB02 + CSJ-EndSeal-Kit-C-GB02	Connectors included	
1 x 30980258 3 x 30025689 1 x 30025693	3-core PILC 0.4/0.5 sq inch H type	N/A	33-014	CATJ-36D/1XU-3SB-GB02 + BAH-022100035 + CSJ-EndSeal-Kit-D-GB01	As above + larger connector	TYCO
1 x 30980259 1 x 30025691	3-core PILC 0.3 sq inch Cu HSL	N/A	33.017	CATJ-36D/1XU-3HL-GB01 + CSJ-EndSeal-Kit-C-GB02	Connectors included	
N/A	1-core XLPE 150mm ² XLPE	N/A	N/A	PE-01SP		Prysmian

11.2 33kV Terminations

33kV Indoor Terminations for 1-core XLPE cables

SAP Number	Description	SP Reference	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980216	1 Core XLPE 150-240mm ² Cu or Alu Coldshrink Termination (pack of 3)	33-029,33-030	MV33TE1/SP	Includes mechanical shear off lugs for phases and earths	SICAME
30025698	1-Core XLPE 400 mm ² Alu or 500-630mm ² Cu Coldshrink Termination (pack of 3)	33-031,33-032	MV33TE2/SP	Includes mechanical shear off lugs for phases and earths	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

33kV Outdoor Terminations for XLPE 1-core cables

SAP Number	Description	SP Reference	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980215	1 Core XLPE 150-240mm ² Cu or Alu Coldshrink Termination (pack of 3)	33-033,33-034	MV33TE3/SP	Includes mechanical shear off lugs for phases & earths	SICAME
30980250	1-Core XLPE 400 mm ² Alu or 500-630mm ² Cu Coldshrink Termination (pack of 3)	33-035,33-036	MV33TE4/SP	Includes mechanical shear off lugs for phases & earths	

33kV "Inner cone" Connectors for XLPE 1-core cables

Description	SP Reference	Plug Size	Manufacturer Part Number	Lead Time	Additional Information	Approved Manufacturer
1-core XLPE 150mm ² Cu or Alu	33-037	Size 2	870 230 150	4-6 weeks	Set of 3 plugs per pack	Pfisterer
1-core XLPE 150mm ² Cu or Alu	33-038	Size 3	870 330 150	4-6 weeks	Set of 3 plugs per pack	
1-core XLPE 240mm ² Cu or Alu	33-039	Size 3	870 330 240	4-6 weeks	Set of 3 plugs per pack	
1-core XLPE 400mm ² Alu	N/A	Size 3	870 330 400	4-6 weeks	Set of 3 plugs per pack	
1-core XLPE 500mm ² Cu	33-040	Size 3	870 330 500	4-6 weeks	Set of 3 plugs per pack	
1-core XLPE 630mm ² Cu	33-041	Size 3	870 330 630	4-6 weeks	Set of 3 plugs per pack	

33kV Transformer Separable Tee connectors for XLPE 1-core cables

SAP Number	Description	SP reference	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980233	1-core XLPE 150mm ² Cu or Alu	33-042	3XM400TB/G-150.240-45/SP	Three connectors per pack	Nexans
TBC	1-core XLPE 240mm ² Cu or Alu	33-043	3XM400TB/G-120.300-45/SP	Three connectors per pack	
30026496	1-core XLPE 400mm ² Alu	N/A	3XM440TB/G-400-45/SP	Three connectors per pack	
30025695	1-core XLPE 500mm ² Cu	33-044	3XM440TB/G-500-45/SP	Three connectors per pack	
30025696	1-core XLPE 630mm ² Cu	33-045	3XM440TB/G-630-45/SP	Three connectors per pack	




APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

11.3 33kV Supplementary Connectors/Modules

SAP Number	Description	SP Reference	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30025661	Shear-off connector for 1-core XLPE 400mm ² to 1-core XLPE 400mm ²	N/A	33-004	BSMB185-400		TYCO
30025685	Shear off connector for 1-core XLPE 500mm ² to 1-core XLPE 500mm ²	N/A	33-004	BSMB-500		
30025686	Shear off connector for 1-core XLPE 500mm ² to 1-core XLPE 630mm ²	N/A	33-004	BSMB-500-630		
30025687	Shear off connector for 1-core XLPE 630mm ² to 1-core XLPE 630mm ²	N/A	33-004	BSMB-630		
30025690	Shear off connector for 1-core XLPE 500-630mm ² Cu to 1-core PILC 0.75-1.0 sq inch Cu	N/A	33-009	BAH-022110055		
Not held in stock	Shear off connector for 1-core XLPE 500mm ² to 1-core PILC 1.5sq inch	N/A	SMOE 64222 joint kit	EPPA-063-27/41-42/55-180A	Available from manufacturer	
Not held in stock	Shear off connector for 1-core XLPE 630mm ² to 1-core PILC 1.5sq inch	N/A	SMOE 64222 joint kit	EPPA-063-31/45-42/55-180A	Available from manufacturer	
Not held in stock	Shear off connector for 1-core XLPE 500mm ² to 1-core PILC 1.5sq inch (Milliken conductor)	N/A	SMOE 64222 joint kit	EPPA-063-27/41-43/56-180A	Available from manufacturer	
Not held in stock	Shear off connector for 1-core XLPE 630mm ² to 1-core PILC 1.5sq inch (Milliken conductor)	N/A	SMOE 64222 joint kit	EPPA-063-31/45-43/56-180A	Available from manufacturer	
30025688	3-core PILC 0.1 sq inch Cu H type to 3 x 1-core XLPE 150mm ² -240mm ²	N/A	33-014	SMOE-64171	Contains smaller tubes and shear off connectors to suit 0.1sq inch PILC cable	
30025689	Shear off connector for 3-core PILC 0.4/0.5 sq inch Cu H type to 3 x 1-core XLPE 150mm ² -240mm ²	N/A	33-014	BAH-022100035	Shear off connector to suit 0.4/0.5 sq inch PILC cable	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

11.4 11kV Joints

11kV Straight Joints for XLPE cables

SAP Number	Description	SP Reference	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980299	1-core XLPE 95/185mm ² SAC to 1-core XLPE 95/300mm ² SAC	11-001	CSJT-12B/1XU-1XU-GB01	Connector included	TYCO
30980300	1-core XLPE 300mm ² SAC to 1-core XLPE 300mm ² SAC	11-002	CSJT-12C/1XU-1XU-GB01	Connector included	
30980303	1-core XLPE 300mm ² Cu to 1-core XLPE 300mm ² Cu	11-003	CSJT-12C/1XU-1XU-GB03	Connector included	
30980304	1-core XLPE 500mm ² Cu to 1-core XLPE 500mm ² Cu	11-004	CSJT-12E/1XU-1XU-GB01	Connector included	
30980270	3-core XLPE 95-300mm ² SAC to 3-core XLPE 95-300mm ² SAC	11-005	CSJT-12B/3XU-3XU-GB01	Connectors included	

11kV Transition Straight Joints for XLPE to PILC/PICAS cables

SAP Number	Description	SP Reference	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980336	1-core XLPE 300mm ² Cu to 1-core PILC 300mm ² Cu	11-007	CATJ-12C/1XU-1HL-GB01	Connector included	TYCO
30980337	1-core XLPE 500mm ² Cu to 1-core PILC 500mm ² Cu	11-008	CATJ-12E/1XU-1HL-GB01	Connector included	
30980295	3-core XLPE 95/300mm ² SAC to 3-core PILC up to 70mm ²	11-009	CATJ-12B/3XU-3SB-GB02	Connectors included. Also requires build up kit and earth kit for PILC cable.	
30980278	3-core XLPE 95/300mm ² SAC to 3-core PILC/PICAS greater than 70mm ² up to 185mm ²	11-010	CATJ-12B/3XU-3SB-GB01	Connectors included. Also requires earth kit for PILC / PICAS cable.	
30980281	3-core XLPE 95/300mm ² SAC to 3-core PILC/PICAS greater than 185mm ² up to 300mm ²	11-011	CATJ-12C/3XU-3SB-GB01	Connectors included. Also requires earth kit	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

30980324	3 x 1-core or 3-core XLPE 95/300mm ² SAC- 6-core PILC 0.1-0.2 sq inch	11-018	SMOE-64147	Use in conjunction with an appropriate transition branch joint. Also requires earth kit for PILC cable and 2 x build up kits for 6-core 0.1sq inch PILC cable.	
N/A	Transition joint for 3-core PILC/PICAS to 3-core XLPE - 95mm ² c/w connectors and jointing instructions.	N/A	MV3CST1/SP	Available from supplier	3M
N/A	Transition joint for 3-core PILC/PICAS to 3-core XLPE - 185mm ² c/w connectors and jointing instructions.	N/A	MV3CST2/SP	Available from supplier	
N/A	Transition joint for 3-core PILC/PICAS to 3-core XLPE - 300mm ² c/w connectors and jointing instructions.	N/A	MV3CST3/SP	Available from supplier	
N/A	Trifurcating transition joint for 3-core PILC/PICAS to 3x1-core XLPE - 95mm ² c/w connectors and jointing instructions.	N/A	MV3CTRT1/SP	Available from supplier	
N/A	Trifurcating transition joint for 3-core PILC/PICAS to 3x1-core XLPE - 185mm ² c/w connectors and jointing instructions.	N/A	MV3CTRT2/SP	Available from supplier	
N/A	Trifurcating transition joint for 3-core PILC/PICAS to 3x1-core XLPE - 300mm ² c/w connectors and jointing instructions.	N/A	MV3CTRT3/SP	Available from supplier	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

11kV Pot End Module Kits

SAP Number	Description	SP Reference	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30025691	1-core XLPE 95-300mm ² SAC / 3-core XLPE 95-300mm ² SAC / 3-core PILC/PICAS up to 185mm ²	11-019	11-001, 11-002, 11-003, 11-004, 11-005, 11-009, 11-010	CSJ-EndSeal-Kit-C-GB02	1-core and 3-core Pot ends are made off by using an appropriately sized straight joint kit plus a set of polymeric rods from End Seal kit.	TYCO
30025693	3-core PILC/PICAS greater than 185mm ² up to 300mm ²	11-025	11-011	CSJ-EndSeal-Kit-D-GB01	As above	

11kV Loop Joint Module Kits (XLPE-XLPE)

SAP Number	Description	SP Reference	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30025660	3-core XLPE 95/300mm ² SAC- 3-core XLPE 95/300mm ² SAC	11-026	11-030	CSJ-EndSeal-Kit-F-GB02	Tyco XLPE – XLPE loop joints are made off by using an appropriately sized branch joint kit plus a set of polymeric rods from End Seal kit.	TYCO



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

11kV Transition Loop Joint Kits (XLPE-PILC/PICAS)

SAP Number	Description	SP Reference	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980280	3-core XLPE 95/300mm ² SAC- 3-core PILC/PICAS up to 95mm ²	11-027	NA	SMOE 64149	Connectors included. Also requires earth kit for PILC/PICAS cables + build up kits for 0.1" PILC cables.	TYCO
30980283	3-core XLPE 95/300mm ² SAC- 3-core PILC/PICAS greater than 95mm ² up to 300mm ²	11-028	NA	SMOE 64150	Connectors included. Also requires earth kit for PILC/PICAS cables	

11kV Branch Joints (XLPE-XLPE)

SAP Number	Description	SP Reference	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30025659	1-core XLPE 95/300mm ² SAC- 1-core XLPE 95/300mm ² SAC	11-029	NA	CSBJ-12F/1XU-2XU-GB02	Connectors included.	TYCO
30980273	3-core XLPE 95/300mm ² SAC- 3-core XLPE 95/300mm ² SAC	11-030	NA	CSBJ-12F/3XU-6XU-GB01	Connectors included.	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

11kV Transition Branch Joints (XLPE onto PILC/PICAS)

SAP Number	Description	SP Reference	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980279	3-core XLPE 95/300mm ² SAC- 3-core PILC/PICAS up to 95mm ²	11-031	NA	CATJ-12F/3XU-6SB-GB02	Connectors included. Also requires earth kit for PILC/PICAS cables + build up kits for 0.1" PILC cables.	TYCO
30980282	3-core XLPE 95/300mm ² SAC- 3-core PILC/PICAS greater than 95mm ² up to 300mm ²	11-032	NA	CATJ-12F/3XU-6SB-GB03	Connectors included. Also requires earth kit for PILC/PICAS cables.	
30980326	3 x 1-core XLPE 95/300mm ² SAC- 3-core PILC/PICAS up to 95mm ²	11-033	NA	CATJ-12F/1XU-6SB-GB02	Connectors included. Also requires earth kit for PILC/PICAS cables + build up kits for 0.1" PILC cables.	
30980325	3 x 1-core XLPE 95/300mm ² SAC- 3-core PILC/PICAS greater than 95mm ² up to 300mm ²	11-034	NA	CATJ-12F/1XU-6SB-GB03	Connectors included. Also requires earth kit for PILC/PICAS cables.	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

Build up, Earthing and screening kits for XLPE to XLPE and XLPE to PILC/PICAS joints

SAP Number	Description	SP Reference	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980196	11kV Paper to Paper conversion kit for use with paper cables up to 185mm ²	11-052	11-009, 11-010	SMOE-64042	Converts transition base kit into paper to paper joint.	TYCO
30980197	11kV Paper to Paper conversion kit for use with paper cables greater than 185mm ² up to 300mm ²	11-053	11-011	SMOE-64043	Converts transition base kit into paper to paper joint.	
30980284	Earthing kit for 95-300mm ² PICAS	11-055	11-009, 11-010, 11-011, 11-015, 11-016, 11-017, 11-027, 11-028, 11-031, 11-032, 11-033, 11-034	SMOE-63893		
30980291	Earthing kit for up to 50mm ² PILC	11-057	11-009, 11-015, 11-027, 11-031, 11-033	SMOE-64044		
30980286	Earthing kit for up to greater than 50mm ² up to 300mm ² PILC	11-058	11-009, 11-010, 11-011, 11-015, 11-016, 11-017, 11-027, 11-028, 11-031, 11-032, 11-033, 11-034	SMOE-63894		
30980315	Build up kit for up to 70mm ² PILC for transition straight/trifurcating and branch /loop joints	11-060	11-009, 11-015, 11-031, 11-033	CSJ-BuildUp-CATJ-GB01		
30980316	Build up kit for 95mm ² XLPE 3-core for transition straight/trifurcating joints	11-062	11-011, 11-017	CSJ-BuildUp-Kit-C-GB02		
N/A	Build up kit for paper cables up to 35mm ²	N/A	3M joints only	PILCSO/SP	Available from supplier	3M
N/A	Screen termination kit for screened paper cables	N/A	3M joints only	SPM/SP	Available from supplier	
N/A	Earth kit for PILC cable up to 35mm ²	N/A	3M joints only	MEHV0/SP	Available from supplier	
N/A	Earth kit for PILC cable 50mm ² to 95mm ²	N/A	3M joints only	MEHV1/SP	Available from supplier	Sicame
N/A	Earth kit for PILC cable 120mm ² up to 300mm ²	N/A	3M joints only	MEHV2/SP	Available from supplier	
N/A	Earth kit for 95mm ² PICAS cable	N/A	3M joints only	MEHV3/SP	Available from supplier	
N/A	Earth kit for 185m ² and 300mm ² PICAS cable	N/A	3M joints only	MEHV4/SP	Available from supplier	




APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

11.5 11kV Terminations

Indoor Terminations

SAP Number	Description	SP Reference	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980267	Bushing protection boots, kit of 3	11-050	N/A	SMOE 62803	For bushing with diameter 46-70mm	TYCO
30025694	Build up kit for small diameter bushings	11-051	11-050	SMOE 63992	For bushing with diameter 31-45mm.	
30980263	3 x 1-Core XLPE 95mm ² SAC C/W phase and earth lugs (M12)	11-035	NA	MVSCIT1/SP	Lugs supplied in kit	SICAME
30980264	3 x 1-Core XLPE 185mm ² SAC C/W phase and earth lugs (M12)	11-036	NA	MVSCIT3/SP	Lugs supplied in kit	
30980265	3 x 1-Core XLPE 300mm ² SAC C/W phase and earth lugs (M12)	11-037	NA	MVSCIT5/SP	Lugs supplied in kit	
30980331	3 x 1-Core XLPE 300mm ² Cu C/W phase and earth lugs (M12)	11-038	NA	MVSCIT7/SP	Lugs supplied in kit	
30980333	3 x 1-Core XLPE 500mm ² Cu C/W phase and earth lugs (M12)	11-039	NA	MVSCIT9/SP	Lugs supplied in kit	
30025699	3 x 1-Core XLPE 630mm ² Cu C/W phase and earth lugs (M12)	11-040	NA	MVSCIT11/SP	Lugs supplied in kit	
TBC	95mm Al shearbolt lug M16 palm hole		11-035	ITK95-16/SP	Pack of 3	
TBC	185mm Al shearbolt lug M16 palm hole		11-036	ITK185-16/SP	Pack of 3	
TBC	300mm Al shearbolt lug M16 palm hole		11-037	ITK300-16/SP	Pack of 3	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------


30025700	300mm Cu shearbolt lug M16 palm hole		11-038	HVTM1/3-16B	Pack of 3	SICAME
30025701	500mm Cu crimp lug M16 palm hole		11-039	L500C11W-42(16)	Pack of 3	
TBC	630mm Cu crimp lug M16 palm hole		11-040	L630C11W-44(16)	Pack of 3	

Separable "Elbow" & "T" Connectors


SAP Number	Description	SP Reference	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980301	1-core XLPE 95mm ² SAC (BIL 95kV) 250 Amp Elbow interface "A"	11-047	3XK158LR-95-E-45/SP	Pack of 3. Kit contains all lugs	Nexans
30980232	1-core XLPE 300mm ² Cu (BIL 95kV) 630 Amp T connector interface "C"	11-048	3XK400TB/G-300-45/SP	Pack of 3. Kit contains all lugs	
30025697	1-core XLPE 500mm ² Cu (BIL 95kV) 1250 Amp T connector interface "C"	11-049	3XK440TB/G-500-45/SP	Pack of 3. Kit contains all lugs	
N/A	1-core XLPE 95mm ² SAC (BIL 95kV) 250 Amp Elbow interface "A"	N/A	FMCE-250-T3	Available from supplier	Prysmian

Outdoor Terminations

SAP Number	Description	SP Reference	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980292	3 x 1-Core XLPE 95mm ² SAC C/W phase and earth lugs (M12)	11-041	MVSCTE1/SP	Lugs plus Earth Parking Bars, Dropper Brackets and Cruciform Fixings supplied in kit	SICAME
30980293	3 x 1-Core XLPE 185-300mm ² SAC C/W phase and earth lugs (M12)	11-042,11- 043	MVSCTE2/SP	Lugs plus Earth Parking Bars, Dropper Brackets and Cruciform Fixings supplied in kit	
30980334	3 x 1-Core XLPE 500mm ² SAC C/W phase and earth lugs (M12)	11-043A	MVSCTE3/SP	Lugs supplied in kit	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

30980335	3 x 1-Core XLPE 630mm ² SAC C/W phase and earth lugs (M12)	11-043B	MVSCTE4/SP	Lugs supplied in kit	SICAME
30980288	3-Core XLPE 95mm ² SAC C/W phase and earth lugs (M12)	11-044	MV3CTE1/SP	Lugs plus Earth Parking Bars, Dropper Brackets and Cruciform Fixings supplied in kit	
30980289	3-Core XLPE 185-300mm ² SAC C/W phase and earth lugs (M12)	11-045,11-046	MV3CTE2/SP	Lugs plus Earth Parking Bars, Dropper Brackets and Cruciform Fixings supplied in kit	
30980254	11kV Pole Crucifix Assembly		4912KIT	Complete with surge arrestor bonding plate and earth termination bar.	


	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
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12. APPROVED LV JOINT KITS & COMPONENTS

12.1 Low Voltage Service Cable Joints

LV Service Stop Ends

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980371	4-35mm ² Single phase CNE plastic service cable stop end	0.8 litres of resin required	SE1/SP		Sicame
30980372	4-35mm ² Single phase SNE plastic service cable stop end	0.8 litres of resin required	SE2/SP		
30980373	16-35mm ² 3 phase CNE/WaveCon plastic service cable stop end	1.1 litres of resin required	SE3/SP		
30980374	16-35mm ² 3 phase SNE plastic service cable stop end	1.1 litres of resin required	SE4/SP		
30980375	4-35mm ² (0.007"-0.06") Single phase PILC twin/concentric stop end	1.8 litres of resin required	SE5/SP		
30980376	4-35mm ² (0.007"-0.06") Three phase 4-core PILC stop end	1.8 litres of resin required	SE6/SP		
N/A	4-35mm ² Single phase CNE plastic service cable stop end	1.2 litres of resin required	TLNK-SE1-SP01	Available from supplier	Tyco
N/A	4-35mm ² Single phase SNE plastic service cable stop end	1.2 litres of resin required	TLNK-SE1-SP02	Available from supplier	
N/A	16-35mm ² 3 phase CNE/WaveCon plastic service cable stop end	2.2 litres of resin required	TLNK-SE3-SP03	Available from supplier	
N/A	16-35mm ² 3 phase SNE plastic service cable stop end	2.2 litres of resin required	TLNK-SE3-SP04	Available from supplier	


	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

LV Service Straight Joints

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980377	4-35mm ² Single phase (CNE/SNE) plastic service cable straight joint	1.8 litres of resin required	SJ1/SP		Sicame
30980378	16-35mm ² 3 phase (CNE/SNE) plastic service cable straight joint	3.5 litres of resin required	SJ2/SP		
30980379	4-35mm ² (0.007"-0.06") Single phase plastic CNE/SNE - PILC twin/concentric transition straight joint	3.5 litres of resin required	SJ3T/SP		
30980380	16-35mm ² (0.0225"-0.06") 3 phase plastic CNE/SNE - 4-core PILC transition straight joint	4.1 litres of resin required	SJ4T/SP		
N/A	4-35mm ² Single phase (CNE/SNE) plastic service cable straight joint	2.6 litres of resin required	TLNK-SS1-SP07	Available from supplier	Tyco
N/A	16-35mm ² 3 phase (CNE/SNE) plastic service cable straight joint	2.2 litres of resin required	TLNK-SS3-SP08	Available from supplier	

LV Service Cut, Test and Remake and/or Branch Joints

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980381	4-35mm ² Single phase Base Kit for CNE/SNE plastic service cables	2.9 litres of resin required	CT1P/SP		Sicame
30980382	16-35mm ² Three phase Base Kit for CNE/SNE plastic service cables	5.1 litres of resin required	CT3P/SP		


	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

30980383	4-35mm ² Single phase Base Kit for Twin, concentric PILC or Three phase PILC service cables	7.1 litres of resin required	CT1L/SP		
N/A	4-35mm ² Single phase Base Kit for CNE/SNE plastic service cables	2.2 litres of resin required	TLNK-SB1-SP11	Available from supplier	Tyco
N/A	16-35mm ² Three phase Base Kit for CNE/SNE plastic service cables	5.0 litres of resin required	TLNK-SB3-SP12	Available from supplier	

12.2 Low Voltage Mains Cable Joints

LV Mains Straight Joints (3-core waveform to 3-core waveform)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980389	Up to 95mm ² - 95mm ² 3-core Waveform straight joint	8.4 litres of resin required	SMJ95W3/SP		Sicame
30980390	Up to 185mm ² - 185mm ² 3-core Waveform straight joint	14.8 litres of resin required	SMJ185W3/SP		
30980391	Up to 300mm ² - 300mm ² 3-core Waveform straight joint	21.5 litres of resin required	SMJ300W3/SP		
N/A	Up to 95mm ² - 95mm ² 3-core Waveform straight joint	10.0 litres of resin required	TLNK-MMS-SP19	Available from supplier	Tyco
N/A	Up to 185mm ² - 185mm ² 3-core Waveform straight joint	15.0 litres of resin required	TLNK-MMS-SP20	Available from supplier	
N/A	Up to 300mm ² - 300mm ² 3-core Waveform straight joint	21.5 litres of resin required	TLNK-MMS-SP21	Available from supplier	


	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

LV Mains Straight Joints (4-core waveform to 4-core waveform)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980392	Up to 95mm ² - 95mm ² 4-core Waveform straight joint	8.4 litres of resin required	SMJ95W4/SP		Sicame
30980393	Up to 185mm ² - 185mm ² 4-core Waveform straight joint	14.8 litres of resin required	SMJ185W4/SP		
30980394	Up to 300mm ² - 300mm ² 4-core Waveform straight joint	21.5 litres of resin required	SMJ300W4/SP		
N/A	Up to 95mm ² - 95mm ² 4-core Waveform straight joint	10.0 litres of resin required	TLNK-MMS-SP22	Available from supplier	Tyco
N/A	Up to 185mm ² - 185mm ² 4-core Waveform straight joint	15.0 litres of resin required	TLNK-MMS-SP23	Available from supplier	
N/A	Up to 300mm ² - 300mm ² 4-core Waveform straight joint	21.5 litres of resin required	TLNK-MMS-SP24	Available from supplier	

LV Mains Straight Joints (3-core waveform to 4-core waveform)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980395	Up to 95mm ² 3-core Waveform to 95mm ² 4-core Waveform straight joint	8.4 litres of resin required	SMJ95W3/4/SP		Sicame
30980396	Up to 185mm ² 3-core Waveform to 185mm ² 4-core Waveform straight joint	14.8 litres of resin required	SMJ185W3/4/SP		
30980397	Up to 300mm ² 3-core Waveform to 300mm ² 4-core Waveform straight joint	21.5 litres of resin required	SMJ300W3/4/SP		
N/A	Up to 95mm ² 3-core Waveform to 95mm ² 4-core Waveform straight joint	10.0 litres of resin required	TLNK-MMS-SP25	Available from supplier	Tyco

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------


N/A	Up to 185mm ² 3-core Waveform to 185mm ² 4-core Waveform straight joint	15.0 litres of resin required	TLNK-MMS-SP26	Available from supplier	
N/A	Up to 300mm ² 3-core Waveform to 300mm ² 4-core Waveform straight joint	21.5 litres of resin required	TLNK-MMS-SP27	Available from supplier	

LV Mains Straight Joint Transitional; (3-core or 4-core waveform to 4-core PILC)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980404	Up to 95mm ² 3-core or 4-core Waveform to 50-95mm ² 4-core PILC straight joint	9.2 litres of resin required	SMJ95T3&4/SP		Sicame
30980405	Up to 185mm ² 3-core or 4-core Waveform to >95-185mm ² 4-core PILC straight joint	18.0 litres of resin required	SMJ185T3&4/SP		
30980406	Up to 300mm ² 3-core or 4-core Waveform to >185-300mm ² 4-core PILC straight joint	24.6 litres of resin required	SMJ300T3&4/SP		

LV Single Core Solidal Sectoral Aluminium Straight Joint

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30026312	Solidal sectoral Aluminium straight joint 480mm-740mm	7.4 litres of resin required	STTJ1/SP	Kit suitable for armoured or unarmoured cables	Sicame


	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

LV Mains Branch Joints (3-core waveform to 3-core waveform)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980407	Up to 95mm ² - 95mm ² 3-core Waveform branch joint	10.5 litres of resin required	BMJ95W3/SP		Sicame
30980408	Up to 185mm ² - 185mm ² 3-core Waveform branch joint	24.0 litres of resin required	BMJ185W3/SP		
30980409	Up to 300mm ² - 300mm ² 3-core Waveform branch joint	29.0 litres of resin required	BMJ300W3/SP		
N/A	Up to 95mm ² - 95mm ² 3-core Waveform branch joint	18.0 litres of resin required	TLNK-MMB-SP34	Available from supplier	Tyco
N/A	Up to 185mm ² - 185mm ² 3-core Waveform branch joint	24.0 litres of resin required	TLNK-MMB-SP35	Available from supplier	
N/A	Up to 300mm ² - 300mm ² 3-core Waveform branch joint	29.0 litres of resin required	TLNK-MMB-SP36	Available from supplier	

LV Mains Branch Joints (4-core waveform to 4-core waveform)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980410	Up to 95mm ² - 95mm ² 4-core Waveform branch joint	10.5 litres of resin required	BMJ95W4/SP		Sicame
30980411	Up to 185mm ² - 185mm ² 4-core Waveform branch joint	24.0 litres of resin required	BMJ185W4/SP		
30980412	Up to 300mm ² - 300mm ² 4-core Waveform branch joint	29.0 litres of resin required	BMJ300W4/SP		
N/A	Up to 95mm ² - 95mm ² 4-core Waveform branch joint	18.0 litres of resin required	TLNK-MMB-SP37	Available from supplier	Tyco
N/A	Up to 185mm ² - 185mm ² 4-core Waveform branch joint	24.0 litres of resin required	TLNK-MMB-SP38	Available from supplier	
N/A	Up to 300mm ² - 300mm ² 4-core Waveform branch joint	29.0 litres of resin required	TLNK-MMB-SP39	Available from supplier	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

LV Mains Branch Joints (3-core waveform to 4-core waveform)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980413	Up to 95mm ² - 95mm ² 3-core Waveform to 4-core Waveform branch joint	10.5 litres of resin required	BMJ95W3/4/SP		Sicame
30980414	Up to 185mm ² - 185mm ² 3-core Waveform to 4-core Waveform branch joint	24.0 litres of resin required	BMJ185W3/4/SP		
30980415	Up to 300mm ² - 300mm ² 3-core Waveform to 4-core Waveform branch joint	29.0 litres of resin required	BMJ300W3/4/SP		
N/A	Up to 95mm ² - 95mm ² 3-core Waveform to 4-core Waveform branch joint	18.0 litres of resin required	TLNK-MMB-SP40	Available from supplier	Tyco
N/A	Up to 185mm ² - 185mm ² 3-core Waveform to 4-core Waveform branch joint	24.0 litres of resin required	TLNK-MMB-SP41	Available from supplier	
N/A	Up to 300mm ² - 300mm ² 3-core Waveform to 4-core Waveform branch joint	29.0 litres of resin required	TLNK-MMB-SP42	Available from supplier	

LV Mains Branch Joint Transitional (3-core waveform to 4-core PILC)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980416	Up to 95mm ² 3-core Waveform to 50-95mm ² 4-core PILC branch joint	20.2 litres of resin required	BMJ95T3/SP		Sicame
30980417	Up to 185mm ² 3-core Waveform to >95-185mm ² 4-core PILC branch joint	25.6 litres of resin required	BMJ185T3/SP		
30980418	Up to 300mm ² 3-core Waveform to >185-300mm ² 4-core PILC branch joint	31.8 litres of resin required	BMJ300T3/SP		



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

LV Mains Branch Joint Transitional (4-core waveform to 4-core PILC)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980419	Up to 95mm ² 4-core Waveform to 50-95mm ² 4-core PILC branch joint	20.2 litres of resin required	BMJ95T4/SP		Sicame
30980420	Up to 185mm ² 4-core Waveform to >95-185mm ² 4-core PILC branch joint	25.6 litres of resin required	BMJ185T4/SP		
30980421	Up to 300mm ² 4-core Waveform to >185-300mm ² 4-core PILC branch joint	31.8 litres of resin required	BMJ300T4/SP		

LV Mains Loop Joints (3-core & 4-core waveform)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980430	70-95mm ² - 70-95mm ² 3-core or 4-core Waveform loop joint	16.7 litres of resin required	MLJ95W/SP		Sicame
30980431	Up to 185mm ² - 185mm ² 3-core or 4-core Waveform loop joint	24.0 litres of resin required	MLJ185W/SP		
30980432	Up to 300mm ² - 300mm ² 3-core or 4-core Waveform loop joint	34.1 litres of resin required	MLJ300W/SP		

LV Mains Loop Joints (Transitional or PILC to PILC)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980433	Up to 95mm ² Transition or PILC to PILC Loop joint	20.2 litres of resin required	MLJ95T/SP		Sicame
30980434	Up to 185mm ² Transition or PILC to PILC Loop joint	29.0 litres of resin required	MLJ185T/SP		
30980435	Up to 300mm ² Transition or PILC to PILC Loop joint	34.1 litres of resin required	MLJ300T/SP		



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

LV Mains 3-Loose End Joints

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980436	Up to 95mm ² Waveform or Transition or PILC to PILC Loop joint	20.2 litres of resin required	MTLE95/SP		Sicame
30980437	Up to 185mm ² Waveform or Transition or PILC to PILC Loop joint	29.0 litres of resin required	MTLE185/SP		
30980438	Up to 300mm ² Waveform or Transition or PILC to PILC Loop joint	34.1 litres of resin required	MTLE300/SP		

LV Mains Stop Ends (3-core)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980425	70-95mm ² 3-Core Waveform Stop End	3.6 litres of resin required	MSE4/SP		Sicame
30980426	185mm ² to 300mm ² 3-Core Waveform Stop End	7.0 litres of resin required	MSE5/SP		
N/A	70-95mm ² 3-Core Waveform Stop End	5.0 litres of resin required	TLNK-MSE-SP52	Available from supplier	Tyco
N/A	185mm ² to 300mm ² 3-Core Waveform Stop End	7.2 litres of resin required	TLNK-MSE-SP53	Available from supplier	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

LV Mains Stop Ends (4-core)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980427	95mm ² 4-Core Waveform Stop End	3.6 litres of resin required	MSE6/SP		Sicame
30980428	185mm ² to 300mm ² 4-Core Waveform Stop End	7.0 litres of resin required	MSE7/SP		
N/A	95mm ² 4-Core Waveform Stop End	5.0 litres of resin required	TLNK-MSE-SP54	Available from supplier	Tyco
N/A	185mm ² to 300mm ² 4-Core Waveform Stop End	7.2 litres of resin required	TLNK-MSE-SP55	Available from supplier	

LV Mains Stop Ends (Consac)

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980429	70-300mm ² 3-Core Consac Stop End	9.0 litres of resin required	MSE8/SP		Sicame

LV Mains Stop Ends (PILC) including old concentric mains

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980422	Up to 95mm ² PILC Stop End	9.0 litres of resin required	MSE1/SP		Sicame
30980423	Greater than 95-185mm ² PILC Stop End	9.0 litres of resin required	MSE2/SP		
30980424	Greater than 185-300mm ² PILC Stop End	9.0 litres of resin required	MSE3/SP		



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

LV Mains Service Branch Joints

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980384	70-185mm ² 3-core & 4-core Waveform mains service base kit	11.2 litres of resin required	MSJ185W/SP		Sicame
30980385	240-300mm ² 3-core & 4-core Waveform mains service base kit	12.8 litres of resin required	MSJ300W/SP		
30980386	50-95mm ² 4-core PILC mains service base kit	10.35 litres of resin required	MSJ95T/SP		
30980387	Over 95-185mm ² 4-core PILC mains service base kit	10.35 litres of resin required	MSJ185T/SP		
30980388	Over 185-300mm ² 4-core PILC mains service base kit	18.0 litres of resin required	MSJ300T/SP		
N/A	70-185mm ² 3-core & 4-core Waveform mains service base kit	10.0 litres of resin required	TLNK-MSB-SP14	Available from supplier	Tyco
N/A	240-300mm ² 3-core & 4-core Waveform mains service base kit	16.0 litres of resin required	TLNK-MSB-SP15	Available from supplier	



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

12.3 Low Voltage Mains Pillar, TOC, or Industrial Cut-out Termination

3-core Waveform

SAP Number	Description	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980451	95mm ² 3-core Waveform Termination (Indoor)	WIDT1-3C/SP		Sicame
30980452	185mm ² 3-core Waveform Termination (Indoor)	WIDT2-3C/SP		
30980453	300mm ² 3-core Waveform Termination (Indoor)	WIDT3-3C/SP		

4-core Waveform

SAP Number	Description	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980454	95mm ² 4-core Waveform Termination (Indoor)	WIDT4-4C/SP		Sicame
30980455	185mm ² 4-core Waveform Termination (Indoor)	WIDT5-4C/SP		
30980456	300mm ² 4-core Waveform Termination (Indoor)	WIDT6-4C/SP		



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

12.4 Low Voltage Service & Mains Cable Pole Termination

3-core Waveform to Droppers

SAP Number	Description	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980439	Up to 95mm ² 3-core Waveform Pole Termination (To Droppers)	WPT1-3S/SP		Sicame
30980440	185mm ² 3-core Waveform Pole Termination (To Droppers)	WPT2-3S/SP		
30980441	300mm ² 3-core Waveform Pole Termination (To Droppers)	WPT3-3S/SP		

3-core Waveform to Pole Mounted Fuses

SAP Number	Description	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980442	Up to 95mm ² 3-core Waveform Pole Termination (To Pole Mounted Fuses)	WPT4-3F/SP		Sicame
30980443	185mm ² 3-core Waveform Pole Termination (To Pole Mounted Fuses)	WPT5-3F/SP		
30980444	300mm ² 3-core Waveform Pole Termination (To Pole Mounted Fuses)	WPT6-3F/SP		

4-core Waveform to Droppers

SAP Number	Description	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980445	95mm ² 4-core Waveform Pole Termination (To Droppers)	WPT7-4S/SP		Sicame
30980446	185mm ² 4-core Waveform Pole Termination (To Droppers)	WPT8-4S/SP		
30980447	300mm ² 4-core Waveform Pole Termination (To Droppers)	WPT9-4S/SP		



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

4-core Waveform to Pole Mounted Fuses

SAP Number	Description	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980448	95mm ² 4-core Waveform Pole Termination (To Pole Mounted Fuses)	WPT10-4F/SP		Sicame
30980449	185mm ² 4-core Waveform Pole Termination (To Pole Mounted Fuses)	WPT11-4F/SP		
30980450	300mm ² 4-core Waveform Pole Termination (To Pole Mounted Fuses)	WPT12-4F/SP		

LV Service Pole Terminations

SAP Number	Description	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980458	1 phase CNE service pole termination	SWPT1/SP		Sicame
30980457	1 phase SNE service pole termination	SWPT2/SP		
30980459	3 phase CNE/SNE service pole termination	SWPT3/SP		




APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

12.5 Modules for LV Service Connections

SAP Number	Description	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980460	Service to service branch connector to suit conductors from 4mm to 35mm + CR patch	CT1B/SP		Sicame
30980461	Phase core cut and remake barrel connector to suit conductors from 4mm to 35mm +CR patch	CTPM/SP		
30980462	Concentric neutral and/or earth cut and remake barrel connector + CR patch	C-N/EM		
30980463	Fully insulated neutral connector for 4mm to 35mm service cables onto 4-core 95mm-185mm waveform mains cables	MSD2NM1/SP		
30980464	Fully insulated neutral connector for 4mm to 35mm service cables onto 4-core 240mm waveform mains cables	MSD2NM2/SP		
30980465	Fully insulated phase connector for 4mm to 35mm service cables onto 3 or 4-core 95mm-185mm waveform mains cables + foam to seal service port of joint shell	MSD2M1/SP		
30980466	Fully insulated phase connector for 4mm to 35mm service cables onto 3 or 4-core 240mm-300mm waveform mains cables + foam to seal service port of joint shell	MSD2M2/SP		
30980467	Consac to waveform neutral earth connector	NET1/SP		
30980468	Service bridge piece for 95mm channel style connector + foam to seal service port of joint shell	UM95SBM/SP		
30980469	Service bridge piece for 185mm channel style connector + foam to seal service port of joint shell	UM185SBM/SP		
30980470	Service bridge piece for 300mm channel style connector + foam to seal service port of joint shell	UM300SBM/SP		
30980471	Neutral earth connector	NE15/SP		

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
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12.6 Modules for LV Temporary Jointing during Fault Location/Repair Processes

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Approved Manufacturer
30980472	Joint shell for temporary pot ends for w/form/Districable and up to 185mm PILC	11.5 litres	MS 10	Sicame
30980473	Joint shell for temporary cut & test, strap-over joints on 95mm PILC cables	11.7 litres	MST 21	
30980474	Joint shell for temporary cut & test, strap-over joints on 185mm PILC cables	16.7 litres	MST 22	
30980475	Joint shell for temporary cut & test, strap-over joints on 300mm PILC cables	23.3 litres	MST 23	
30982990	Joint shell for temporary cut & test, strap-over joints on 240 - 300mm waveform cables	21.5 litres	MST 14	
30900476	Extended 95mm straight connector with Aluminium shear bolts for cut & test remakes	N/A	UM95XLA/SP	
30900477	Extended 185mm straight connector with Aluminium shear bolts for cut & test remakes	N/A	UM185XLA/SP	
30900478	Extended 300mm straight connector with Aluminium shear bolts for cut & test remakes	N/A	UM300XLA/SP	
30900479	95mm branch connector with brass non-shear bolts & pressure pads/gauze for strap-over joints	N/A	WB95A/SP	
30900480	185mm branch connector with brass non-shear bolts & pressure pads/gauze for strap-over joints	N/A	WB185A/SP	
30900481	300mm branch connector with brass non-shear bolts & pressure pads/gauze for strap-over joints	N/A	WB300A/SP	
30980203	Spare Torque limiters for mechanical earth connectors (pack of 6)	N/A	TLD/SP	
30980204	Twin port mechanical earth for up to 35mm PILC cables	N/A	ME (T) 35/SP	
30980205	Twin port mechanical earth for up to 35mm - 120mm PILC cables	N/A	ME (T) 120/SP	
30982202	Silicone grease for lubricating inner joints shells to allow easy access when breaking down joints	N/A	Cable Grease 100g tube	RS



APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7


12.7 LV Abandonment Kits

SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980548	Single phase plastic service cable	N/A	CSCAK 1		3M
30980549	Three phase plastic service & 95mm waveform	N/A	CSCAK 2		
30980550	185mm, 240mm, & 300mm waveform	N/A	CSCAK 3		
30980551	2-core PILC service cable diameter 18-25mm	N/A	CSCAK 4		
30980552	4-core PILC service cable diameter 25-42mm	N/A	CSCAK 5		
30980553	70-120mm 4-c PILC Main diameter 42-52mm	N/A	CSCAK 6		
30980554	185-300mm 4-c PILC Main diameter 52-81mm	N/A	CSCAK 7		

13. APPROVED LV LINK BOXES & SERVICE DISTRIBUTION UNITS

13.1 LV Link Boxes


SAP Number	Description	Use in Conjunction with	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980234	2 way 3-core waveform link box untailed	30 Litres	HMFLBLVD-MANMK2		Sicame
30980235	2 way 4-core waveform link box untailed	30 Litres	HMFLBLVD/2/4C		
30980236	4 way 3-core waveform link box untailed	60 Litres	HMFLBLVD/4/3C		
30980237	4 way 4-core waveform link box untailed	60 Litres	HMFLBLVD/4/4C		
N/A	2 way 4-core waveform link box untailed	20 Litres	BAH-038110098	Available from supplier	Tyco

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

N/A	4 way 4-core waveform link box untailed	40 Litres	BAH-038110099	Available from supplier	Tyco
N/A	2 way 3-core waveform link box untailed	13 Litres	BAH-038110065	Available from supplier	
N/A	4 way 3-core waveform link box untailed	35 Litres	BAH-038110066	Available from supplier	
N/A	4 way 3-core waveform link box untailed with 2 piece concrete manhole cover	35 Litres	BAH-038110101	Available from supplier	

13.2 LV Service Distribution Unit

SAP Number	Manufacturers reference	Approval Category	Remarks	Additional Information	Approved Manufacturer
N/A	LVD 12S	S	Installation is restricted to Cell-phone sites where multiple services (usually 3-phase) are required at one location. Main cable – 95mm ² or 185mm ² 3-core waveform only.	Available from supplier	Sicame
N/A	LVD 18S	S	Service cables – 25mm ² or 35mm ² single phase or 3- three phase CNE service cables only.	Available from supplier	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
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13.3 Cable Sealing Caps

Heatshrink cable sealing caps

SAP Number	Description	Manufacturers Part No	Additional Information	Approved Manufacturer
N/A	For cable diameter 4mm to 9mm	102L011-R05/S	Available from supplier	Tyco (Raychem)
N/A	For cable diameter 8mm to 18mm	102L022- R05/S	Available from supplier	
30982129	For cable diameter 16mm to 31mm	102L033- R05/S	Available from supplier	
N/A	For cable diameter 27mm to 49mm	102L044- R05/S	Available from supplier	
N/A	For cable diameter 34mm to 68mm	102L048- R05/S	Available from supplier	
N/A	For cable diameter 48mm to 90mm	102L055- R05/S	Available from supplier	
N/A	For cable diameter 74mm to 108mm	102L066- R05/S	Available from supplier	
N/A	For cable diameter 4mm - 8mm	SKE4/10	Available from supplier	3M
N/A	For cable diameter 8mm - 16mm	SKE8/20	Available from supplier	
N/A	For cable diameter 15mm - 32mm	SKE15/40	Available from supplier	
N/A	For cable diameter 25mm - 51mm	SKE25/63	Available from supplier	
N/A	For cable diameter 30mm - 61mm	SKE30/76	Available from supplier	
N/A	For cable diameter 45mm - 80mm	SKE45/100	Available from supplier	
N/A	For cable diameter 61mm - 126mm	SKE61/158	Available from supplier	

Coldshrink cable sealing caps

SAP Number	Description	Manufacturers Part No	Additional Information	Approved Manufacturer
30980544	For cables up to 35mm ²	EC-1		3M
30980545	For cables from 35mm ² up to 95mm ²	EC-2		
30980546	For cables from 95mm ² up to 185mm ²	EC-3		
30980547	For cables from 185mm ² up to 300mm ²	EC-4		




APPROVED EQUIPMENT REGISTER
-CABLES & CABLE ACCESSORIES-

CAB-06-001
Issue 7

13.4 Approved Tapes

SAP Number	Type	Description	Approved Manufacturer
30982992	Anti-Corrosion Wrapping Tape	50mm X 10m	Winn & Coles
30982114	Denso Tape	75mm X 10m	
30982107	Butyl Mastic Tape	25mm X 5m	Boddingtons
30982075	Hessian Tape	50mm X 5m	WT Henley
30982106	Vinyl Mastic Tape	38mm X 6m	3M
30982111	Coloured insulating tape	blue	
30982113		green/yellow	
30982074	33+ PVC Tape	black	
30982110	Putty Tape	Black 38mm X 1.5m	
30982116	Numbered phase marking tape	L1 19mm X 10m	
30982117		L2 19mm X 10m	
30982118		L3 19mm X 10m	
30982119		N 19mm X 10m	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
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14. APPROVED ISOCYANATE FREE RESINS

14.1 Permanent Resins

SAP Number	Description	Kit Size (Litres)	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980246	MV Guroflex	10.0	GUROFLEX-MV-C1000	For 11kV and 33kV cable boxes previously bitumen/G38 filled	Tyco
30980244	Permanent JEM resin 6 litre Tub has black lid	3 x 2litre packs	UJEM200P	For permanent LV, 11kV and 33kV joints	Prysmian
30980243	Permanent JEM resin 2 litre Tub has black lid	4 x 0.5litre pack	UJEM050P	For permanent LV, 11kV and 33kV joints	


14.2 Temporary Re-Enterable Resins

SAP Number	Description	Kit Size (Litres)	Manufacturer Part Number	Additional Information	Approved Manufacturer
30980245	Re-enterable JEM resin 6 litre Tub has red lid	3 x 2litre packs	UR2TEMP200P	For LV temporary joints only	Prysmian

15. APPROVED PLUMBING METALS

15.1 Solder and Plumbing Metal

SAP Number	Type	BSEN 29453 Ref.	Nominal Weight (gm)	Approved Manufacturer
30980870	Abrasion tinning metal	SP spec 72/0650/03	250	DKL Metals Ltd
30980868	Grade "H" plumbing metal	Alloy number 6	500	

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
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16. CABLE SYSTEMS FOR USE AT 132 KV AND ABOVE

Approvals detailed in this section are non-project specific. Listed cables and accessories are qualified as individual items, allowing them to be included in Tender submissions for future cable projects at 132kV and above.

Prior to connection to the Company's network, a further project specific assessment is required, this will consider the offered cable system design as a whole, the compatibility of the individual components and their suitability for the Project in question. This project specific assessment will be carried out post-Tender and prior to contract award.

The detail and limitations of the range of Approvals for each manufacturer is documented separately to maintain confidentiality and has been advised individually to each manufacturer.


16.1 132kV XLPE cables and associated accessories

Cables and accessories for 132kV shall comply with the requirements of CAB 03 031. The following manufacturers are Approved.

Manufacturer	Approved Cable Manufacturing Sites *	Approved Accessories **
Nexans	Charleroi, Belgium	Straight joints, sectionalising straight joints, outdoor terminations, gas immersed terminations.
NKT	Cologne, Germany	Straight joints, sectionalising straight joints, outdoor terminations.
Prysmian	Delft, Holland Gron, France Wrexham, United Kingdom	Straight joints, sectionalising straight joints, XLPE to oil transition joint, terminations, gas immersed terminations.

* Only specific extrusion lines are Approved for each site. The details of Approved lines have been advised to each manufacturer.

** A limited range of accessories is Approved from each Manufacturer. The details of Approved accessories have been advised to each manufacturer.

	APPROVED EQUIPMENT REGISTER -CABLES & CABLE ACCESSORIES-	CAB-06-001 Issue 7
---	---	-------------------------------------

16.2 275kV XLPE cables and associated accessories

Manufacturer	Approved Manufacturing Sites *	Approved Accessories **
ABB	Karlskrona, Sweden	Straight joints, sectionalising straight joints, outdoor terminations.
Nexans	Charleroi, Belgium	Straight joints, sectionalising straight joints, outdoor terminations.
NKT	Cologne, Germany	Straight joints, sectionalising straight joints, outdoor terminations.
Prysmian	Gron, France	Straight joints, sectionalising straight joints, outdoor terminations, gas immersed terminations.

16.3 400kV XLPE cables and associated accessories

Manufacturer	Approved Manufacturing Sites *	Approved Accessories **
ABB	Karlskrona, Sweden	Straight joints, sectionalising straight joints, outdoor terminations.
Nexans	Charleroi, Belgium	Straight joints, sectionalising straight joints, outdoor terminations.
NKT	Cologne, Germany	Straight joints, sectionalising straight joints, outdoor terminations.
Prysmian	Gron, France	Straight joints, sectionalising straight joints, outdoor terminations, gas immersed terminations.

* Only specific extrusion lines are Approved for each site. The details of Approved lines have been advised to each manufacturer.

** A limited range of accessories is Approved from each Manufacturer. The details of Approved accessories have been advised to each manufacturer.