### Ergon Energy Document Revision List

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

**Section 20 - Pole Manufacturing Dwgs Pages 314-1 to 314-6**

<table>
<thead>
<tr>
<th>Date of Issue</th>
<th>Section Title / Drawing Number</th>
<th>Current Published</th>
<th>Issued Document Revision Number</th>
<th>Section Title / Drawing Number</th>
<th>Current Published</th>
<th>Issued Document Revision Number</th>
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<tbody>
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<td><strong>Section 20 - Pages 314-1 to 314-6</strong></td>
<td>4-Apr-16</td>
<td></td>
<td>1</td>
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<td>5-20-314-1</td>
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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 +/- 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. Temporary stays may be required during construction and/or maintenance works.

Refer dwg 5-7-3-2 for Foundations
Refer dwg 5-4-264-8 for Pole Construction
**NOTES**

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Refer dwg 5-7-3-2 for Foundations
Refer dwg 5-4-264-8 for Pole Construction
### 1. Orientation

Orientation is measured clockwise when looking down on pole tip.

### 2. Length Indications

Depth Indication Mark

### 3. Fittings

- **M16 ferrule (25mm thread)**
- **M12 earth ferrule (30mm thread)**
- **Depth Indication Marker (normal soil)**
- **Depth Indication Marker (black soil)**
- **Additional earthing (in normal soil)**

### 4. Supplementary Information

- **NOTES**
  - 1. Orientation is measured clockwise when looking down on pole tip.
  - 2. Length Indication Mark
  - 3. Stainless steel tubes are to be accurately positioned and free from concrete and deformity.
  - 4. A nominal Ø10 vent hole is required at the centre of the through tube provided for square rigging.
  - 5. Temporary stays may be required during construction and/or maintenance works.
  - 6. For maintenance purposes, a depth indication marker is required on the pole for easy identification.

### 5. Table of Data

The table below provides detailed specifications and dimensions for the pole's various components.

<table>
<thead>
<tr>
<th>Fitting</th>
<th>Description</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>M16 ferrule (25mm thread)</td>
<td>For connecting various parts of the pole.</td>
<td></td>
</tr>
<tr>
<td>M12 earth ferrule (30mm thread)</td>
<td>For grounding purposes.</td>
<td></td>
</tr>
<tr>
<td>Depth Indication Marker (normal soil)</td>
<td>To indicate the depth of the pole.</td>
<td></td>
</tr>
<tr>
<td>Depth Indication Marker (black soil)</td>
<td>For easy identification in black soil conditions.</td>
<td></td>
</tr>
<tr>
<td>Additional earthing (in normal soil)</td>
<td>For supplementary grounding.</td>
<td></td>
</tr>
</tbody>
</table>

### 6. Diagram

A diagram illustrating the installation and connection details for the pole's various components is provided for reference.

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**Table of Data**

<table>
<thead>
<tr>
<th>Fitting</th>
<th>Description</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>24m X 80kN AND 95% D - 105% D ANGLE POLE</td>
<td>For overhead sub-transmission purposes.</td>
<td></td>
</tr>
<tr>
<td>132V CONCRETE POLE MANUFACTURING DETAILS</td>
<td>Details of the pole manufacturing process.</td>
<td></td>
</tr>
<tr>
<td>OVERHEAD SUB-TRANSMISSION</td>
<td>Overhead transmission specifications.</td>
<td></td>
</tr>
<tr>
<td>DOWNSIDING</td>
<td>Details of downsiding requirements.</td>
<td></td>
</tr>
<tr>
<td>DOWNSIDING STANDARDS</td>
<td>Standards for downsiding.</td>
<td></td>
</tr>
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</table>

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**Check Details**

- **Checked By:**
- **Approved By:**
- **Drawn By:**
- **Date:**
- **Supercedes:**
- ** Revision:**
**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 Ø101 vent hole is required at the centre of the through tube provided for square rigging.
6. Temporary stays may be required during construction and/or maintenance works.

Refer dwg 5-7-3-2 for Foundations
Refer dwg 5-4-264-8 for Pole Construction
### NAME PLATE INFORMATION

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>NAME / TRADE MARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERGON ENERGY</td>
<td>STANDARD / MARINE GRADE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BATCH NO.</th>
<th>LENGTH OF POLE (m) / LIMIT STATE DESIGN LOAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERGON ENERGY</td>
<td>30kN AND 95% - 105% ANGLE POLE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MONTH AND YEAR OF MANUFACTURE</th>
<th>OVERHEAD SUB-TRANSMISSION</th>
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</thead>
<tbody>
<tr>
<td>5mm galv. cross wires (access barrier)</td>
<td>132kV CONCRETE POLE MANUFACTURING DETAILS</td>
</tr>
</tbody>
</table>

### FRONT VIEW

#### C1RDVZ928FDL

- Top Ring and Pole Cap (plain)
- Tip Ring and Pole Cap (M16 thread length)
- Name Plate
- Mid Phase Flanged Eye Bolt (M20)
- Stay bracket and backing plate (M24)
- Tip ring and pole cap (plane)
- Mid Phase Flanged Eye Bolt (M20)
- Earth

#### C1RDVZ928FDR

- Top Ring and Pole Cap (plain)
- Tip Ring and Pole Cap (M16 thread length)
- Joint
- 32 OD S/S tube for M24 bolt
- 32 OD S/S tube for M24 bolt
- 58 OD S/S tube

#### C1RDV928FDL

- Top Ring and Pole Cap (plain)
- Tip Ring and Pole Cap (M16 thread length)
- Joint
- 25 OD S/S tube for M20 bolt
- 25 OD S/S tube for M20 bolt
- 32 OD S/S tube

#### C1RDV928FDR

- Top Ring and Pole Cap (plain)
- Tip Ring and Pole Cap (M16 thread length)
- Joint
- 25 OD S/S tube for M20 bolt
- 25 OD S/S tube for M20 bolt
- 32 OD S/S tube

### TABLE: Fittings Description

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Fitting Description</th>
<th>Tube Length</th>
<th>Fitting Purpose</th>
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<tbody>
<tr>
<td>90°</td>
<td>M16 ferrule (25mm thread)</td>
<td>250</td>
<td>For maintenance purpose</td>
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<tr>
<td>120°</td>
<td>M16 ferrule (25mm thread)</td>
<td>300</td>
<td>For maintenance purpose</td>
</tr>
<tr>
<td>270°</td>
<td>M16 ferrule (25mm thread)</td>
<td>350</td>
<td>For maintenance purpose</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 transverse capacities.
4. Stainless steel tubes are to be accurately positioned and free from concrete and deformity.
5. A nominal 910 vent hole is required at the centre of the through tube provided for square rigging.
6. Temporary stays may be required during construction and/or maintenance works.

Refer dwg 5-7-3-2 for Foundations
Refer dwg 5-246-8 for Pole Construction