

**SPECIFICATIONS FOR OCTAGONAL
STEEL POLES (SPECIAL POLES)**

Issue Date: 05/08/2020

Page: 1 of 4

20-SDMS-01 REV.03.2

20-SDMS-01
Rev.03.2

**SPECIFICATIONS FOR OCTAGONAL STEEL POLES
(SPECIAL POLES)**

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Page: 2 of 4

20-SDMS-01 REV.03.2

20-SDMS-01

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Issue Date: 05/08/2020

Page: 3 of 4

20-SDMS-01 REV.03.2

Table of Contents

1	Scope.....	4
2	Drawings	4

**SPECIFICATIONS FOR OCTAGONAL
STEEL POLES (SPECIAL POLES)****Issue Date:** 05/08/2020**Page:** 4 of 4**20-SDMS-01 REV.03.2****1 Scope**

This sub-revision of the specification 20-SDMS-01 Rev.03 specifies the drawing details of additional new octagonal steel poles (special poles) for use with medium-voltage single-circuit and double-circuit overhead line sections with long-spans, valley and wadi crossings, and highlands with the use of special pole structures. It shall always be read in conjunction with 20-SDMS-01 Rev.03 and the latest revision of 01-SDMS-01.

All the drawings and information in this sub-revision of the specification 20-SDMS-01 Rev.03 shall remain active unless a consolidated revision 20-SDMS-01 Rev.04 is officially published.

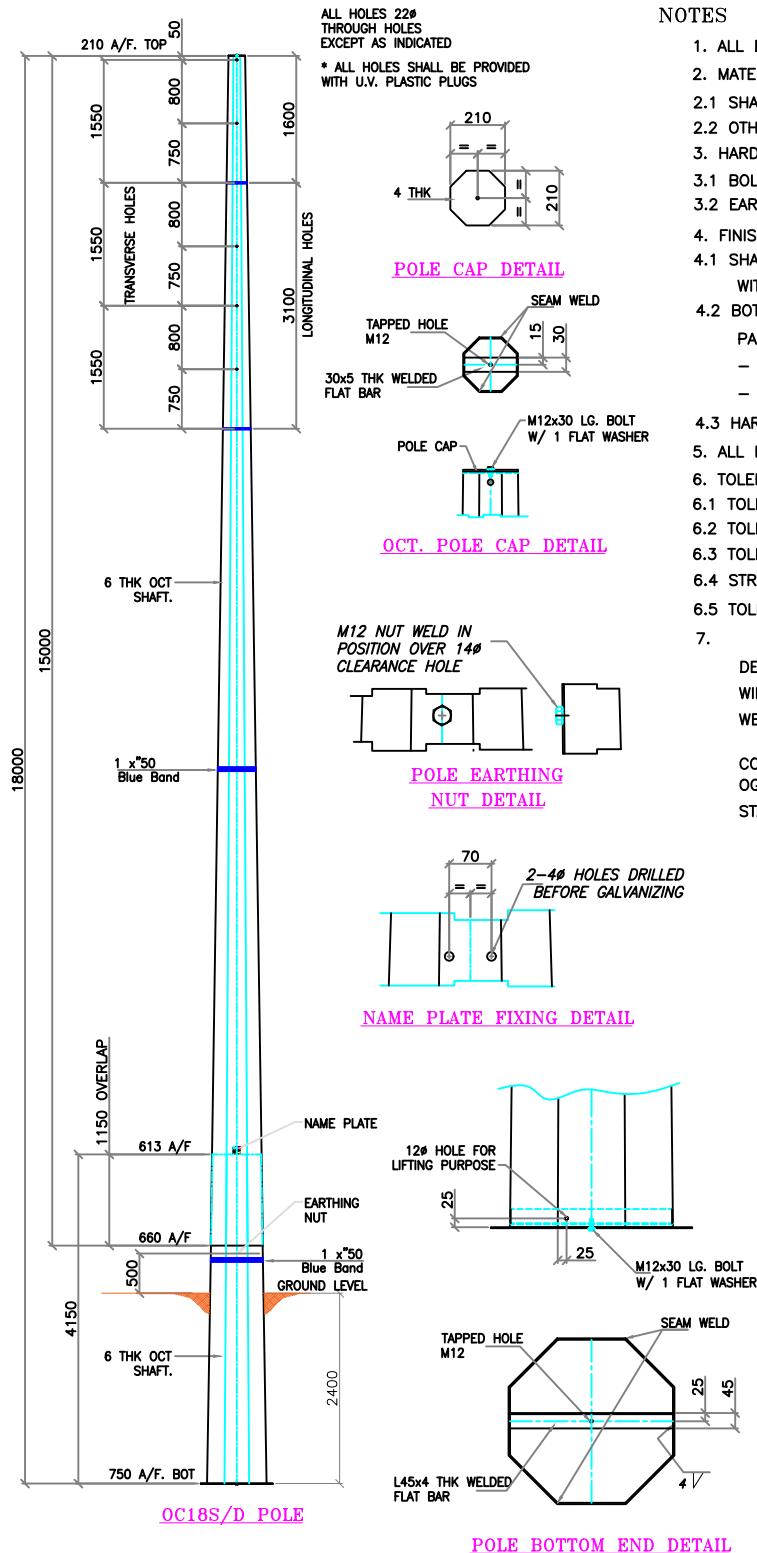
2 Drawings



SPECIFICATIONS FOR OCTAGONAL STEEL POLES (SPECIAL POLES)

20-SDMS-01 REV.03.2

Dated: 2020-08



NOTES

- ALL DIMENSION ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
- MATERIALS
 - 2.1 SHAFT: EN 10027-1 GRADE S355J0 OR EQUI.
 - 2.2 OTHERS: JIS G3101 GRADE SS400 OR EQUI.
- HARDWARE
 - 3.1 BOLT FOR POLE CAP AND BEARING PLATE: DIN267 GRADE 4.6 OR EQUI.
 - 3.2 EARTHING NUT: DIN 267 GRADE 4 OR EQUI.
- FINISH
 - 4.1 SHAFT, POLE CAP AND BEARING PLATE: H.D.G. TO ASTM A123M WITH MINIMUM COATING OF 720 g / sq.m.
 - 4.2 BOTTOM SHAFT & BEARING PLATE SHALL BE COATED WITH BITUMINOUS PAINT, MINIMUM THICKNESS OF 0.24MM.
 - INTERNALLY: 1000MM FROM THE BOTTOM
 - EXTERNALLY: BURIED DEPTH + 800MM
 - 4.3 HARDWARES: H.D.G. TO ASTM A153M
- ALL HOLES SHALL BE DRILLED PRIOR TO GALVANIZING.
- TOLERANCES :
 - 6.1 TOLERANCE ON OVERALL HEIGHT OF THE POLE $\pm 0.5\%$
 - 6.2 TOLERANCE ON HOLE DIAMETERS: $\pm 0.5\text{mm}$
 - 6.3 TOLERANCE ON CENTERS OF HOLE: $\pm 2\text{mm}$
 - 6.4 STRAIGHTNESS OF POLE: 1mm/m
 - 6.5 TOLERANCE ON POLE A/F : $\pm 5\text{mm}$
- | | SINGLE-CIRCUIT | DOUBLE-CIRCUIT |
|--------------|----------------|----------------|
| DESIGN SPAN: | 200 m | 150 m |
| WIND SPAN: | 220 m | 165 m |
| WEIGHT SPAN: | 300 m | 225 m |

CONDUCTOR TYPE: MERLIN
OGW: QUAIL
STAY WIRE: FWDE2116 9/16" 14.48# - 155.7kN UTS (MIN)

80

SAUDI ELECTRICITY CO.

POLE TYPE: 18m SC RIVER/ROAD STR.-SECTION1
POLE ULTIMATE LOAD: 4724 kg
POLE DIMENSIONS: 210/750mm, 6mm THK.
SHAFT WEIGHT: 1485 kg
SEC CONTR. NO.:
SEC STOCK NO.:
YEAR OF MANUFACTURE:
MADE IN SAUDI ARABIA

80

MATERIAL: ALUMINIUM (MIN. 1mm THK.)
LETTERING: CHARACTERS PRINTED IN BLACK COLOR ON WHITE BACKGROUND.
NAME PLATE SHALL BE FIXED TO POLE BY RIVETS. THE HOLES SHALL BE DRILLED PRIOR TO GALVANIZATION

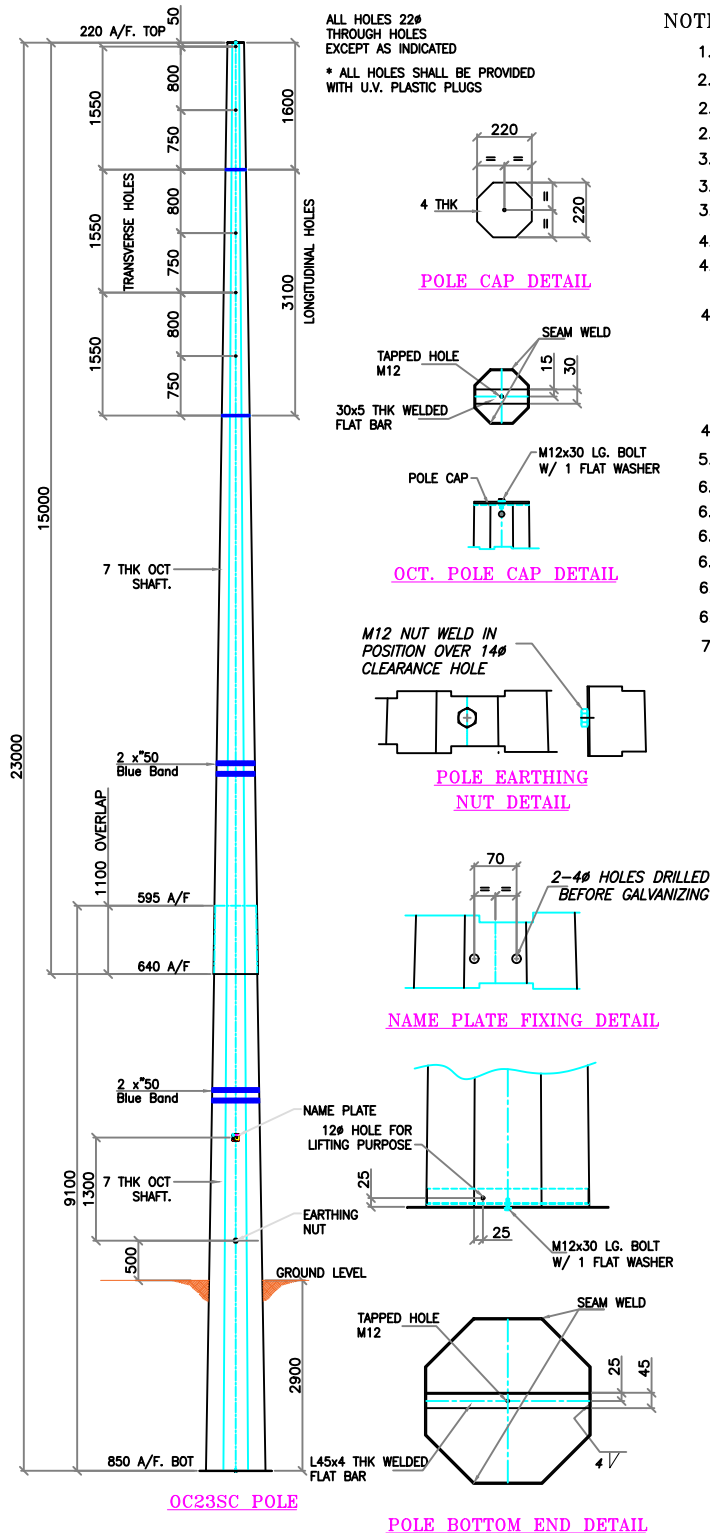
NAME PLATE DETAIL

FIGURE 10: OC18S/D - 18M OCTAGONAL STEEL POLE FOR MEDIUM-VOLTAGE SINGLE & DOUBLE CIRCUIT STRUCTURES

SPECIFICATIONS FOR OCTAGONAL STEEL POLES
(SPECIAL POLES)

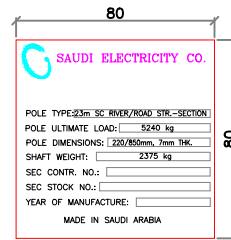
20-SDMS-01 REV.03.2

Dated: 2020-08



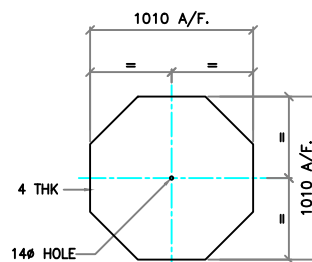
NOTES

- ALL DIMENSION ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 - MATERIALS
 - SHAFT: EN 10027-1 GRADE S355JO OR EQUI.
 - OTHERS: JIS G3101 GRADE SS400 OR EQUI.
 - HARDWARE
 - BOLT FOR POLE CAP AND BEARING PLATE: DIN267 GRADE 4.6 OR EQUI.
 - EARTHING NUT: DIN 267 GRADE 4 OR EQUI.
 - FINISH
 - SHAFT, POLE CAP AND BEARING PLATE: H.D.G. TO ASTM A123M WITH MINIMUM COATING OF 720 g / sq.m.
 - BOTTOM SHAFT & BEARING PLATE SHALL BE COATED WITH BITUMINOUS PAINT, MINIMUM THICKNESS OF 0.24MM.
 - INTERNALLY: 1000MM FROM THE BOTTOM
 - EXTERNALLY: BURIED DEPTH + 800MM
 - HARDWARES: H.D.G. TO ASTM A153M
 - ALL HOLES SHALL BE DRILLED PRIOR TO GALVANIZING.
 - TOLERANCES :
 - TOLERANCE ON OVERALL HEIGHT OF THE POLE $\pm 0.5\%$
 - TOLERANCE ON HOLE DIAMETERS: $\pm 0.5\text{mm}$
 - TOLERANCE ON CENTERS OF HOLE: $\pm 2\text{mm}$
 - STRAIGHTNESS OF POLE: 1mm/m
 - TOLERANCE ON POLE A/F : $\pm 5\text{mm}$
 - | | SINGLE-CIRCUIT | DOUBLE-CIRCUIT |
|--------------|----------------|----------------|
| DESIGN SPAN: | 250 m | 200 m |
| WIND SPAN: | 275 m | 220 m |
| WEIGHT SPAN: | 375 m | 300 m |
- CONDUCTOR TYPE: MERLIN
OGW: QUAIL
STAY WIRE: FWDE2116 9/16" 14.48# - 155.7kN UTS (MIN)



MATERIAL: ALUMINIUM (MIN. 1mm THK.)
LETTERING: CHARACTERS PRINTED IN BLACK COLOR ON WHITE BACKGROUND.
NAME PLATE SHALL BE FIXED TO POLE BY RIVETS. THE HOLES SHALL BE DRILLED PRIOR TO GALVANIZATION

NAME PLATE DETAIL



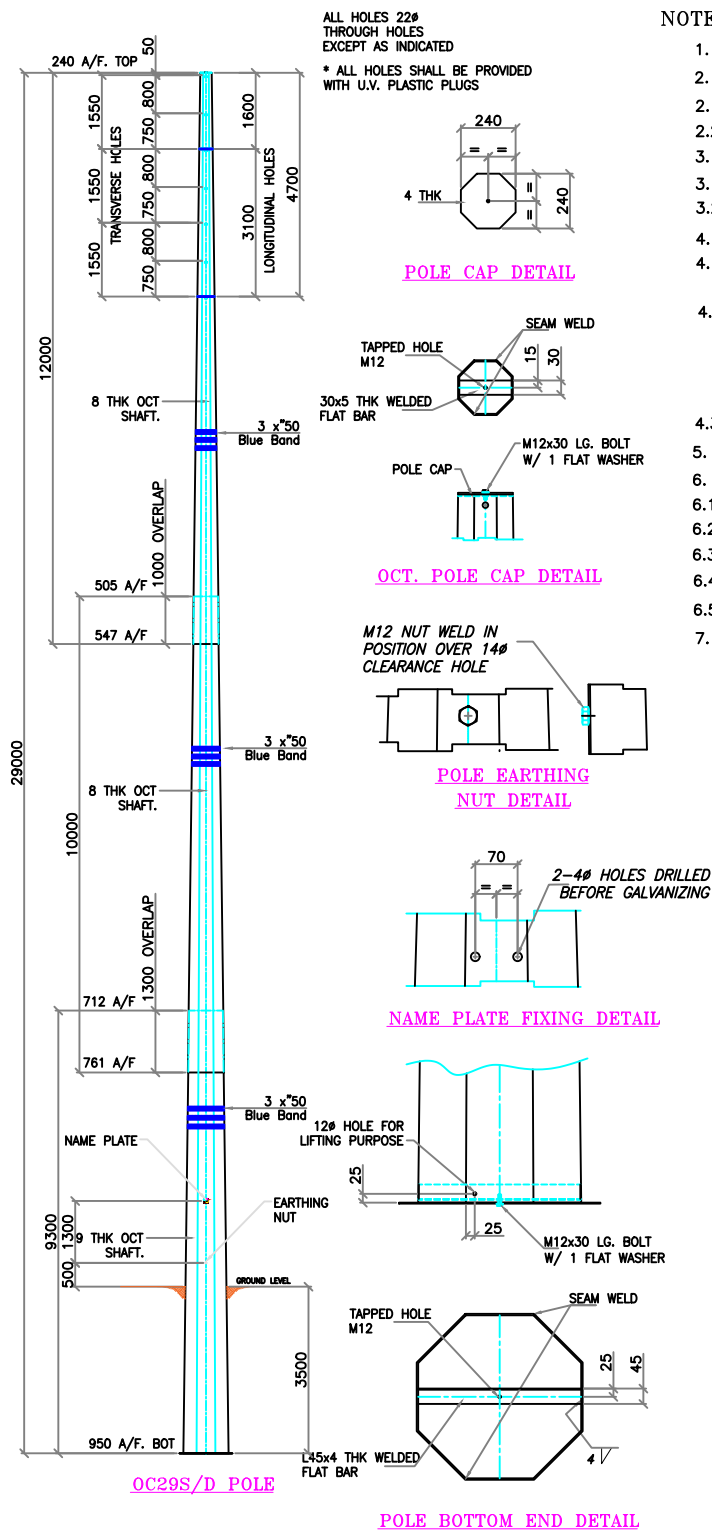
BEARING PLATE DETAIL

FIGURE 11: OC23S/D - 23M OCTAGONAL STEEL POLE FOR MEDIUM-VOLTAGE SINGLE & DOUBLE CIRCUIT STRUCTURES

SPECIFICATIONS FOR OCTAGONAL STEEL POLES (SPECIAL POLES)

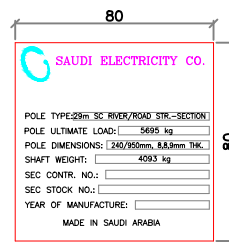
20-SDMS-01 REV.03.2

Dated: 2020-08



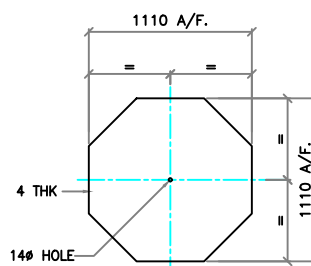
NOTES

1. ALL DIMENSION ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. MATERIALS
- 2.1 SHAFT: EN 10027-1 GRADE S355JO OR EQUI.
- 2.2 OTHERS: JIS G3101 GRADE SS400 OR EQUI.
3. HARDWARE
- 3.1 BOLT FOR POLE CAP AND BEARING PLATE: DIN267 GRADE 4.6 OR EQUI.
- 3.2 EARTHING NUT: DIN 267 GRADE 4 OR EQUI.
4. FINISH
- 4.1 SHAFT, POLE CAP AND BEARING PLATE: H.D.G. TO ASTM A123M
WITH MINIMUM COATING OF 720 g / sq.m.
- 4.2 BOTTOM SHAFT & BEARING PLATE SHALL BE COATED WITH BITUMINOUS PAINT, MINIMUM THICKNESS OF 0.24MM.
- INTERNALLY: 1000MM FROM THE BOTTOM
- EXTERNALLY: BURIED DEPTH + 800MM
- 4.3 HARDWARES: H.D.G. TO ASTM A153M
5. ALL HOLES SHALL BE DRILLED PRIOR TO GALVANIZING.
6. TOLERANCES :
- 6.1 TOLERANCE ON OVERALL HEIGHT OF THE POLE $\pm 0.5\%$
- 6.2 TOLERANCE ON HOLE DIAMETERS: $\pm 0.5\text{mm}$
- 6.3 TOLERANCE ON CENTERS OF HOLE: $\pm 2\text{mm}$
- 6.4 STRAIGHTNESS OF POLE: 1mm/m
- 6.5 TOLERANCE ON POLE A/F : $\pm 5\text{mm}$
- 7.
- | | SINGLE-CIRCUIT | DOUBLE-CIRCUIT |
|--------------|----------------|----------------|
| DESIGN SPAN: | 300 m | 250 m |
| WIND SPAN: | 330 m | 275 m |
| WEIGHT SPAN: | 450 m | 375 m |
- CONDUCTOR TYPE: MERLIN
OGW: QUAIL
STAY WIRE: FWDE2116 9/16" 14.48 ϕ - 155.7kN UTS (MIN)



MATERIAL: ALUMINIUM (MIN. 1mm THK.)
LETTERING: CHARACTERS PRINTED IN
BLACK COLOR ON WHITE BACKGROUND.
NAME PLATE SHALL BE FIXED TO POLE
BY RIVETS. THE HOLES SHALL BE DRILLED
PRIOR TO GALVANIZATION

NAME PLATE DETAIL



BEARING PLATE DETAIL

FIGURE 12: OC29S/D – 29M OCTAGONAL STEEL POLE FOR MEDIUM-VOLTAGE SINGLE & DOUBLE CIRCUIT STRUCTURES