

## Company Directive

### STANDARD TECHNIQUE : CAØM/4

#### Relating to Procedures for Making LV Service Cable Branch Joints

##### Policy Summary

This Standard Technique document contains all the approved LV Service cold applied/pour Branch Joints for PVC Plain or Split Concentric cables. It shall be implemented in conjunction with the appropriate General Requirements in ST: CAØC.

This ST has not been written as a training document. It is not intended to be exhaustive in content and you must refer to your supervisor if you require training or instruction.

You shall work safely and skilfully, utilising the training/instruction you have already received, relating to the contents of this document and its cross-references.

You must make sure that you understand your job instructions and that you have the necessary tools and equipment for the job.

**Author:** Richard Summers

**Implementation Date:** February 2016

**Approved by**



**Policy Manager**

**Date:**

6 February 2016

**NOTE:** The current version of this document is stored in the WPD Corporate Information Database. Any other copy in electronic or printed format may be out of date. Copyright © 2016 Western Power Distribution

## **IMPLEMENTATION PLAN**

### **Introduction**

This Standard Technique has been updated to show Insulated Anchor Connectors (ANC) which will be replacing the SSIP connectors. The new connectors will have shear-headed grub screws and will be supplied with snap on shrouds.

### **Main Changes**

- Drawings altered to show the new connectors.

### **Impact of Changes**

No major impact – Insulation will need to be removed when fitting the new connectors

### **Implementation Actions**

Team Managers are to brief their teams on the contents of this policy to the relevant staff.

### **Implementation Timetable**

The new connectors will be introduced on the same E5 code when existing stocks have been used. Everything else within the joints remain unchanged.

<b>Document Revision &amp; Review Table</b>		
<b>Date</b>	<b>Comments</b>	<b>Author</b>
February 2016	<ul style="list-style-type: none"> <li>• Drawings changed to show Anchor Connectors</li> </ul>	Richard Summers
July 2014	<ul style="list-style-type: none"> <li>• Correction of General Requirement Numbers.</li> <li>• Inclusion of cable solvent wipes</li> </ul>	Richard Summers

# ST: CAØM/4 PROCEDURES FOR MAKING LV SERVICE CABLE BRANCH JOINTS

## INTRODUCTION

This Standard Technique document contains all the approved service cable branch joints, which shall be implemented in conjunction with the appropriate General Requirements contained in ST: CAØC, including: -

1. General Cleanliness and Accident Prevention
2. General Jointing Procedures - Dead Cables
3. General Jointing Procedures and Safety Precautions - Live Cables

**Resin encapsulated joints must not be broken down.**

If the need arises to undertake a service branch joint configuration (i.e. non-standard) not covered within this Standard Technique the Policy Manager, Avonbank, is to be consulted.

## CONTENTS

	<b>Page</b>
7.201 PVC Plain Concentric - PVC Plain Concentric (Single Phase)	5
7.202 PVC Split Concentric - PVC Split Concentric (Single Phase)	10
7.203 PVC Plain Concentric - PVC Split Concentric (Single Phase)	16
7.204 PVC Plain Concentric - PVC Plain Concentric (Three Phase)	21
7.205 PVC Split Concentric - PVC Split Concentric (Three Phase)	26
7.206 PVC Plain Concentric - PVC Split Concentric (Three Phase)	32
7.207 PVC Plain Concentric - 35mm <sup>2</sup> CNE Wavecon (Three Phase)	37
7.208 PVC Split Concentric - 35mm <sup>2</sup> CNE Wavecon (Three Phase)	43
7.209 35mm <sup>2</sup> CNE Wavecon - 35mm <sup>2</sup> CNE Wavecon (Three Phase)	49

**Note: - Any reference to plain concentric equally applies to hybrid.  
The phase conductor insulation may be either XLPE or PVC.**

**ST: CAØM/4 PROCEDURES FOR MAKING SERVICE CABLE  
BRANCH JOINTS.**

**JOINTING PROCEDURE 7.201**

**PVC PLAIN CONCENTRIC - PVC PLAIN CONCENTRIC  
SERVICE CABLE BRANCH JOINT - SINGLE PHASE**

**This procedure is to be read in conjunction with the appropriate  
General Requirements ST: CAØC Section 6  
of the LV Service Cable Jointing Manual**

## JOINTING PROCEDURE 7.201

### MATERIALS LIST

#### CABLE SIZES - 25/35mm<sup>2</sup> Hybrid or 16/25mm<sup>2</sup> Cu Plain Conc

Item	Quantity
Shell 1049	1
Resin (3 x 1.3)	3.9 litres
Connector BTCL-6-130W	1
Connector ANC	1

#### ADDITIONAL ITEMS FOR EACH JOINT

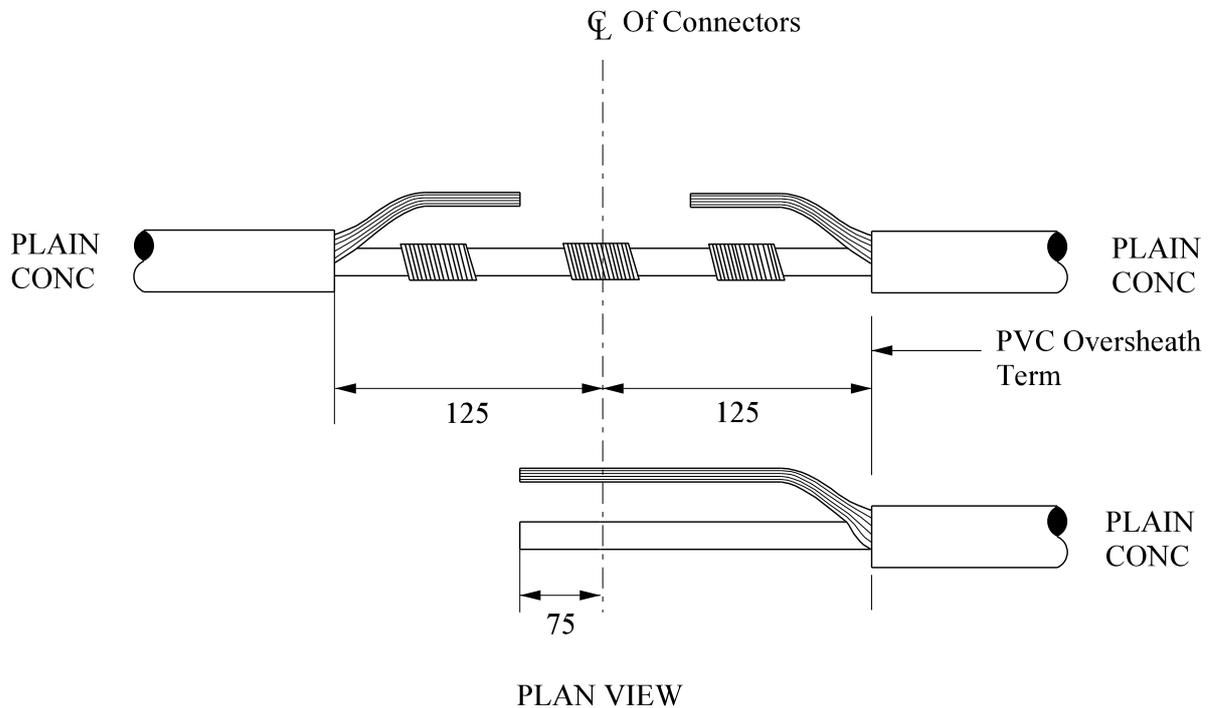
Insulation patch  
Black cotton tape  
Sealing putty  
Cable ties  
Shell support  
PVC tape  
Emery cloth  
De-solvit 1000FD  
Workhorse dry wipes  
Cable solvent wipes

**Note: - Individual material item number (SHOPS) are to be found in Section 4 of the LV Service Cable Jointing Manual.**

## JOINTING PROCEDURE 7.201

Actions	General Requirements (ST: CAØC)
Refer to Drawings <b>SVJ 7.201.1, 7.201.2</b> whilst undertaking this Jointing Procedure	
1. Set up and mark cables	4
<b>BRANCH CABLE - Preparation</b>	
2. Open and cut cable in accordance with General Requirement	13
3. Prepare neutral/earth wires for jointing	7
<b>MAIN CABLE – Preparation to completion of joint</b>	
4. Remove PVC oversheath	5
5. Lift and cut half the neutral/earth wires	13
6. Connect the cut neutral/earth wires	24
7. Lift and cut remaining neutral/earth wires	13
8. Connect remaining neutral/earth wires including branch neutral/earth wires	24
9. Apply temporary shrouding	17
10. Make and insulate phase connection	24/25
11. Remove temporary shrouding applied in 9	--
12. Form neutral/earth wires into their final positions	--
13. Abrade and build up oversheaths	26
14. Thoroughly degrease the joint	29
15. Prepare and fit shell, ensuring 15mm clearance	30
16. Mix and pour resin	31

All dimensions in mm



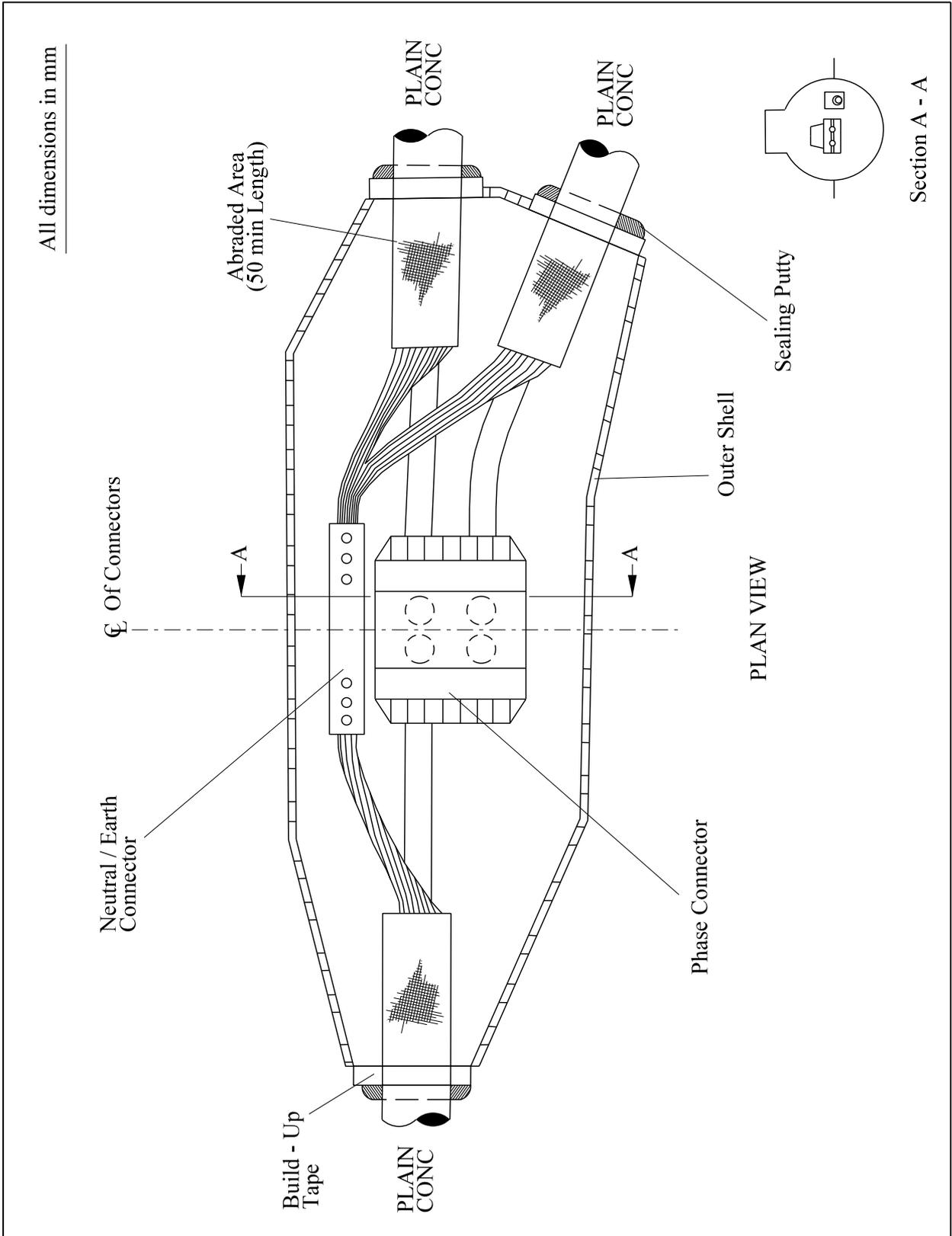
Cable Size	No: Of Main Neutral / Earth Wires To Be Disconnected At A Time	Total No: Of Neutral / Earth Wires
25 HYB 16 cu	14	28
35 HYB 25 cu	12	24

NOTE :- The Neutral / Earth Wires Are To Be Cut On The Centre Line Of The Connectors.

The Total Number Of Neutral / Earth Wires May Vary Depending On Cable Age And The Cable Maker.

Rev No	Drawn	Chk'd	App'd	Date	Revision	
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.				
Drawn	RJB	04/12	Title			
Checked			PVC PLAIN CONC		SVJ 7.201.1	
Approved			BRANCH JOINT - SINGLE PHASE			
SCALE	N.T.S.		STRIPPING DIMENSIONS.			

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.



1	RJB			01/16	CONNECTOR CHANGED		
Rev No	Drawn	Chk'd	App'd	Date	Revision		
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.					
Drawn	RJB 04/12	Title					
Checked		PVC PLAIN CONC BRNCH JOINT - SINGLE PHASE GENERAL LAYOUT			SVJ 7.201.2	1	
Approved		SCALE					
N.T.S.							

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

**ST: CAØM/4 PROCEDURES FOR MAKING SERVICE CABLE  
BRANCH JOINTS.**

**JOINTING PROCEDURE 7.202**

**PVC SPLIT CONCENTRIC - PVC SPLIT CONCENTRIC  
SERVICE CABLE BRANCH JOINT - SINGLE PHASE**

**This procedure is to be read in conjunction with the appropriate  
General Requirements ST: CAØC Section 6  
of the LV Service Cable Jointing Manual**

## JOINTING PROCEDURE 7.202

### MATERIALS LIST

#### CABLE SIZES - 16/25mm<sup>2</sup> Cu Split Conc

Item	Quantity
Shell 1049	1
Resin (3 x 1.3)	3.9 litres
Connector BTCL-6-130W	2
Connector SSIPC	1

#### ADDITIONAL ITEMS FOR EACH JOINT

Insulation patch  
Black cotton tape  
Sealing putty  
Cable ties  
Shell support  
PVC tape  
Emery cloth  
De-solvit 1000FD  
Workhorse dry wipes  
Cable solvent wipes

**Note: - Individual material item numbers (SHOPS) are to be found in Section 4 of the LV Service Cable Jointing Manual.**

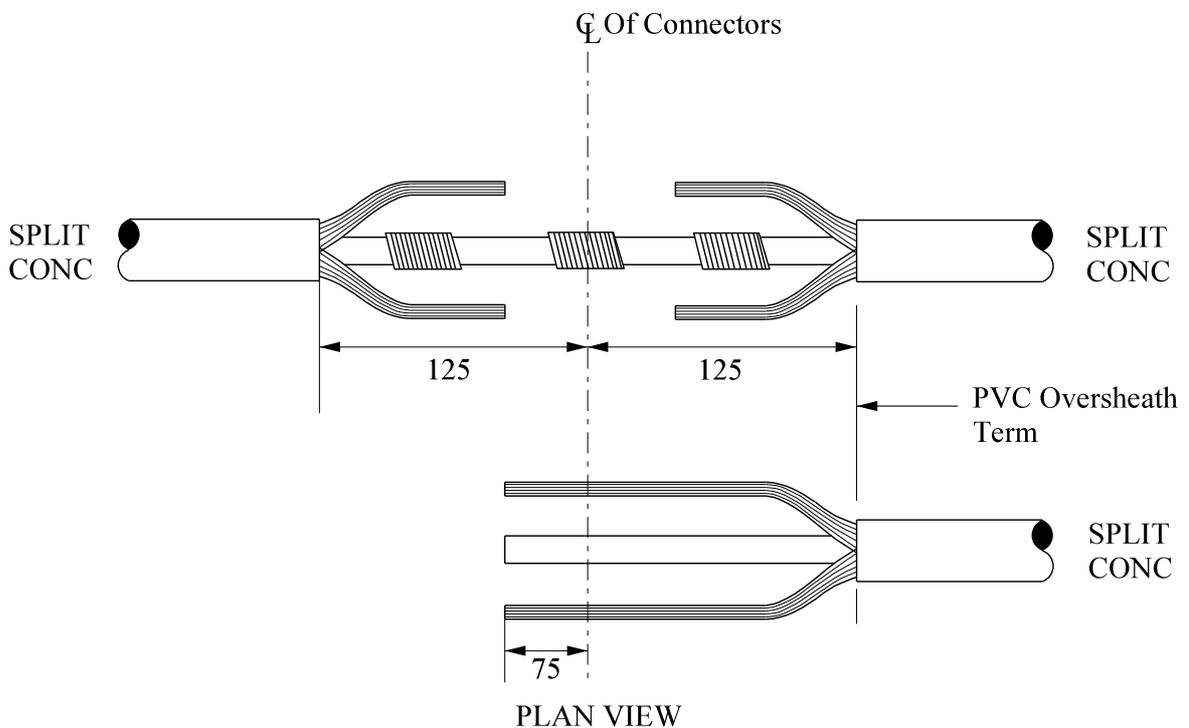
## JOINTING PROCEDURE 7.202

Actions	General Requirements (ST: CAØC)
Refer to Drawings <b>SVJ 7.202.1, 7.202.2</b> whilst undertaking this Jointing Procedure	
1. Set up and mark cables	4
<b>BRANCH CABLE - Preparation</b>	
2. Open and cut cable in accordance with General Requirement	13
3. Prepare neutral and earth wires for jointing	7
<b>MAIN CABLE - Preparation to completion of joint</b>	
4. Remove PVC oversheath	5
6. Lift and cut half the earth wires	13
6. Connect the cut earth wires	24
7. Lift and cut remaining earth wires	13
9. Connect remaining earth wires including branch earth wires	24
9. Apply temporary shrouding	17
10. Lift and cut half the neutral wires	13
11. Connect the cut neutral wires	24
12. Lift and cut remaining neutral wires	13
13. Connect remaining neutral wires including branch neutral wires and insulate	24/25
14. Make and insulate phase connection	24/25
15. Remove temporary shrouding applied in 9	--
16. Form neutral and earth wires into their final positions	--

## JOINTING PROCEDURE 7.202 - Continued

17.	Abrade and build up oversheaths	26
18.	Thoroughly degrease the joint	29
19.	Prepare and fit shell, ensuring 15mm clearance	30
20.	Mix and pour resin	31

All dimensions in mm



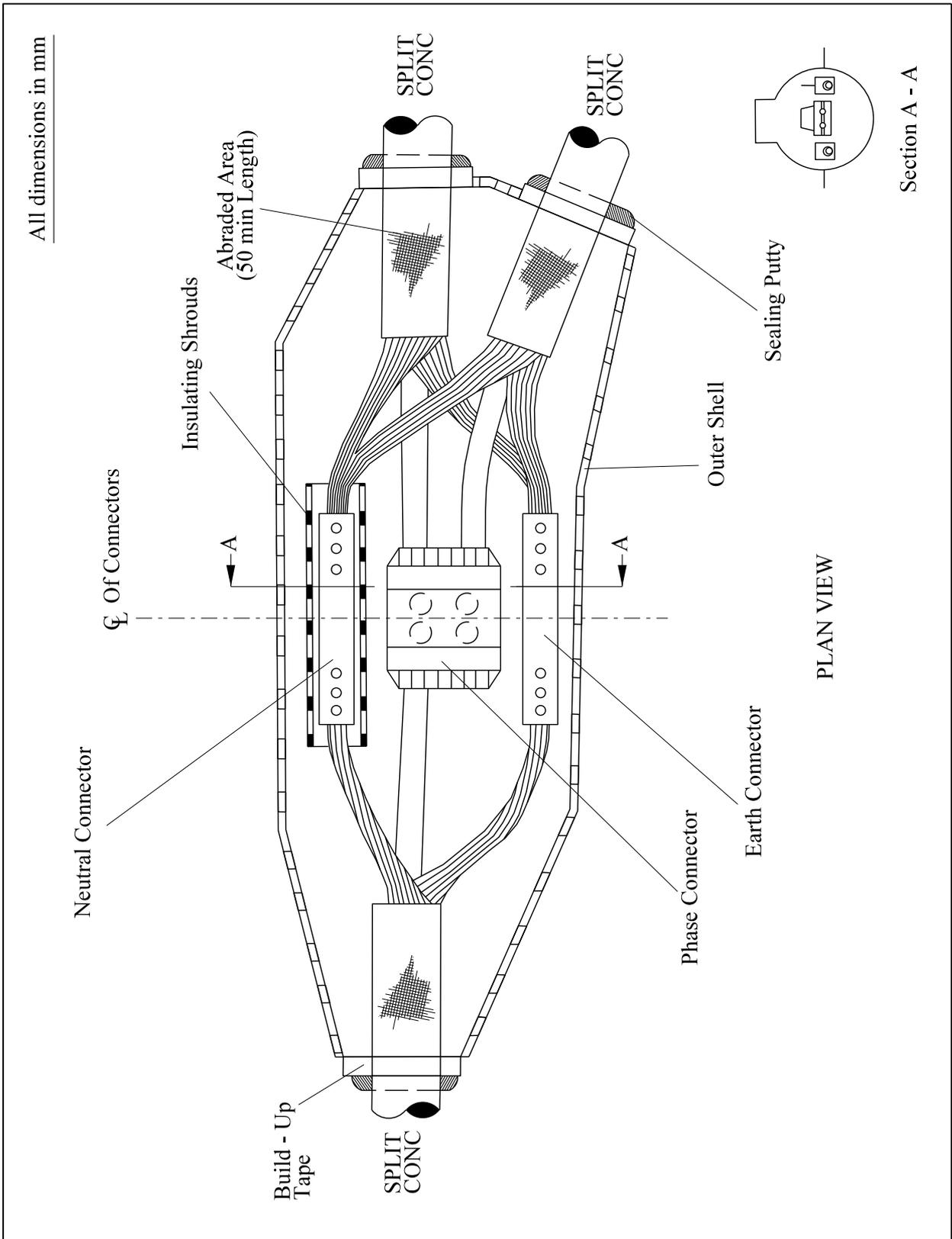
Cable Size	No: Of Main Neutral / Earth Wires To Be Disconnected At A Time		Total No: Of Neutral / Earth Wires	
	Neutral	Earth	Neutral	Earth
16 cu	4	2	7	4
25 cu	5	2	11	4

NOTE :- The Neutral / Earth Wires Are To Be Cut On The Centre Line Of The Connectors.

The Total Number Of Neutral / Earth Wires May Vary Depending On Cable Age And The Cable Maker.

Rev No	Drawn	Chk'd	App'd	Date	Revision		
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.					
Drawn	RJB	04/12	Title				
Checked			PVC SPLIT CONC BRANCH JOINT - SINGLE PHASE STRIPPING DIMENSIONS.			Drg. No.	Rev No
Approved						SVJ 7.202.1	
SCALE	N.T.S.						

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.



All dimensions in mm

Section A - A

PLAN VIEW

1	RJB			01/16	CONNECTOR CHANGED		
Rev No	Drawn	Chk'd	App'd	Date	Revision		
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.					
Drawn	RJB	04/12	Title				
Checked			PVC SPLIT CONC BRANCH JOINT - SINGLE PHASE STRIPPING DIMENSIONS			SVJ 7.202.2	1
Approved							
SCALE	N.T.S.						

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

**ST: CAØM/4 PROCEDURES FOR MAKING SERVICE CABLE  
BRANCH JOINTS.**

**JOINTING PROCEDURE 7.203**

**PVC PLAIN CONCENTRIC - PVC SPLIT CONCENTRIC  
SERVICE CABLE BRANCH JOINT - SINGLE PHASE**

**This procedure is to be read in conjunction with the appropriate  
General Requirements ST: CAØC Section 6  
of the LV Service Cable Jointing Manual**

## JOINTING PROCEDURE 7.203

### MATERIALS LIST

**CABLE SIZES - 25/35mm<sup>2</sup> Hybrid or 16/25mm<sup>2</sup> Cu Plain Conc - 16/25mm<sup>2</sup> Cu Split Conc**

<b>Item</b>	<b>Quantity</b>
Shell 1049	1
Resin (3 x 1.3)	3.9 litres
Connector BTCL-6-130W	1
Connector SSIPC	1

### ADDITIONAL ITEMS FOR EACH JOINT

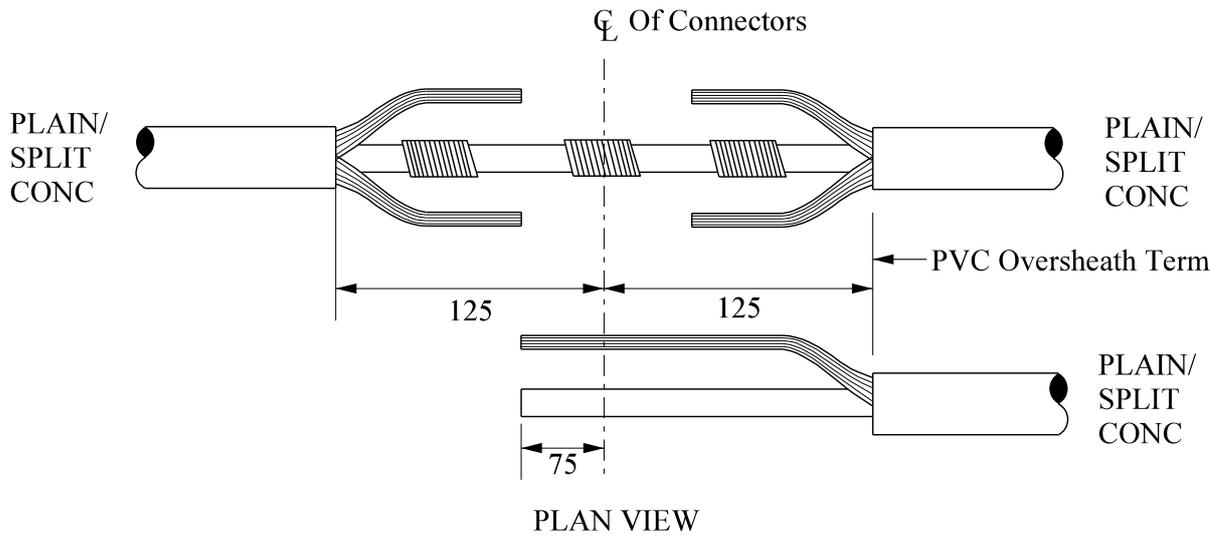
Insulation patch  
Black cotton tape  
Sealing putty  
Cable ties  
Shell support  
PVC tape  
Emery Cloth  
De-solvit 1000FD  
Workhorse dry wipes  
Cable solvent wipes

**Note: - Individual material item numbers (SHOPS) are to be found in Section 4 of the LV Service Cable Jointing Manual.**

## JOINTING PROCEDURE 7.203

Actions	General Requirements (ST: CAØC)
Refer to Drawings <b>SVJ 7.203.1, 7.203.2</b> whilst undertaking this Jointing Procedure	
1. Set up and mark cables	4
<b>BRANCH CABLE - Preparation</b>	
2. Open and cut cable in accordance with General Requirement	13
3. Prepare neutral/earth wires for jointing	7
<b>MAIN CABLE – Preparation to completion of joint</b>	
4. Remove PVC oversheath	5
7. Lift and cut half the neutral/earth wires	13
6. Connect the cut neutral/earth wires	24
7. Lift and cut remaining neutral/earth wires	13
10. Connect remaining neutral/earth wires including branch neutral/earth wires	24
9. Apply temporary shrouding	17
10. Make and insulate phase connection	24/25
11. Remove temporary shrouding applied in 9	--
12. Form neutral/earth wires into their final positions	--
13. Abrade and build up oversheaths	26
14. Thoroughly degrease the joint	29
15. Prepare and fit shell, ensuring 15mm clearance	30
16. Mix and pour resin	31

All dimensions in mm



PLAIN CONCENTRIC		
Cable Size	No: Of Neutral / Earth Wires To Be Disconnected At A Time	Total No: Of Neutral / Earth Wires
25 HYB 16 cu	14	28
35 HYB 25 cu	12	24

SPLIT CONCENTRIC				
Cable Size	No: Of Main Neutral / Earth Wires To Be Disconnected At A Time		Total No: Of Neutral / Earth Wires	
	Neutral	Earth	Neutral	Earth
16 cu	4	2	7	4
25 cu	5	2	11	4

**IMPORTANT:**

Before Making This Joint Check With Supervisor Application Is Correct.

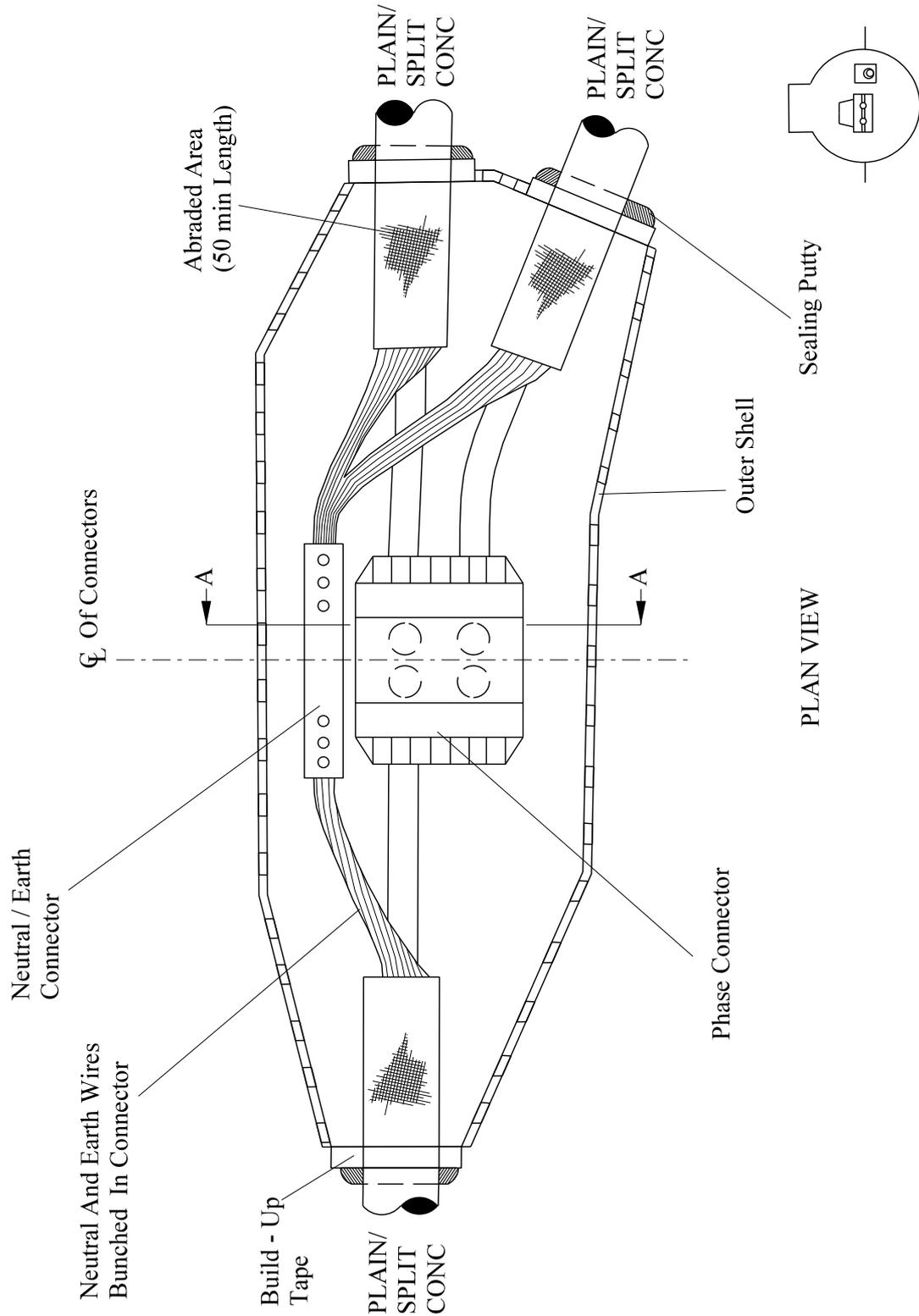
NOTE:- The Neutral / Earth Wires Are To Be Cut On The Centre Line Of The Connectors.

The Total Number Of Neutral / Earth Wires May Vary Depending On Cable Age And The Cable Maker.

Rev No	Drawn	Chk'd	App'd	Date	Revision	
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.				
Drawn	RJB	04/12	Title PVC PLAIN CONC - PVC SPLIT CONC BRANCH JOINT - SINGLE PHASE STRIPPING DIMENSIONS			
Checked			Drg. No.			Rev No
Approved			SVJ 7.203.1			
SCALE	N.T.S.					

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

All dimensions in mm



Section A - A

1	RJB			01/16	CONNECTOR CHANGED			
Rev No	Drawn	Chk'd	App'd	Date		Revision		
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.						
Drawn	RJB	04/12	Title PVC PLAIN CONC - PVC SPLIT CONC BRANCH JOINT - SINGLE PHASE GENERAL LAYOUT					
Checked							Drng. No.	Rev No
Approved							SVJ 7.203.2	1
SCALE	N.T.S.							

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

**ST: CAØM/4 PROCEDURES FOR MAKING SERVICE CABLE  
BRANCH JOINTS**

**JOINTING PROCEDURE 7.204**

**PVC PLAIN CONCENTRIC - PVC PLAIN CONCENTRIC  
SERVICE CABLE BRANCH JOINT - THREE PHASE**

**This procedure is to be read in conjunction with the appropriate  
General Requirements ST: CAØC Section 6  
of the LV Service Cable Jointing Manual**

## JOINTING PROCEDURE 7.204

### MATERIALS LIST

#### CABLE SIZES - 25/35mm<sup>2</sup> Hybrid or 16/25mm<sup>2</sup>cu Plain Conc

Item	Quantity
Shell 1583	1
Resin	10 litres (2 x 5 litres)
Connector BTCL-6-130W	1
Connector SSIPC	3

#### ADDITIONAL ITEMS FOR EACH JOINT

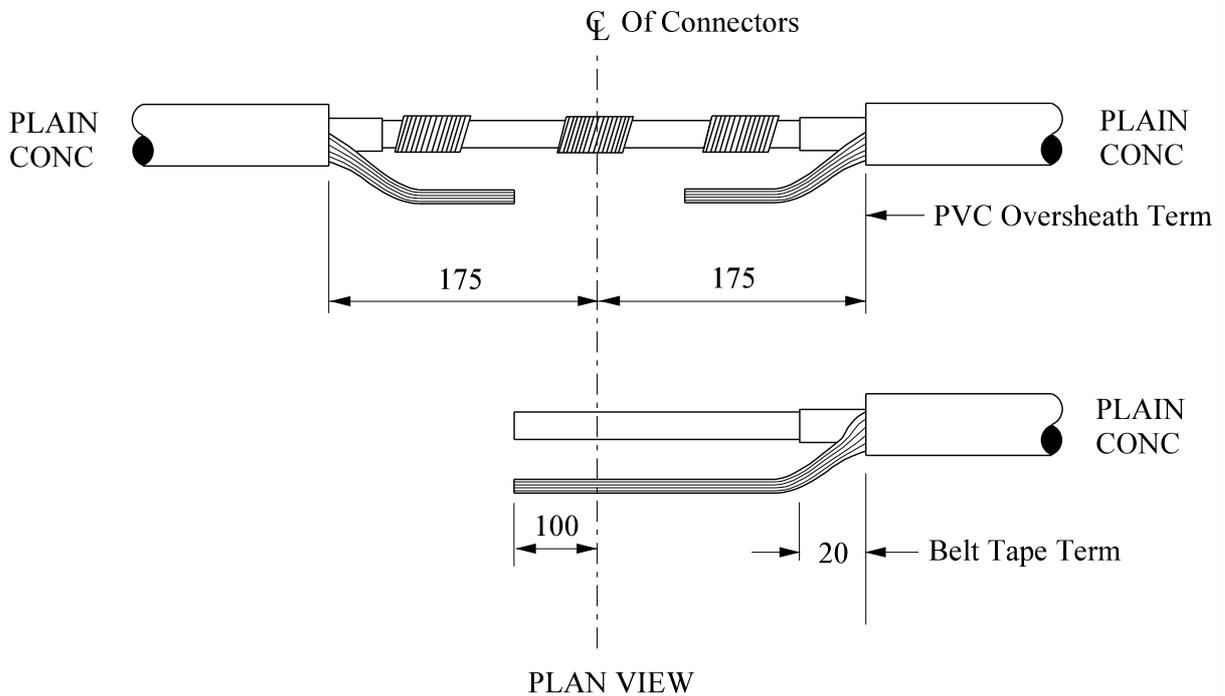
Insulation patch  
Black cotton tape  
Sealing putty  
Cable ties  
Shell support  
PVC tape  
Emery cloth  
De-solvit 1000FD  
Workhorse dry wipes  
Cable solvent wipes

**Note: - Individual material item numbers (SHOPS) are to be found in Section 4 of the LV Service Cable Jointing Manual.**

## JOINTING PROCEDURE 7.204

Actions	General Requirements (ST: CAØC)
Refer to Drawings <b>SVJ 7.204.1, 7.204.2</b> whilst undertaking this Jointing Procedure	
1. Set up and mark cables	4
<b>BRANCH CABLE - Preparation</b>	
2. Open and cut cable in accordance with General Requirement	13
3. Prepare neutral/earth wires for jointing	7
<b>MAIN CABLE – Preparation to completion of joint</b>	
4. Remove PVC oversheath	5
8. Lift and cut half the neutral/earth wires	13
6. Connect the cut neutral/earth wires	24
7. Lift and cut remaining neutral/earth wires	13
11. Connect remaining neutral/earth wires including branch neutral/earth wires	24
9. Apply temporary shrouding	17
10. Make and insulate phase connection(s)	24/25
11. Remove temporary shrouding applied in 9	--
12. Form the neutral/earth wires into their final positions	--
13. Abrade and build up oversheaths	26
14. Thoroughly degrease the joint	29
15. Prepare and fit shell, ensuring 15mm clearance	30
16. Mix and pour resin	31

All dimensions in mm



Cable Size	No: Of Main Neutral / Earth Wires To Be Disconnected At A Time	Total No: Of Neutral / Earth Wires
25 HYB	22	44
35 HYB	30	60
16 cu	24	48
25 cu	28	56

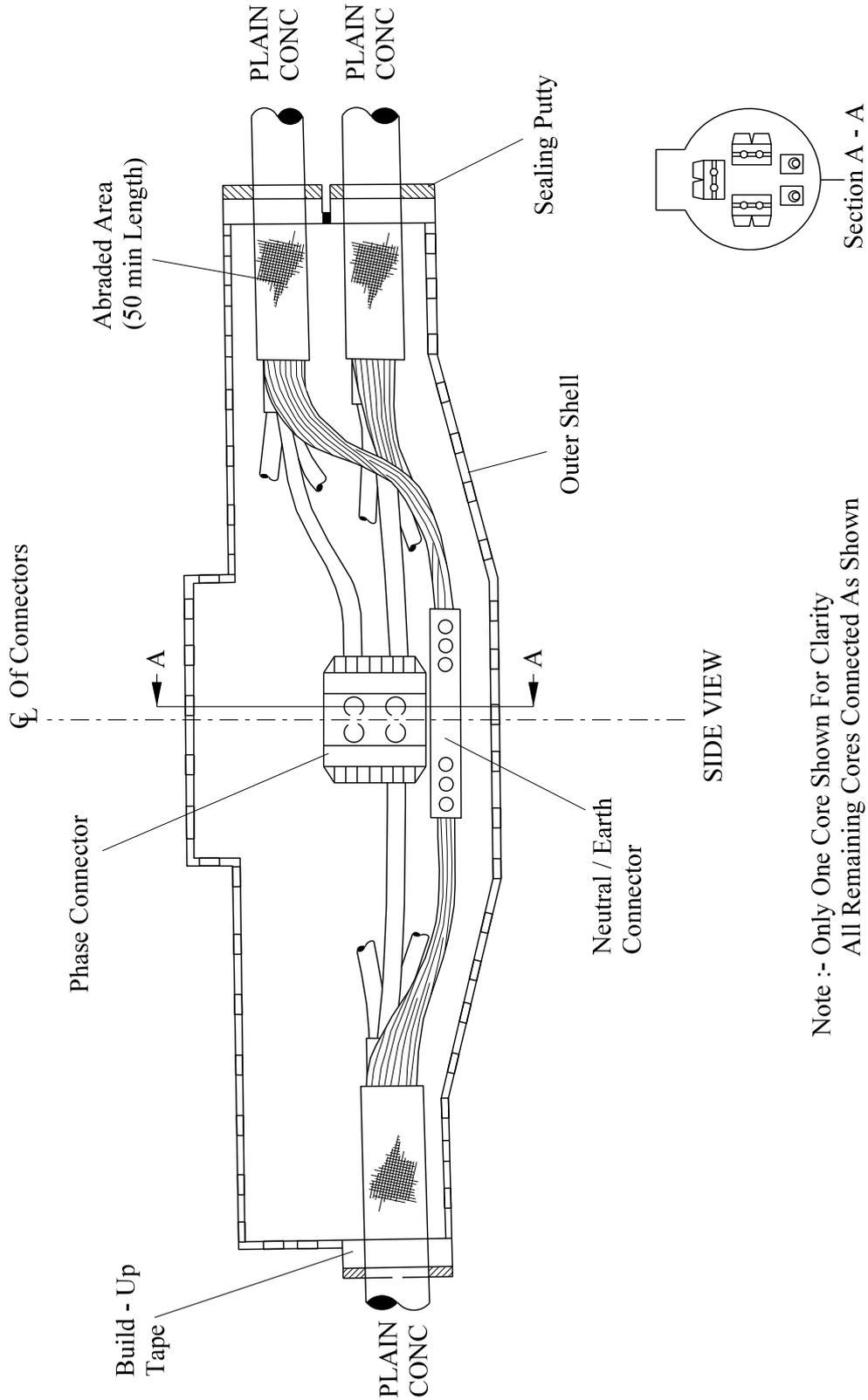
NOTE :- The Neutral / Earth Wires Are To Be Cut On The Centre Line Of The Connectors.

The Total Number Of Neutral / Earth Wires May Vary Depending On Cable Age And Cable Maker.

Rev No	Drawn	Chk'd	App'd	Date	Revision	
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.				
Drawn	RJB	04/12	Title			
Checked			PVC PLAIN CONC BRANCH JOINT - THREE PHASE STRIPPING DIMENSIONS.		SVJ 7.204.1	
Approved						
SCALE	N.T.S.					

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

All Dimensions In mm



Note :- Only One Core Shown For Clarity  
All Remaining Cores Connected As Shown

1	RJB			01/16	CONNECTOR CHANGED			
Rev No	Drawn	Chk'd	App'd	Date	Revision			
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.						
Drawn	RJB	04/12	Title					Drg. No.
Checked			PVC PLAIN CONC BRANCH JOINT - THREE PHASE GENERAL LAYOUT			SVJ 7.204.2	1	
Approved			SCALE					N.T.S.

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

**ST: CAØM/4 PROCEDURES FOR MAKING SERVICE CABLE  
BRANCH JOINTS**

**JOINTING PROCEDURE 7.205**

**PVC SPLIT CONCENTRIC - PVC SPLIT CONCENTRIC  
SERVICE CABLE BRANCH JOINT - THREE PHASE**

**This procedure is to be read in conjunction with the appropriate  
General Requirements ST: CAØC Section 6  
of the LV Service Cable Jointing Manual**

## JOINTING PROCEDURE 7.205

### MATERIALS LIST

#### CABLE SIZES - 25mm<sup>2</sup> Cu Split Conc

Item	Quantity
Shell 1583	1
Resin	10 litres (2 x 5 litres)
Connectors BTCL-6-130W	2
Connector SSIPC	3

#### ADDITIONAL ITEMS FOR EACH JOINT

Insulation patch  
Black cotton tape  
Sealing putty  
Cable ties  
Shell support  
PVC tape  
Emery cloth  
De-solvit 1000FD  
Workhorse dry wipes  
Cable solvent wipes

**Note: - Individual material item numbers (SHOPS) are to be found in Section 4 of the LV Service Cable Jointing Manual.**

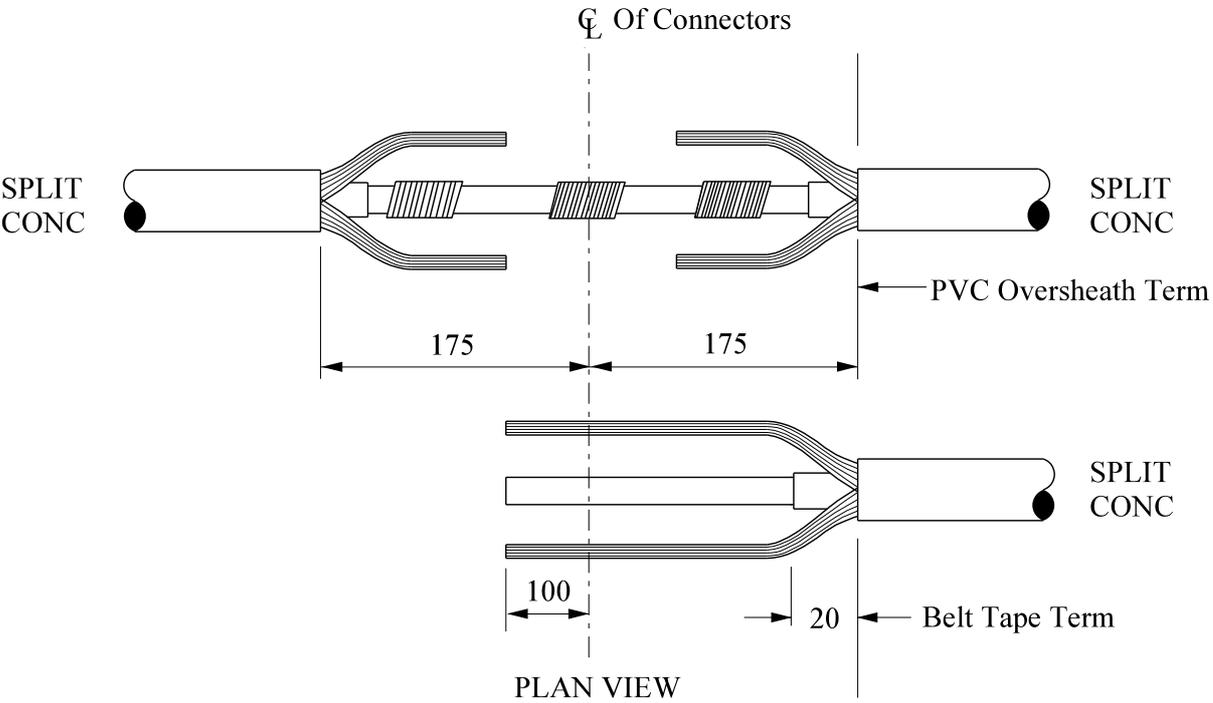
## JOINTING PROCEDURE 7.205

Actions	General Requirements (ST: CAØC)
Refer to Drawings <b>SVJ 7.205.1, 7.205.2</b> whilst undertaking this Jointing Procedure	
1. Set up and mark cables	4
<b>BRANCH CABLE - Preparation</b>	
2. Open and cut cable in accordance with General Requirement	13
3. Prepare neutral and earth wires for jointing	7
<b>MAIN CABLE – Preparation to completion of joint</b>	
4. Remove PVC oversheath	5
9. Lift and cut half the earth wires	13
6. Connect the cut earth wires	24
7. Lift and cut remaining earth wires	13
12. Connect remaining earth wires including branch earth wires	24
9. Apply temporary shrouding	17
10. Lift and cut half the neutral wires	13
11. Connect the cut neutral wires	24
12. Lift and cut remaining neutral wires	13
13. Connect remaining neutral wires including branch neutral wires and insulate	24/25
14. Make and insulate phase connection(s)	24/25
15. Remove temporary shrouding applied in 9	--
16. Form neutral and earth wires into their final positions	--

## JOINTING PROCEDURE 7.205 - Continued

17.	Abrade and build up oversheaths	26
18.	Thoroughly degrease the joint	29
19.	Prepare and fit shell, ensuring 15mm clearance	30
20.	Mix and pour resin	31

All dimensions in mm



Cable Size	No: Of Main Neutral / Earth Wires To Be Disconnected At A Time		Total No: Of Neutral / Earth Wires	
	Neutral	Earth	Neutral	Earth
25 cu	15	5	29	9

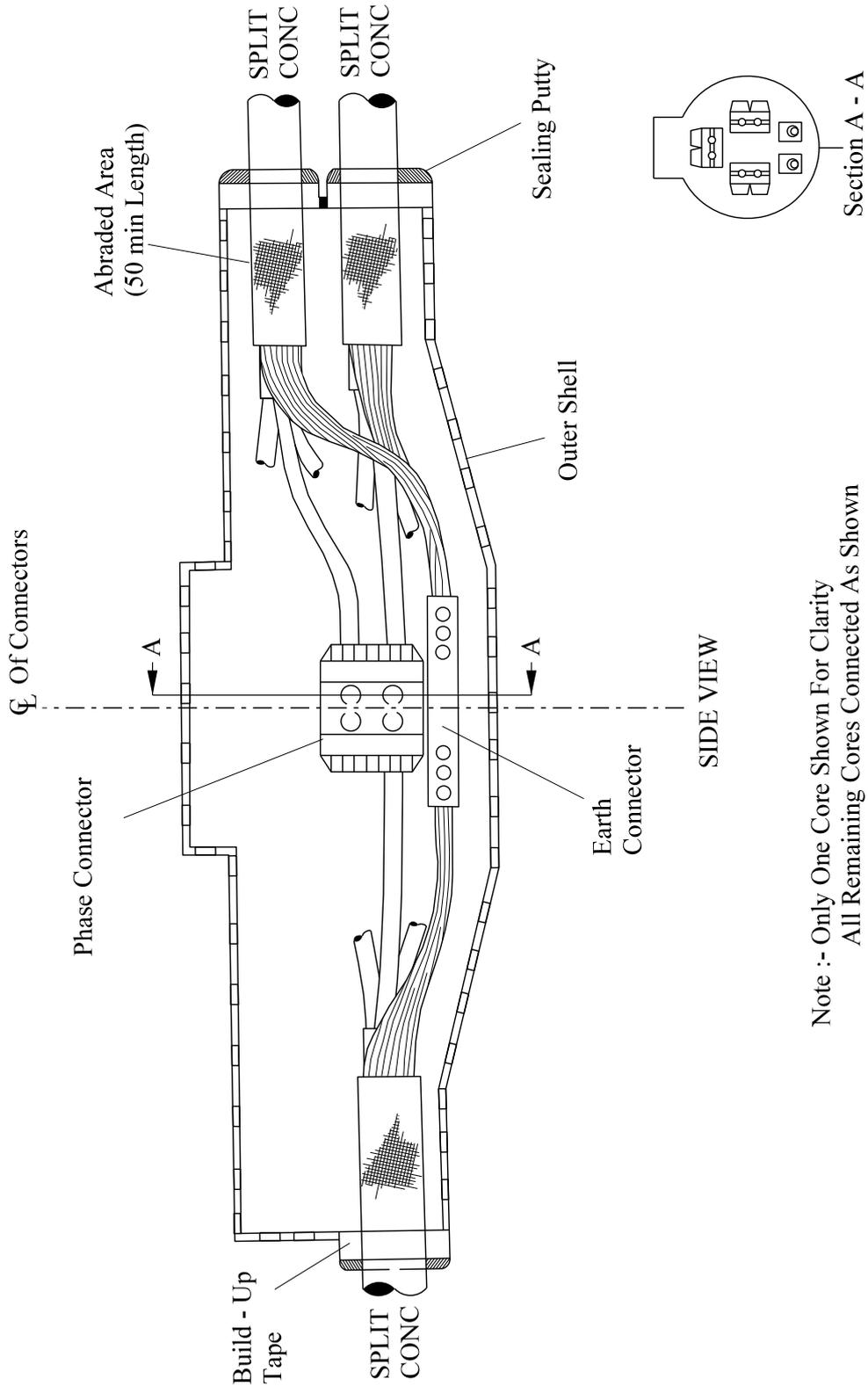
NOTE :- The Neutral / Earth Wires Are To Be Cut On The Centre Line Of The Connectors.

The Total Number Of Neutral / Earth Wires May Vary Depending On Cable Age And The Cable Maker.

Rev No	Drawn	Chk'd	App'd	Date	Revision		
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.					
Drawn	RJB	04/12	Title				
Checked			PVC SPLIT CONC BRANCH JOINT - THREE PHASE STRIPPING DIMENSIONS			Drg. No.	Rev No
Approved						SVJ 7.205.1	
SCALE	N.T.S.						

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

All dimensions in mm



Note :- Only One Core Shown For Clarity  
All Remaining Cores Connected As Shown

1	RJB			01/16	CONNECTOR CHANGED		
Rev No	Drawn	Chk'd	App'd	Date	Revision		
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.					
Drawn	RJB	04/12	Title				
Checked			PVC SPLIT CONC BRANCH JOINT - THREE PHASE GENERAL LAYOUT			SVJ 7.205.2	1
Approved							
SCALE	N.T.S.						

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

**ST: CAØM/4 PROCEDURES FOR MAKING SERVICE CABLE  
BRANCH JOINTS**

**JOINTING PROCEDURE 7.206**

**PVC PLAIN CONCENTRIC - PVC SPLIT CONCENTRIC  
SERVICE CABLE BRANCH JOINT - THREE PHASE**

**This procedure is to be read in conjunction with the appropriate  
General Requirements ST: CAØC Section 6  
of the LV Service Cable Jointing Manual**

## JOINTING PROCEDURE 7.206

### MATERIALS LIST

**CABLE SIZES - 25/35mm<sup>2</sup> Hybrid or 16/25mm<sup>2</sup> Cu Plain Conc - 25mm<sup>2</sup> Cu Split Conc**

<b>Item</b>	<b>Quantity</b>
Shell 1583	1
Resin	10 litres (2 x 5 litres)
Connector BTCL-6-130W	1
Connector SSIPC	3

### ADDITIONAL ITEMS FOR EACH JOINT

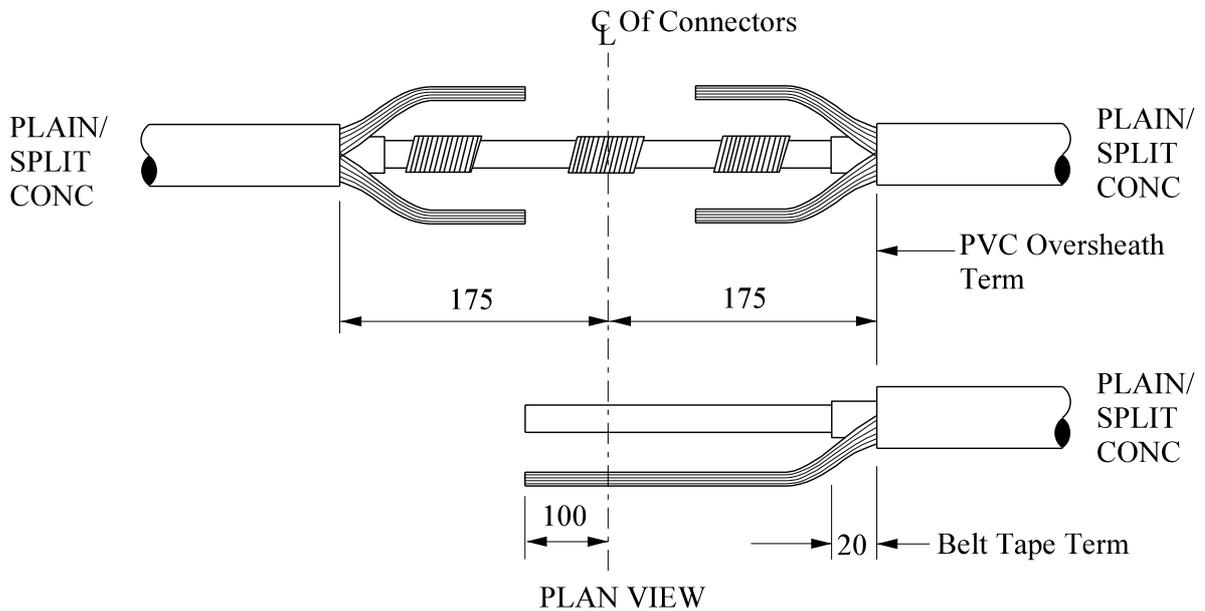
Insulation patch  
Black cotton tape  
Sealing putty  
Cable ties  
Shell support  
PVC tape  
Emery cloth  
De-solvit 1000FD  
Workhorse dry wipes  
Cable solvent wipes

**Note: - Individual material item numbers (SHOPS) are to be found in Section 4 of the LV Service Cable Jointing Manual.**

## JOINTING PROCEDURE 7.206

Actions	General Requirements (ST: CAØC)
Refer to Drawings <b>SVJ 7.206.1, 7.206.2</b> whilst undertaking this Jointing Procedure	
1. Set up and mark cables	4
<b>BRANCH CABLE - Preparation</b>	
2. Open and cut cable in accordance with General Requirement	13
3. Prepare neutral/earth wires for jointing	7
<b>MAIN CABLE – Preparation to completion of joint</b>	
4. Remove PVC oversheath	5
10. Lift and cut half the neutral/earth wires	13
6. Connect the cut neutral/earth wires	24
7. Lift and cut remaining neutral/earth wires	13
13. Connect remaining neutral/earth wires including branch neutral/earth wires	24
9. Apply temporary shrouding	17
10. Make and insulate phase connection(s)	24/25
11. Remove temporary shrouding applied in 9	--
12. Form neutral/earth wires into their final positions	--
13. Abrade and build up oversheaths	26
14. Thoroughly degrease the joint	29
15. Prepare and fit shell, ensuring 15mm clearance	30
16. Mix and pour resin	31

All dimensions in mm



PLAIN CONCENTRIC		
Cable Size	No: Of Main Neutral / Earth Wires To Be Disconnected At A Time	Total No: Of Neutral / Earth Wires
25 HYB	22	44
35 HYB	30	60
16 cu	24	48
25 cu	28	56

SPLIT CONCENTRIC				
Cable Size	No: Of Main Neutral / Earth Wires To Be Disconnected At A Time		Total No: Of Neutral / Earth Wires	
	Neutral	Earth	Neutral	Earth
25 cu	15	5	29	9

**IMPORTANT:-**

Before Making This Joint Check With Supervisor Application Is Correct.

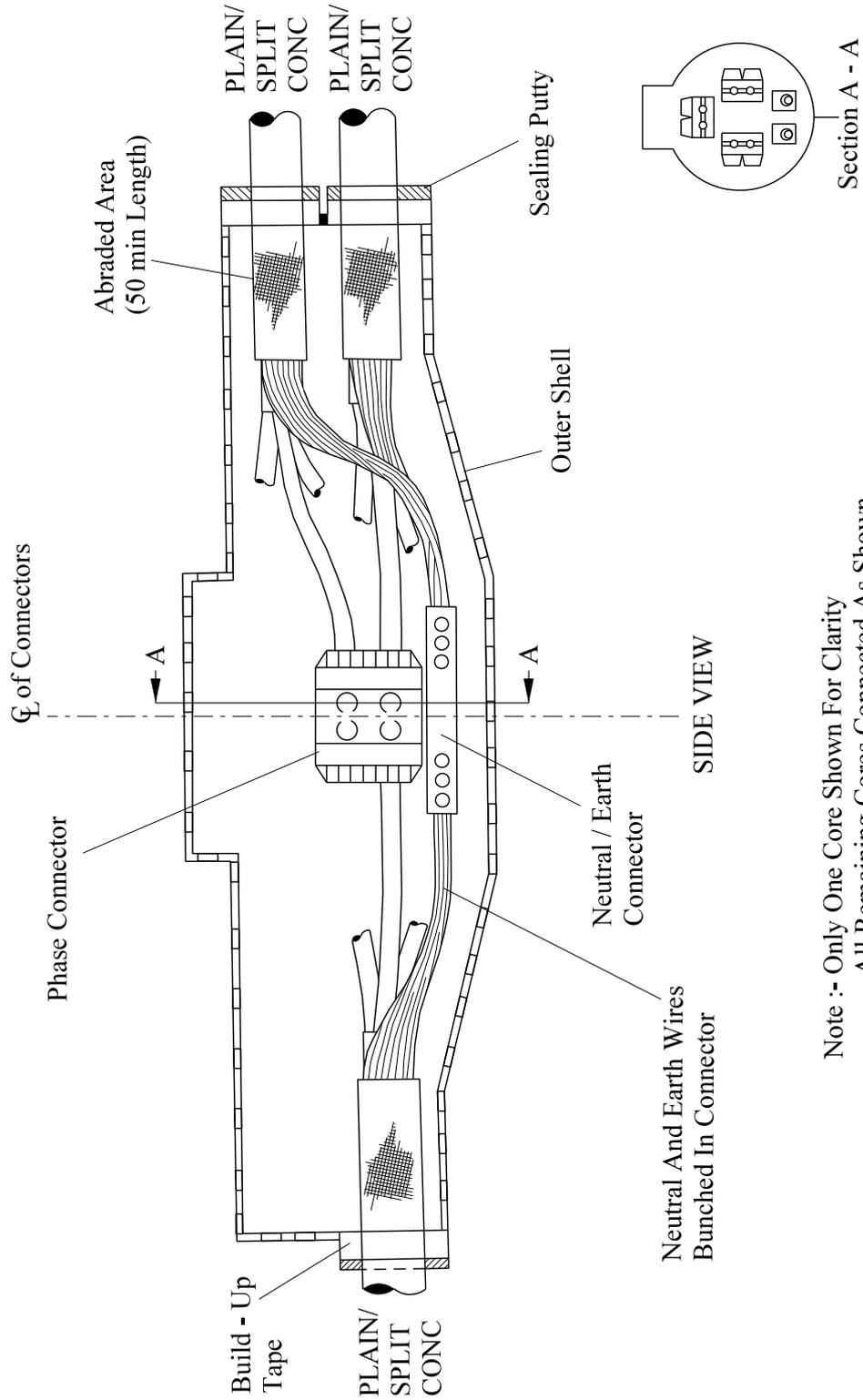
NOTE:- The Neutral / Earth Wires Are To Be Cut On The Centre Line Of The Connectors.

The Total Number Of Neutral / Earth Wires May Vary Depending On Cable Age And The Cable Maker.

Rev No	Drawn	Chk'd	App'd	Date	Revision	
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.				
Drawn	RJB	04/12	Title PVC PLAIN CONC - PVC SPLIT CONC BRANCH JOINT - THREE PHASE STRIPPING DIMENSIONS			
Checked			Drg. No. SVJ 7.206.1			Rev No
Approved						
SCALE	N.T.S.					

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

All dimensions in mm



Note :- Only One Core Shown For Clarity  
All Remaining Cores Connected As Shown

1	RJB			01/16	CONNECTOR CHANGED		
Rev No	Drawn	Chk'd	App'd	Date	Revision		
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.					
Drawn	RJB	04/12	Title				
Checked			PVC PLAIN CONC - PVC SPLIT CONC BRANCH JOINT - THREE PHASE GENERAL LAYOUT			SVJ 7.206.2	1
Approved							
SCALE	N.T.S.						

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

**ST: CAØM/4 PROCEDURES FOR MAKING SERVICE CABLE  
BRANCH JOINTS**

**JOINTING PROCEDURE 7.207**

**PVC PLAIN CONCENTRIC - 35mm<sup>2</sup> CNE WAVECON  
SERVICE CABLE BRANCH JOINT - THREE PHASE**

**This procedure is to be read in conjunction with the appropriate  
General Requirements ST: CAØC Section 6  
of the LV Service Cable Jointing Manual**

## JOINTING PROCEDURE 7.207

### MATERIALS LIST

**CABLE SIZES -- 25/35 Hybrid or 16/ 25mm<sup>2</sup> Cu Plain Conc to 35mm<sup>2</sup> Wavecon**

<b>Item</b>	<b>Quantity</b>
Shell 1583	1
Resin	10 litres (2 x 5 litres)
Connector BCNE (Neu/Earth)	1
Connector SSIPC (Phase)	3

### ADDITIONAL ITEMS FOR EACH JOINT

Insulation patch  
Black cotton tape  
Sealing putty  
Cable ties  
Shell support  
PVC tape  
Emery cloth  
De-solvit 1000FD  
Workhorse dry wipes  
Cable solvent wipes

**Note: - Individual material item numbers (SHOPS) are to be found in Section 4 of the LV Service Cable Jointing Manual.**

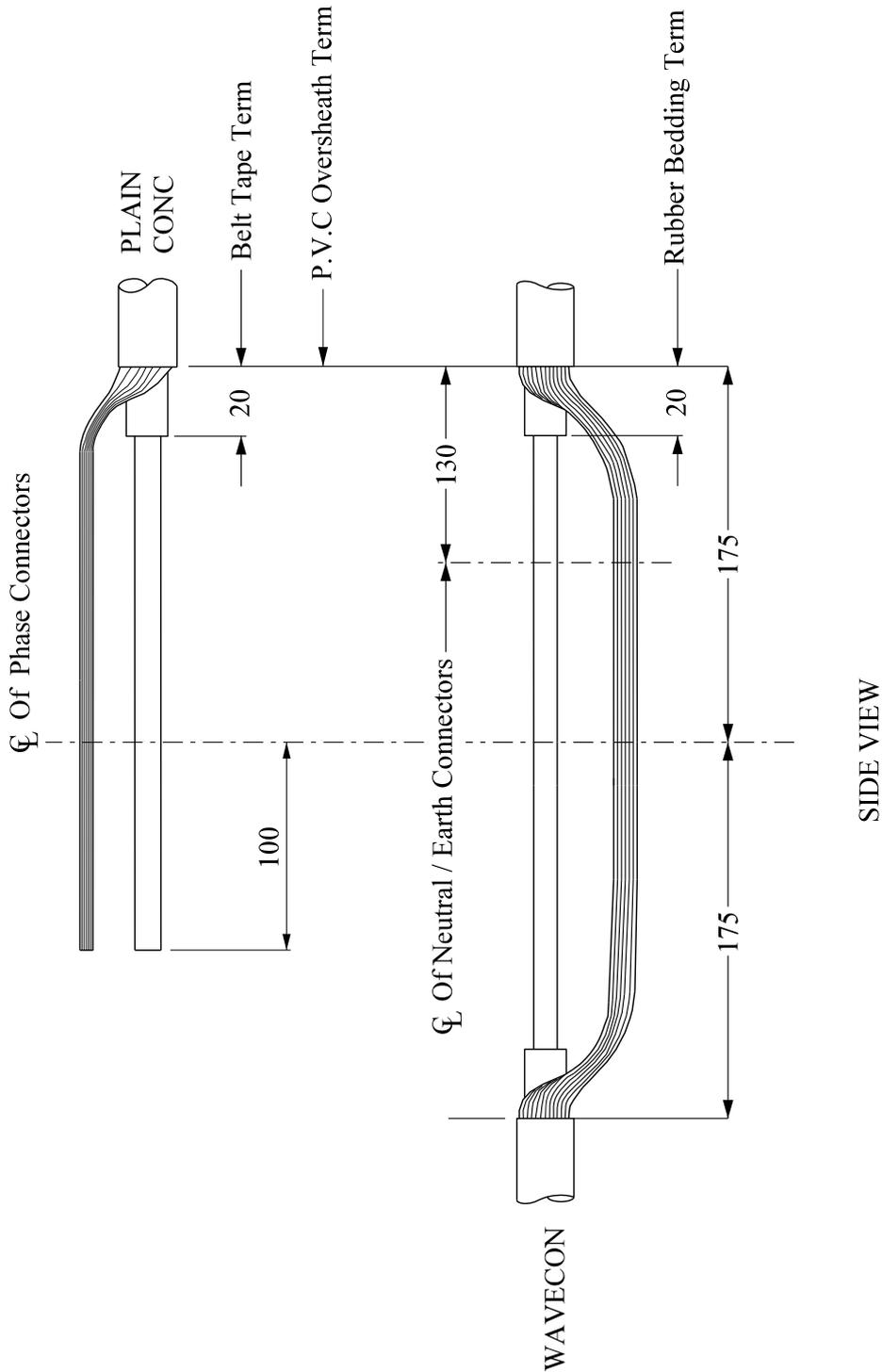
## JOINTING PROCEDURE 7.207

Actions	General Requirements (ST: CAØC)
Refer to Drawings <b>SVJ 7.207.1, 7.207.2</b> whilst undertaking this Jointing Procedure	
1. Set up and mark cables	4
<b>BRANCH CABLE (PLAIN CONC) - Preparation</b>	
2. Open and cut cable in accordance with General Requirement	13
3. Prepare neutral/earth wires for jointing	7
<b>MAIN CABLE (WAVECON) – Preparation</b>	
4. Remove PVC oversheath	5
11. Prepare neutral/earth wires for jointing and form into one core	14
6. Remove rubber bedding	8
<b>COMPLETION OF JOINT</b>	
7. Set cores in joint position	22
14. Connect neutral/earth wires	24
9. Apply temporary shrouding	17
10. Make and ensure phase connections are fully insulated	24/25
11. Remove temporary shrouding applied in 9	--
12. Form neutral/earth wires into their final position	--
13. Abrade and build up oversheaths	26
14. Thoroughly degrease the joint	29

## **JOINTING PROCEDURE 7.207 – Continued**

- |     |  |    |
|-----|--|----|
| 15. | Prepare and fit shell, ensuring 15mm clearance | 30 |
| 16. | Mix and pour resin                             | 31 |

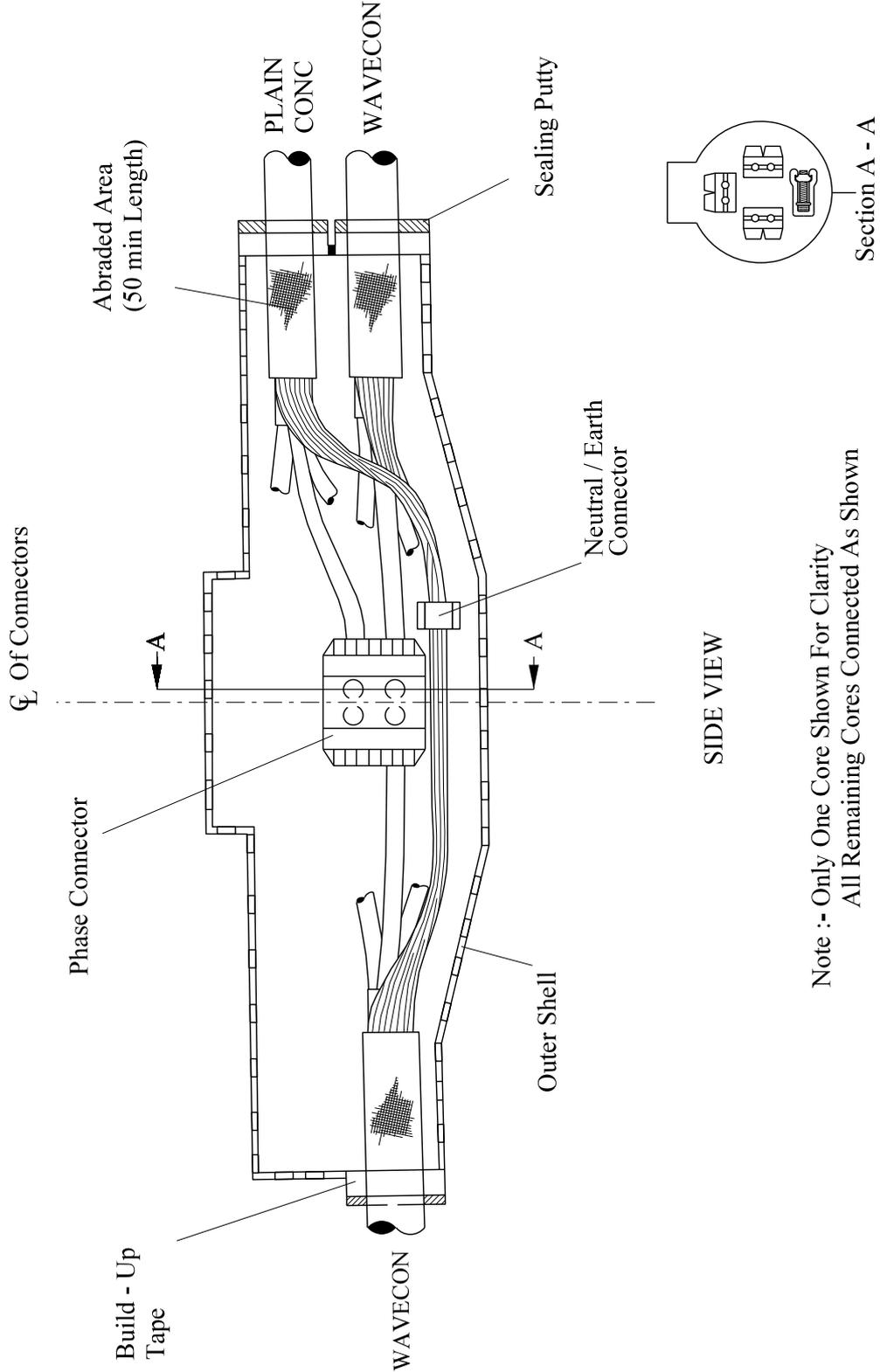
All dimensions in mm



Rev No	Drawn	Chk'd	App'd	Date	Revision	
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.				
Drawn	RJB	04/12	Title PVC PLAIN CONC - 35mm <sup>2</sup> CNE WAVECON BRANCH JOINT - THREE PHASE STRIPPING DIMENSIONS			
Checked			Drg. No. SVJ 7.207.1			Rev No
Approved			SCALE N.T.S.			

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

All Dimensions In mm



Note :- Only One Core Shown For Clarity  
All Remaining Cores Connected As Shown

1	RJB			01/16	CONNECTOR CHANGED		
Rev No	Drawn	Chk'd	App'd	Date	Revision		
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.					
Drawn	RJB	04/12	Title				
Checked			PVC PLAIN CONC - 35mm <sup>2</sup> CNE WAVECON BRANCH JOINT - THREE PHASE GENERAL LAYOUT			SVJ 7.207.2	1
Approved			SCALE			N.T.S.	

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

**ST: CAØM/4 PROCEDURES FOR MAKING SERVICE CABLE  
BRANCH JOINTS**

**JOINTING PROCEDURE 7.208**

**PVC SPLIT CONCENTRIC - 35mm<sup>2</sup> CNE WAVECON  
SERVICE CABLE BRANCH JOINT - THREE PHASE**

**This procedure is to be read in conjunction with the appropriate  
General Requirements ST: CAØC Section 6  
of the LV Service Cable Jointing Manual**

## JOINTING PROCEDURE 7.208

### MATERIALS LIST

#### CABLE SIZES – 25mm<sup>2</sup> Cu Split Conc to 35mm<sup>2</sup> Wavecon

Item	Quantity
Shell 1583	1
Resin	10 litres (2 x 5 litres)
Connector BCNE (Neu/Earth)	1
Connector SSIPC (Phase)	3

#### ADDITIONAL ITEMS FOR EACH JOINT

Insulation patch  
Black cotton tape  
Sealing putty  
Cable ties  
Shell support  
PVC tape  
Emery cloth  
De-solvit 1000FD  
Workhorse dry wipes  
Cable solvent wipes

**Note: - Individual material item numbers (SHOPS) are to be found in Section 4 of the LV Service Cable Jointing Manual.**

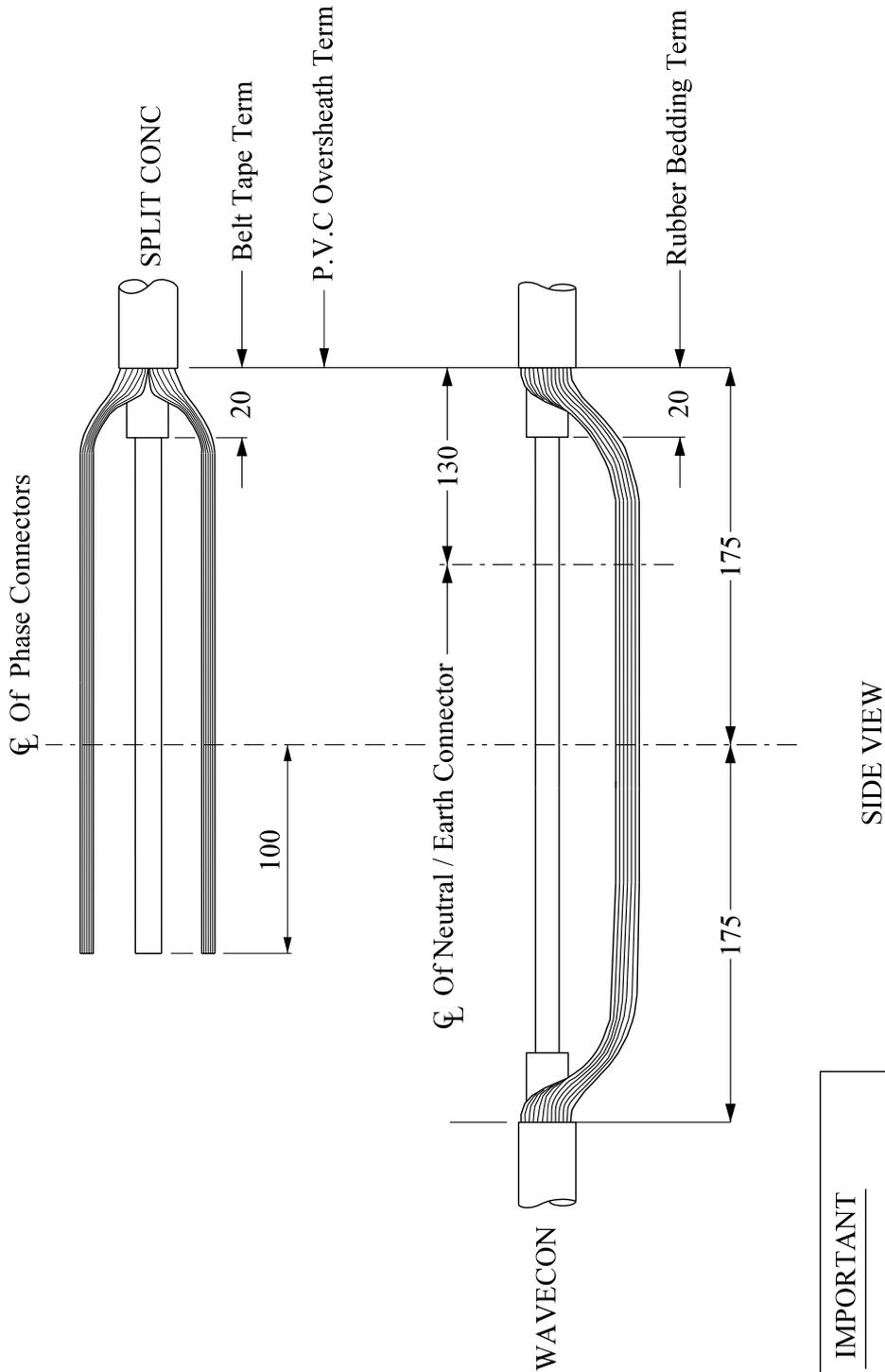
## JOINTING PROCEDURE 7.208

Actions	General Requirements (ST: CAØC)
Refer to Drawings <b>SVJ 7.208.1, 7.208.2</b> whilst undertaking this Jointing Procedure	
1. Set up and mark cables	4
<b>BRANCH CABLE (SPLIT CONC) - Preparation</b>	
2. Open and cut cable in accordance with General Requirement	13
3. Prepare neutral/earth wires for jointing	7
<b>MAIN CABLE (WAVECON) – Preparation</b>	
4. Remove PVC oversheath	5
12. Prepare neutral/earth wires for jointing and form into one core	14
6. Remove rubber bedding	8
<b>COMPLETION OF JOINT</b>	
7. Set cores in joint position	22
15. Connect neutral/earth wires	24
9. Apply temporary shrouding	17
10. Make and ensure phase connections are fully insulated	24/25
11. Remove temporary shrouding applied in 9	--
12. Form neutral/earth wires into their final position	--
13. Abrade and build up oversheaths	26
14. Thoroughly degrease the joint	29

## **JOINTING PROCEDURE 7.208 – Continued**

- |     |  |    |
|-----|--|----|
| 15. | Prepare and fit shell, ensuring 15mm clearance | 30 |
| 16. | Mix and pour resin                             | 31 |

All dimensions in mm

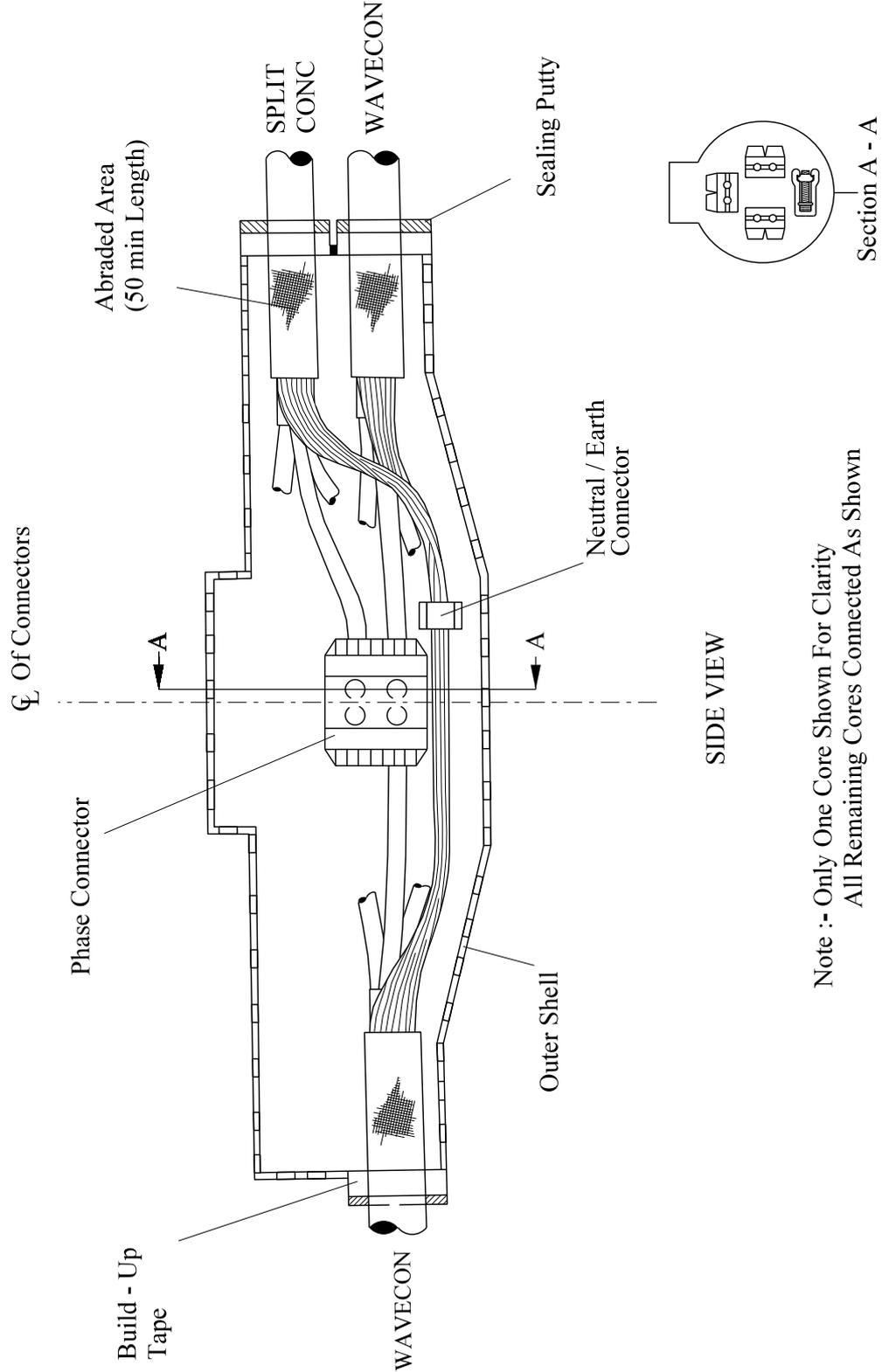


**IMPORTANT**  
 Before Making This Joint  
 Check With Supervisor That  
 Application Is Correct

Rev No	Drawn	Chk'd	App'd	Date	Revision	
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.			 <b>WESTERN POWER DISTRIBUTION</b>	
Drawn	RJB	04/12	Title			
Checked			PVC SPLIT CONC - 35mm <sup>2</sup> CNE WAVECON BRANCH JOINT - THREE PHASE STRIPPING DIMENSIONS		SVJ 7.208.1	
Approved			SCALE		N.T.S.	

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

All Dimensions In mm



Note :- Only One Core Shown For Clarity  
All Remaining Cores Connected As Shown

1	RJB			01/16	CONNECTOR CHANGED		
Rev No	Drawn	Chk'd	App'd	Date	Revision		
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.					
Drawn	RJB	04/12	Title				
Checked			PVC SPLIT CONC - 35mm <sup>2</sup> CNE WAVECON BRANCH JOINT - THREE PHASE GENERAL LAYOUT			SVJ 7.208.2	1
Approved			SCALE			N.T.S.	

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

**ST: CAØM/4 PROCEDURES FOR MAKING SERVICE CABLE  
BRANCH JOINTS**

**JOINTING PROCEDURE 7.209**

**35mm<sup>2</sup> CNE WAVECON - 35mm<sup>2</sup> CNE WAVECON  
SERVICE CABLE BRANCH JOINT - THREE PHASE**

**This procedure is to be read in conjunction with the appropriate  
General Requirements ST: CAØC Section 6  
of the LV Service Cable Jointing Manual**

## JOINTING PROCEDURE 7.209

### MATERIALS LIST

#### CABLE SIZES – 35mm<sup>2</sup> Wavecon to 35mm<sup>2</sup> Wavecon

Item	Quantity
Shell 1583	1
Resin	10 litres (2 x 5 litres)
Connector BCNE (Neu/Earth)	1
Connector SSIPC (Phase)	3

#### ADDITIONAL ITEMS FOR EACH JOINT

Insulation patch  
Black cotton tape  
Sealing putty  
Cable ties  
Shell support  
PVC tape  
Emery cloth  
De-solvit 1000FD  
Workhorse dry wipes  
Cable solvent wipes

**Note: - Individual material item numbers (SHOPS) are to be found in Section 4 of the LV Service Cable Jointing Manual.**

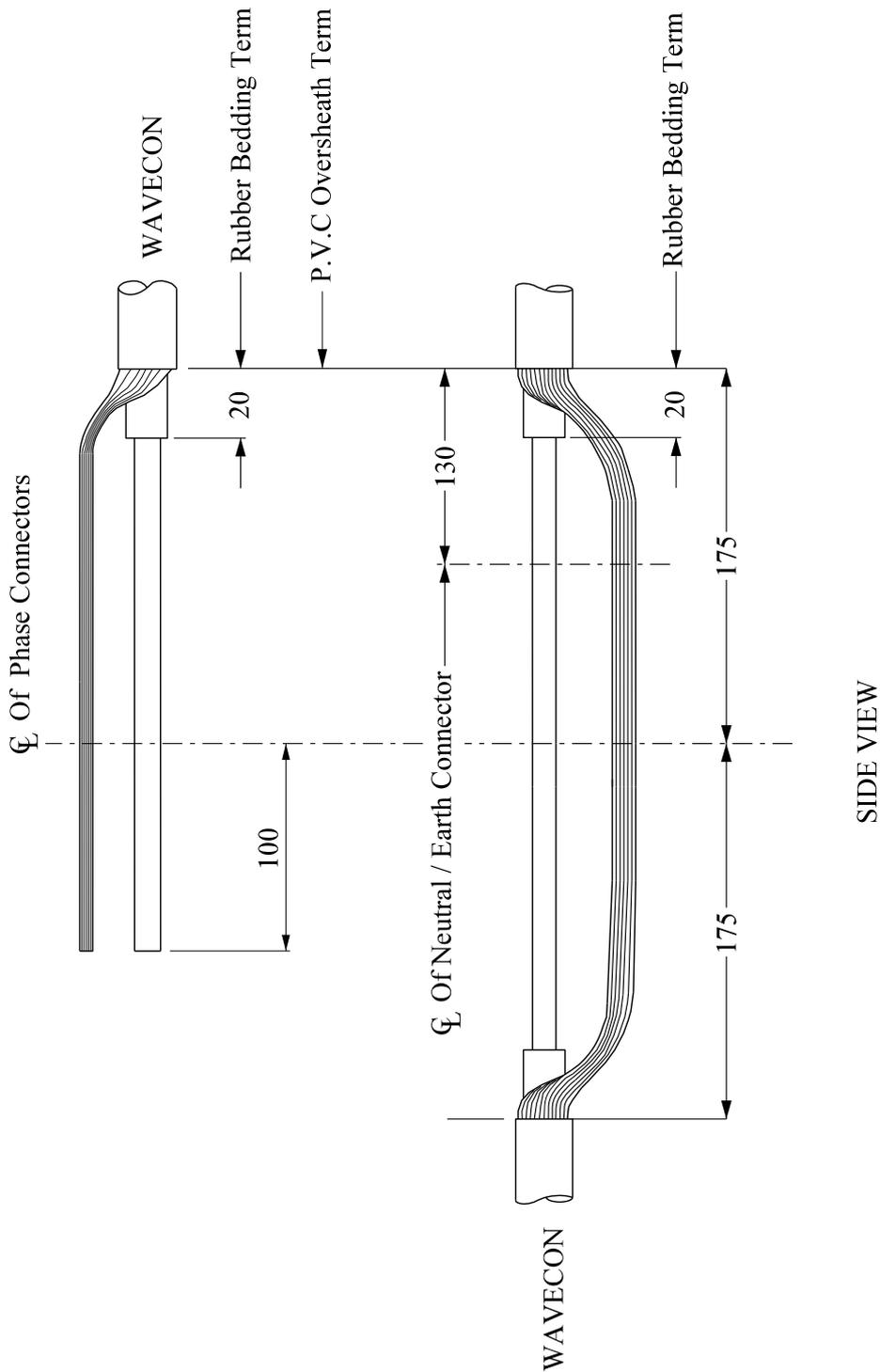
## JOINTING PROCEDURE 7.209

Actions	General Requirements (ST: CAØC)
Refer to Drawings <b>SVJ 7.209.1, 7.209.2</b> whilst undertaking this Jointing Procedure	
1. Set up and mark cables	4
<b>BRANCH CABLE - Preparation</b>	
2. Open and cut cable in accordance with General Requirement 6.14	14
3. Prepare neutral/earth wires for jointing	7
<b>MAIN CABLE – Preparation</b>	
4. Remove PVC oversheath	5
13. Prepare neutral/earth wires for jointing and form into one core	14
6. Remove rubber bedding	8
<b>COMPLETION OF JOINT</b>	
7. Set cores in joint position	22
16. Connect neutral/earth wires	24
9. Apply temporary shrouding	17
10. Make and ensure phase connections are fully insulated	24/25
11. Remove temporary shrouding applied in 9	--
12. Form neutral/earth wires into their final position	--
13. Abrade and build up oversheaths	26
14. Thoroughly degrease the joint	29

## JOINTING PROCEDURE 7.209 – Continued

- |     |  |    |
|-----|--|----|
| 15. | Prepare and fit shell, ensuring 15mm clearance | 30 |
| 16. | Mix and pour resin                             | 31 |

All dimensions in mm

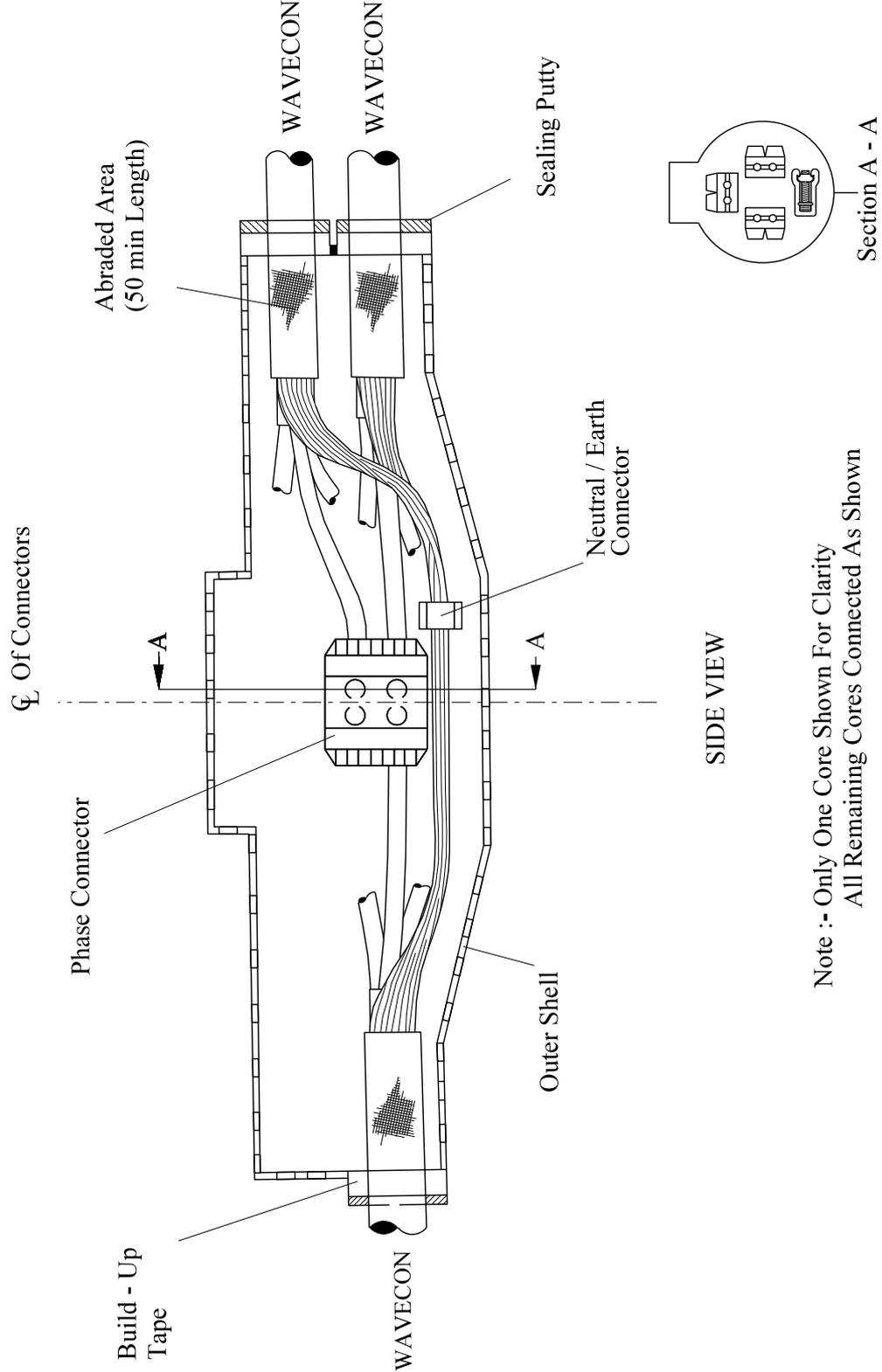


SIDE VIEW

Rev No	Drawn	Chk'd	App'd	Date	Revision	
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.				
Drawn	RJB	04/12	Title 35mm <sup>2</sup> CNE WAVECON - 35mm <sup>2</sup> CNE WAVECON BRANCH JOINT - THREE PHASE STRIPPING DIMENSIONS			
Checked			Drg. No.			Rev No
Approved			SVJ 7.209.1			
SCALE	N.T.S.					

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

All Dimensions In mm



Note :- Only One Core Shown For Clarity  
All Remaining Cores Connected As Shown

1	RJB			01/16	CONNECTOR CHANGED		
Rev No	Drawn	Chk'd	App'd	Date	Revision		
ORIGINAL ISSUE	DATE	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.					
Drawn	RJB	04/12	Title				
Checked			35mm <sup>2</sup> CNE WAVECON - 35mm <sup>2</sup> CNE WAVECON BRANCH JOINT - THREE PHASE GENERAL LAYOUT			Drg. No.	Rev No
Approved						SVJ 7.209.2	1
SCALE	N.T.S.						

ALL RIGHTS ARE RESERVED TO WPD (South West) plc. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING AND RECORDING, OR STORED IN A RETRIEVAL SYSTEM OF ANY NATURE, WITHOUT PERMISSION.

## **APPENDIX A**

### **SUPERSEDED DOCUMENTATION**

This Standard Technique supersedes ST:CAØM/3 dated July 2014 which should now be withdrawn.

## **APPENDIX B**

### **ASSOCIATED DOCUMENTATION**

ST:CAØA, ST:CAØB, ST:CAØC, ST:CAØN, ST:CAØS, ST:CAØT, ST:CAØU,  
ST:CAØV, ST:CAØW, ST:CAØZ.

## **APPENDIX C**

### **IMPACT ON COMPANY POLICY**

None, as this document has just been updated to incorporate all the latest SHOPS numbers and other subtle minor changes.

## **APPENDIX D**

### **IMPLEMENTATION OF POLICY**

This Standard Technique shall be communicated to all relevant WPD engineers and site staff at the next Team Briefing by the Team Manager.

## **APPENDIX E**

### **KEY WORDS**

Branch Joints, Service Cable Branch Joints