## Ergon Energy Document Revision List

**Project:** Sub-Transmission Construction Manual  
**Electronic - Website Version**

### Section 20 - Pole Manufacturing Dwgs Pages 110-1 to 110-10 Ver 3

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<th>Current Published</th>
<th>Issued Document Revision Number</th>
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Degree symbols in the title boxes are displayed as %D. This does not effect the accuracy of the drawings. This will be resolved in the next revision.
NOTES
1. Orientation is measured clockwise when looking down on pole tip.
2. Bracketed fittings require +/- 2 mm tolerance between them and +/- 2 mm orientation tolerance.
3. Longitudinal capacities to be no less than transverse capacities.
4. Stainless steel tubes are to be accurately positioned and free from concrete and deformity.
5. A nominal Ø10 vent hole is required at the centre of the through tube provided for square rigging.
6. No subsidiary to be incorporated on 18m poles.

Refer dwg 5-7-3-2 for Foundations
Refer dwg 5-4-166-6 for Pole Construction

OVERHEAD SUB-TRANSMISSION
66kV CONCRETE POLE MANUFACTURING DETAILS
DOUBLE C/CT RURAL VERTICAL STRAIN 35°-45° ANGLE
18m x 390kN POLE

DRAWING NUMBER: 5-20-110-1
NOTES
1. Orientation is measured clockwise when looking down on pole tip.
2. Bracketed fittings require +/- 2 mm tolerance between them and +/- 2 mm orientation tolerance.
3. Longitudinal capacities to be not less than transverse capacities.
4. Stainless steel tube must be accurately positioned and free from concrete and deformity.
5. A nominal Ø10 vent hole is required at the centre of the through tube provided for square rigging.

Refer dwg 5-7-3-2 for Foundations
Refer dwg 5-4-166-6 for Pole Construction
**NOTES**

1. Orientation is measured clockwise when looking down on pole tip.
2. Bracketed fittings require +/- 2 mm tolerance between them and +/- 2 mm orientation tolerance.
3. Longitudinal capacities to be not less than transverse capacities.
4. Steel braced members to be accurately positioned and free from concrete and deformity.
5. A nominal Ø10 vent hole is required at the centre of the through tube provided for square rigging.

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**Refer to dwg 5-7-3-2 for Foundations**

**Refer to dwg 5-4-166-6 for Pole Construction**

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**OVERHEAD SUB-TRANSMISSION 66kV CONCRETE POLE MANUFACTURING DETAILS**

**DOUBLE CCT RURAL VERTICAL STRAIN 35°d - 45°d ANGLE**

24m x 90mm POLE
1. Orientation is measured clockwise when looking down on pole tip.  
2. Bracketed fittings require +/- 2 mm tolerance between them and +/- 2mm orientation tolerance  
3. Longitudinal capacities to be not less than transverse capacities.  
4. Stainless steel tubes are to be accurately positioned and free from concrete and deformity.  
5. A nominal Ø10 vent hole is required at the centre of the through tube provided for square rigging.  

Refer dwg 5-7-3-2 for Foundations  
Refer dwg 5-4-166-6 for Pole Construction
<table>
<thead>
<tr>
<th>DISTANCE FROM TIP (m)</th>
<th>ORIENTATION</th>
<th>FITTING DESCRIPTION</th>
<th>TUBE LENGTH</th>
<th>FITTING PURPOSE</th>
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<td>150</td>
<td>To hang</td>
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<tr>
<td>100</td>
<td>H</td>
<td>M10 ferrule (25mm thread)</td>
<td>150</td>
<td>Fastened and stop to pole</td>
</tr>
<tr>
<td>150</td>
<td>H</td>
<td>M10 ferrule (25mm thread)</td>
<td>150</td>
<td>Fastened and stop to pole</td>
</tr>
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<td>M10 ferrule (25mm thread)</td>
<td>150</td>
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<td>Fastened and stop to pole</td>
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<td>H</td>
<td>M10 ferrule (25mm thread)</td>
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<td>Fastened and stop to pole</td>
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<td>500</td>
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<td>M10 ferrule (25mm thread)</td>
<td>150</td>
<td>Fastened and stop to pole</td>
</tr>
</tbody>
</table>

**NOTES:**
1. Orientation is measured clockwise when looking down on pole tip.
2. Bracketed fittings require +/- 2 mm tolerance between them and +/- 2 mm orientation tolerance.
3. Longitudinal capacities to be not less than transversal capacities.
4. Stainless steel tubes are to be accurately positioned and free from concrete and deformity.
5. A nominal Ø10 vent hole is required at the centre of the through tube provided for square rigging.

Refer dwg 5-7-3-2 for Foundations
Refer dwg 5-4-166-6 for Pole Construction

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**OVERHEAD SUB-TRANSMISSION**

**66KV CONCRETE POLE MANUFACTURING DETAILS**

**DOUBLE G/C RURAL VERTICAL STRAIN 35%O - 45% D ANGLE**

**30m x 40m POLE**

**STOCK CODE:**

2445641

**NAME PLATE INFORMATION**

MANUFACTURER'S NAME/TRADE MARK

LONGITUDE OF POLE [m] LIMIT STATE DESIGN LOAD (KN) 60

STANDARD / MARINE GRADE

STOCK CODE

OVERHEAD CONSTRUCTION

**Pole Construction**

**References:**

- Refer dwg 5-4-166-6 for Pole Construction

**Ergon Energy Corporation Ltd**

**DATE:** 14/03/2016

**Fittings Purpose:**

- **A** Tip ring and pole cap (plain)
- **B** Tie off at 1000mm set
- **C** Tie off at 1500mm set
- **D** Earth at pole cap (single)
- **E** Earth at 1000mm set
- **F** Earth at 1500mm set
- **G** Depth indication mark
- **H** Additional earthing (fully stayed poles)
- **I** Name plate
- **J** Depth indication mark
- **K** 32 OD S/S tube for M24 bolt
- **L** M16 ferrule (25mm thread)
- **M** M12 earth ferrule (30mm thread)
- **N** M12 earth ferrule (30mm thread)
- **O** 270°
- **P** 300°
- **Q** 350°
- **R** 400°
- **S** 450°
- **T** 500°
- **U** 550°
- **V** 600°
- **W** 650°
- **X** 700°
- **Y** 750°
- **Z** 800°

**SET FITTING DESCRIPTION QTY**

**A** Tip ring and pole cap (plain) 1
**B** Tie off at 1000mm set 2
**C** Tie off at 1500mm set 2
**D** Earth at pole cap (single) 3
**E** Earth at 1000mm set 2
**F** Earth at 1500mm set 2
**G** Depth indication mark 1
**H** Additional earthing (fully stayed poles) 2
**I** Name plate 1
**J** Depth indication mark 1
**K** 32 OD S/S tube for M24 bolt 1
**L** M16 ferrule (25mm thread) 1
**M** M12 earth ferrule (30mm thread) 1
**N** M12 earth ferrule (30mm thread) 1
**O** 270° 1
**P** 300° 1
**Q** 350° 1
**R** 400° 1
**S** 450° 1
**T** 500° 1
**U** 550° 1
**V** 600° 1
**W** 650° 1
**X** 700° 1
**Y** 750° 1
**Z** 800° 1
NOTES
1. Orientation is measured clockwise when looking down on pole tip.
2. Bracketed fittings require +/- 2 mm tolerance between them and +/- 2mm orientation tolerance
3. Longitudinal capacities to be not less than transverse capacities.
4. Stainless steel tubes are to be accurately positioned and free from concrete and deformity.
5. A nominal Ø10 vent hole is required at the centre of the through tube provided for square rigging.
6. No subsidiary to be incorporated on 18m poles.

Refer dwg 5-7-3-2 for Foundations
Refer dwg 5-4-166-6 for Pole Construction
### Notes

1. Orientation is measured clockwise when looking down on pole tip.
2. Bracketed fittings require ±2 mm tolerance between them and ±2 mm orientation tolerance.
3. Longitudinal capacities to be less than transverse capacities.
4. All steel bars are to be accurately positioned and free from concrete and deformity.
5. A nominal Ø10 vent hole is required at the centre of the through tube provided for square rigging.

Refer dwg 5-7-3-2 for Foundations
Refer dwg 5-4-166-6 for Pole Construction
**Notes:**

1. Orientation is measured clockwise when looking down on pole tip.
2. Bracketed fittings require +/-2 mm tolerance between them and +/-2 mm orientation tolerance.
3. Longitudinal capacities to be not less than transverse capacities.
4. Stainless steel tubes to be accurately positioned and free from concrete and deformity.
5. A nominal Ø10 vent hole is required at the centre of the through tube provided for square rigging.

Refer dwg 5-7-3-2 for Foundations

Refer dwg 5-4-166-6 for Pole Construction
### Notes
1. Orientation is measured clockwise when looking down on pole tip.
2. Stainless steel tubes require +/- 2 mm tolerance between them and +/- 2 mm orientation tolerance.
3. Longitudinal capacities to be not less than transverse capacities.
4. Stainless steel tubes are to be accurately positioned and free from concrete and deformity.
5. A nominal Ø10 vent hole is required at the centre of the through tube provided for square rigging.

### Table
<table>
<thead>
<tr>
<th>Distance (m)</th>
<th>Orientation</th>
<th>Fitting Description</th>
<th>Tube Length</th>
<th>Fitting Purpose</th>
</tr>
</thead>
<tbody>
<tr>
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<td>N</td>
<td>M16 ferrule (30mm thread)</td>
<td>Ø38 (4d)</td>
<td>Pole butt</td>
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<tr>
<td>100</td>
<td>F</td>
<td>M16 ferrule (30mm thread)</td>
<td>Ø38 (4d)</td>
<td>Pole butt</td>
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<tr>
<td>110</td>
<td>F</td>
<td>M16 ferrule (30mm thread)</td>
<td>Ø38 (4d)</td>
<td>Pole butt</td>
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<tr>
<td>120</td>
<td>H</td>
<td>M16 ferrule (25mm thread)</td>
<td>Ø38 (4d)</td>
<td>Pole butt</td>
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<td>130</td>
<td>H</td>
<td>M16 ferrule (25mm thread)</td>
<td>Ø38 (4d)</td>
<td>Pole butt</td>
</tr>
</tbody>
</table>

### Description
- **M16 Ferrule (25mm thread)**: Used for connecting parts of the structure.
- **M16 Ferrule Long (90mm thread)**: Suitable for longer connections requiring a longer thread.
- **M12 Earth Ferrule (30mm thread)**: Used for grounding purposes.

### Additional Earthing
- Additional earthing (in black soil): Ensures electrical conductivity and prevents corrosion.

### Structure Type
- **C6RDVS328FDL/FDR C6RDVS328FDR/FDR**: Likely refers to specific structural details or materials used in the construction.

### Stock Code
- 2445633

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### HARD COPY UNCONTROLLED

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###漫画

- **C6RDVS328FDL C6RDVS328FDL**: Likely refers to specific structural details or materials used in the construction.

### Date
- 14/03/2016
NOTES
1. Orientation is measured clockwise when looking down on pole tip.
2. Bracketed fittings require +/- 2 mm tolerance between them and +/- 2mm orientation tolerance.
3. Longitudinal capacities to be no less than transverse capacities.
4. Stainless steel tubes are to be accurately positioned and free from concrete and deformation.
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