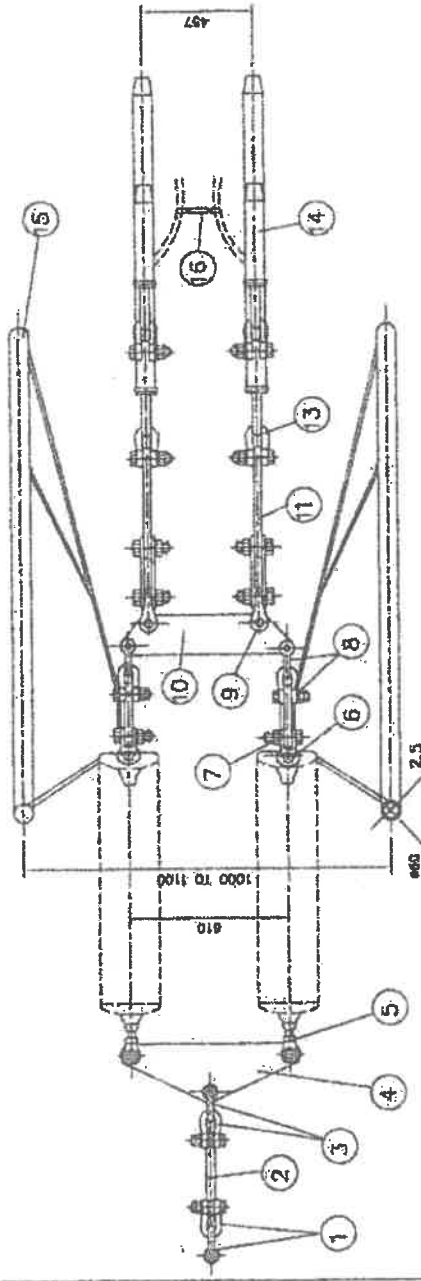
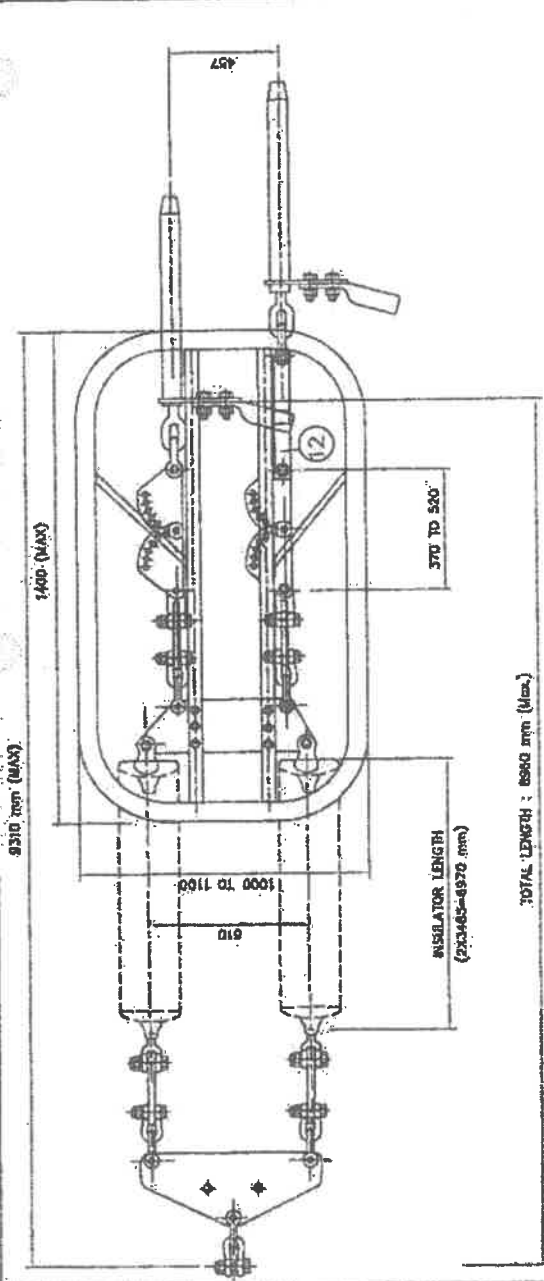




**TECHNICAL DETAILS:**

- 1) ALL DIMENSIONS ARE IN mm.
- 2) SPRING WASHER ELECTRO GALV. AS PER POWER GRID SPECIFICATION.
- 3) BALL & SOCKET SIZE 24 mm AS PER IEC-120
- 4) ALL FERROUS PARTS HOT DIE GALV. AS PER POWER GRID SPECIFICATION.
- 5) TOLERANCES ON NOMINAL LENGTH OF SPRING IS +80 mm.
- 6) TOLERANCES ON LENGTH OF HARDWARE ITEM IS +3 mm.
- 7) TYPE OF VARIOUS FITTINGS & MODE OF ATTACHMENT AS SHOWN ARE INDICATIVE AND NOT MANDATORY



Sl. No.	DESCRIPTION	MATERIAL	U.T.S.	QTY.
16	SPACER	ALUMINIUM ALLOY 6000 IS:617	2 KN	1
15	CORONA CONTROL RING	ALUMINIUM ALLOY 63400 / 6061 IS:733	176.6 KN	2
14	COMPRIN. DEVIDID	ALUMINIUM ALLOY 64401 / 6201 IS:733	480 KN	4
13	ANCHOR SHACKLE	FORGED STEEL CL-IV IS:2004	480 KN	2
12	EXTENSION LINK	MILD STEEL Fe-410 IS:2002	440 KN	4
11	SAG ADJUSTING PLATE	MILD STEEL Fe-410 IS:2002	460 KN	2
10	YOKE PLATE	MILD STEEL Fe-410 IS:2002	230 KN	4
9	CLEVIS EYE	FORGED STEEL CL-IV IS:2004	230 KN	8
8	ANCHOR SHACKLE	MILD STEEL Fe-410 IS:2002	480 KN	2
7	YOKE PLATE	FORGED STEEL CL-IV IS:2004	230 KN	4
6	SOCKET CLEVIS	MILD STEEL Fe-410 IS:2002	460 KN	2
5	BALL CLEVIS	MILD STEEL Fe-410 IS:2002	460 KN	4
4	YOKE PLATE	FORGED STEEL CL-IV IS:2004	480 KN	4
3	ANCHOR SHACKLE	MILD STEEL Fe-410 IS:2002	920 KN	1
2	YOKE PLATE	FORGED STEEL CL-IV IS:2004	920 KN	2
1	ANCHOR SHACKLE	U.T.S.	U.T.S.	1

FOR BID PURPOSE ONLY

POWER GRID CORP. OF INDIA LTD.

PROJECT: 500 KV HVDC TRANSMISSION SYSTEM  
 TITLE: TYPICAL 500 KV QUADRUPLE TENSION TYPE STRING FOR QUADRUPLE LAPWING ACSR. UTS : 920 KN.

DRG. NO. TU500KV/QT/COMPOSITE/013 REV. 0

**TECHNICAL DETAILS:**

- 1) ALL DIMENSIONS ARE IN mm.
- 2) SPRING WASHER ELECTRO GALVANIZED.
- 3) SLIPPING STRENGTH OF CLAMP BETWEEN 20 TO 28 KN.
- 4) BALL & SOCKET SIZE 20 mm. IS2496. (PART-I).
- 5) ALL FERROUS PARTS NOT DIP GALVANIZED AS PER IS : 2629.
- 6) MINICORONA EXTINCTION VOLTAGE (DRY) 510 KV (RMS).
- 7) RV AT 510 KV (DRY) BELOW 1000 MICROVOLTS.
- 8) HARDWARE TOLERANCES ON LENGTH  $\pm 2\%$ .
- 9) INSULATOR DISC TOLERANCES :  $\pm 4$  mm. PER DISC.
- 10) GENERAL TOLERANCE  $\pm 3\%$  APPLICABLE FOR INDIVIDUAL COMPONENTS.

TENDER PURPOSE ONLY

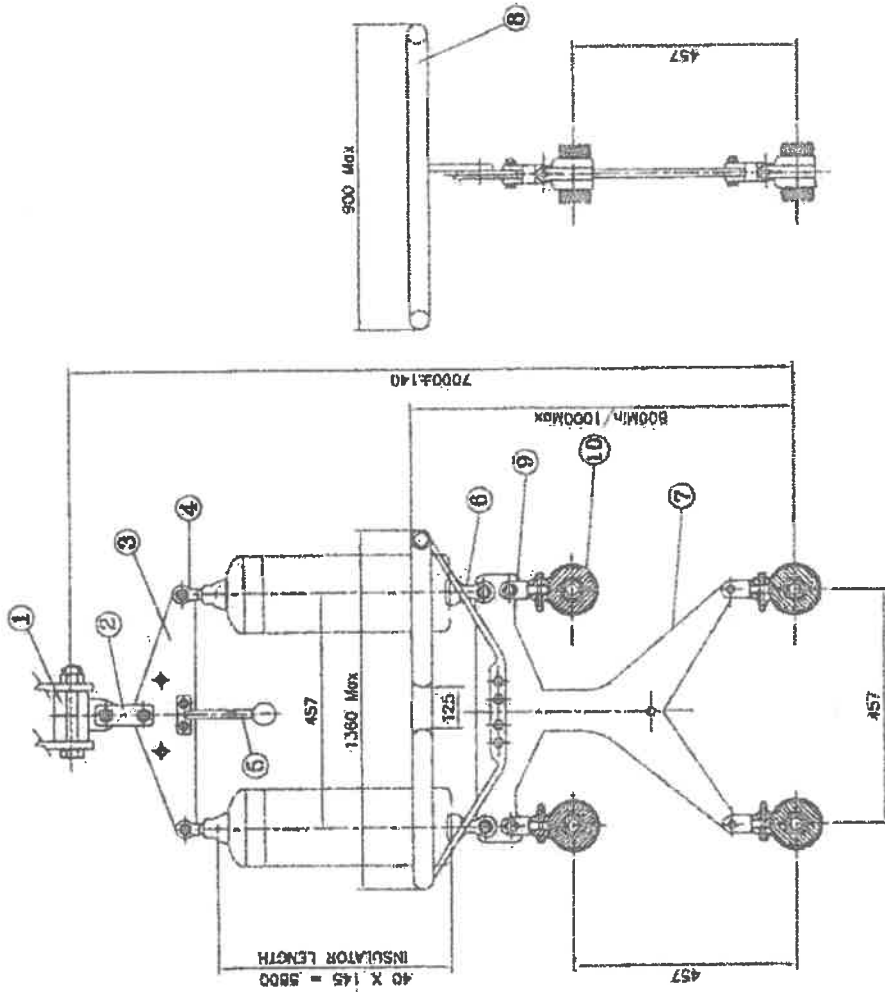


POWERGRID CORPORATION  
OF INDIA LTD.

**TITLE:**

765 KV DOUBLE T" SUSPENSION INSULATOR  
STRING FOR QUADRUPLE ACSR "BERSIMIS"  
CONDUCTOR for TT 'A' UTS : 270 KN.

Dwg No. TL/765/DIS/A/270 Rev : 0



INDICATIVE DRAWING ONLY

Sl. No.	DESCRIPTION	UTS.
11	ARMOUR ROD	35 kg/mm <sup>2</sup>
10	SUSPENSION CLAMP	70 KN
9	CLEVIS/EYE	70 KN
8	GRADING RING	1.5 KN
7	YOKE PLATE (LINE SIDE)	270 KN
6	SOCKET CLEVIS	135 KN
5	ARMING HORN (TOWER SIDE)	1.5 KN
4	BALL CLEVIS	135 KN
3	YOKE PLATE (TOWER SIDE)	270 KN
2	STRAP	270 KN
1	TOWER HINGE	270 KN
		U.T.S.

**TECHNICAL DETAILS:**

- 1) ALL DIMENSIONS ARE IN mm.
- 2) SPRING WASHER ELECTRO GALVANIZED.
- 3) SLIPPING STRENGTH OF CLAMP : 146.3 KN (mm)
- 4) BALL & SOCKET SIZE: 24 mm: IS2485: (PART-II).
- 5) ALL FERROUS PARTS HOT OIL GALVANIZED, AS PER IS : 2625.
- 6) MIN.CORONA EXTENSION VOLTAGE (DRY) 510 KV (RMS).
- 7) RV AT 510 KV (DRY) BELOW 1000 MICROVOLTS.
- 8) HARDWARE TOLERANCES ON LENGTH  $\pm 2\%$ .
- 9) INSULATOR DISC TOLERANCES :  $\pm 5$  mm/PER DISC.
- 10) GENERAL TOLERANCE  $\pm 3\%$  APPLICABLE FOR INDIVIDUAL COMPONENTS.
- 11) CORONA SHIELD FITTED ON TWO OUTER DEADEND CLAMPS.

TENDER PURPOSE ONLY



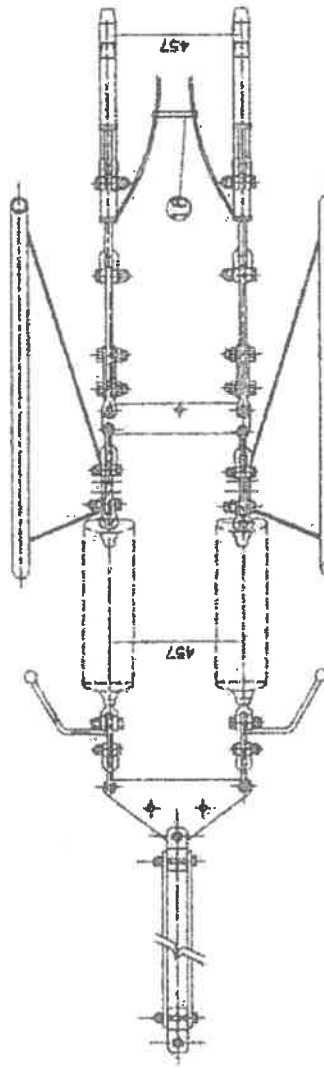
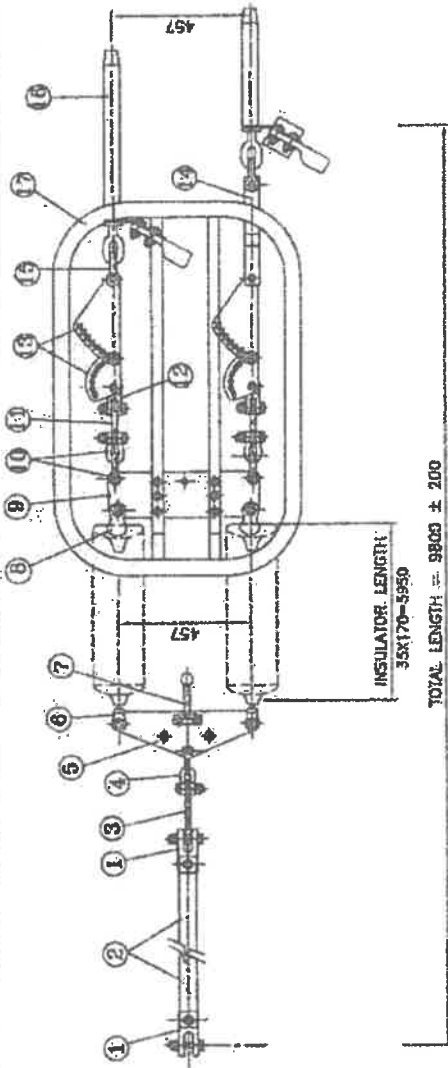
POWERGRID CORPORATION  
OF INDIA LTD.

**TITLE:**

765 KV. QUADRUPLER TENSION INSULATOR  
STRING FOR QUADRUPLER ACSR "BERSIMIS"  
CONDUCTOR for TT 'C' & 'D'  
UTS : 920 KN.

DRG No. TL/765/QT/CD/920

Rev: 0



INDICATIVE DRAWING ONLY

Sr.No.	DESCRIPTION	UTS.
18	SPACER (250 mm)	1.5 KN
17	CORONA CONTROL RING	146.3 KN(mm)
16	COMPRN. DEADEND	230 KN
15	ANCHOR SHACKLE	230 KN
14	Y-TYPE EXTENSION LINK	230 KN
13	SAR ADJUSTING PLATE	230 KN
12	CLEVIS EYE	400 KN
11	YOKE PLATE	230 KN
10	ANCHOR SHACKLE	230 KN
9	YOKE PLATE	400 KN
8	SOCKET CLEVIS	230 KN
7	ADJNG HORN (TOWER SIDE)	1.5 KN
6	BALL CLEVIS	230 KN
5	YOKE PLATE	400 KN
4	ANCHOR SHACKLE	400 KN
3	YOKE PLATE	920 KN
2	EXTENSION LINK	920 KN
1	CLEVIS EYE	920 KN
		UTS.

**TECHNICAL DETAILS:**

- 1) ALL DIMENSIONS ARE IN mm.
- 2) SPRING WASHER ELECTRO GALVANIZED.
- 3) SLIPPING STRENGTH OF CLAMP BETWEEN 20 TO 29 KN.
- 4) BALL & SOCKET SIZE 20 mm. IS2488. (PART-I).
- 5) ALL FERROUS PARTS HOT DIP GALVANIZED AS PER IS : 2629.
- 6) MINIMUM EXTINGUISH VOLTAGE (DRY) 510 KV (RMS).
- 7) RV AT 510 KV (DRY) BELOW 1000 MICROVOLTS.
- 8) HARDWARE TOLERANCES ON LENGTH  $\pm 2\%$
- 9) INSULATOR DISC TOLERANCES :  $\pm 4$  mm. PER DISC.
- 10) GENERAL TOLERANCE  $\pm 3\%$  APPLICABLE FOR INDIVIDUAL COMPONENTS.

TENDER PURPOSE ONLY



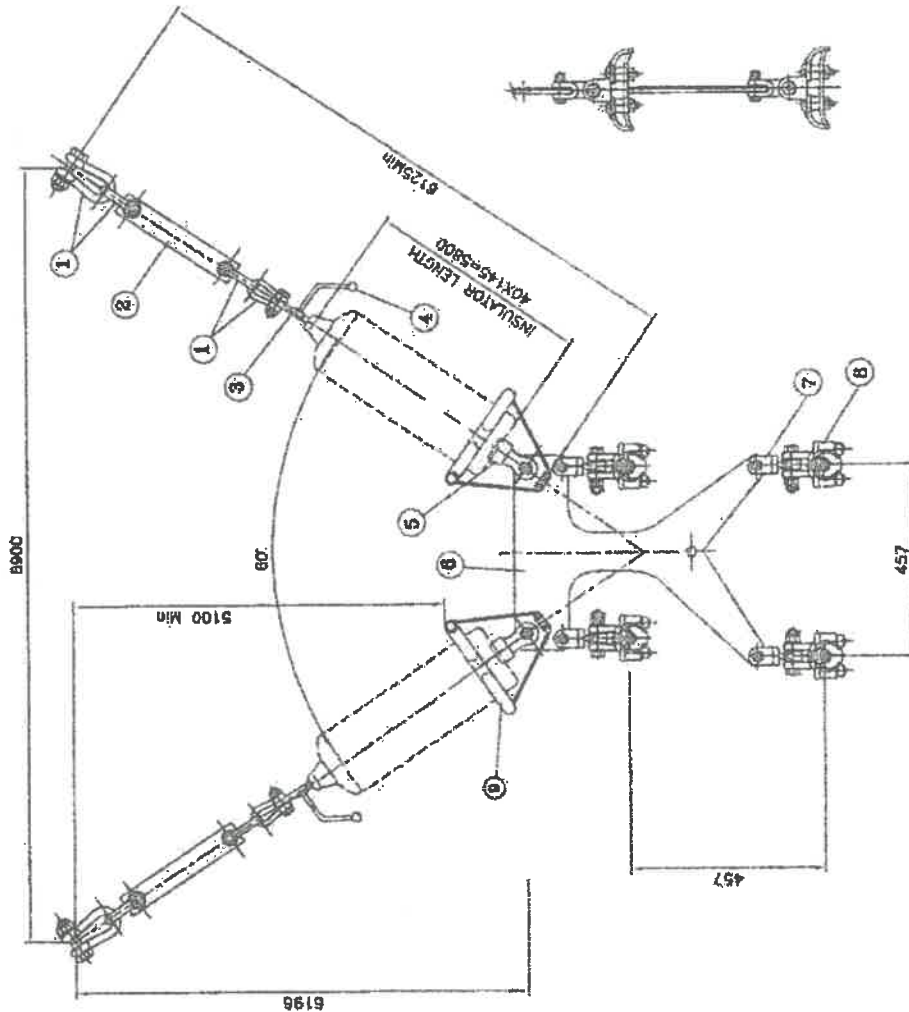
POWERGRID CORPORATION  
OF INDIA LTD.

**TITLE:**

765 KV SINGLE V SUSPENSION PILOT  
INSULATOR STRING FOR QUADRUPLA ACSR  
"BERSIMIS" CONDUCTOR FOR TT 'C' & 'D'  
UTS : 130 KN.

DRG No. TL/765/SVSP/CD/130

Rev: 0



INDICATIVE DRAWING ONLY

Sr.No.	DESCRIPTION	U.T.S.
8	GRADING RING	1.5 KN
7	SUSPENSION CLAMP (Corona Free)	35 KN
6	CLEVIS EYE	35 KN
5	YONE PLATE	130 KN
4	SOCKET CLEVIS	130 KN
3	ARROW HORN (LOWER SIDE)	1.5 KN
2	HORN HOLDER BALL EYE	1.5 KN
1	EXTENSION LINK	130 KN
1	ANCHOR SHACKLE	130 KN
		U.T.S.

**TECHNICAL DETAILS:**

- 1) ALL DIMENSIONS ARE IN mm.
- 2) SPRING WASHER ELECTRO GALVANIZED.
- 3) SLIPPING STRENGTH OF CLAMP BETWEEN 20 TO 29 KN.
- 4) BALL & SOCKET SIZE 24 mm. IS:2486. (PART-II).
- 5) ALL FERROUS PARTS HOT DWP GALVANIZED AS PER IS : 2629.
- 6) MIN. CORONA EXTINCTION VOLTAGE (DRY) 510 KV (RMS).
- 7) RV AT 510 KV (DRY) BELOW 1000 MICRONS.
- 8) HARDWARE TOLERANCES ON LENGTH  $\pm 2\%$ .
- 9) INSULATOR DISC TOLERANCES :  $\pm 5$  mm. PER DISC.
- 10) GENERAL TOLERANCE  $\pm 3\%$  APPLICABLE FOR INDIVIDUAL COMPONENTS.

TENDER PURPOSE ONLY

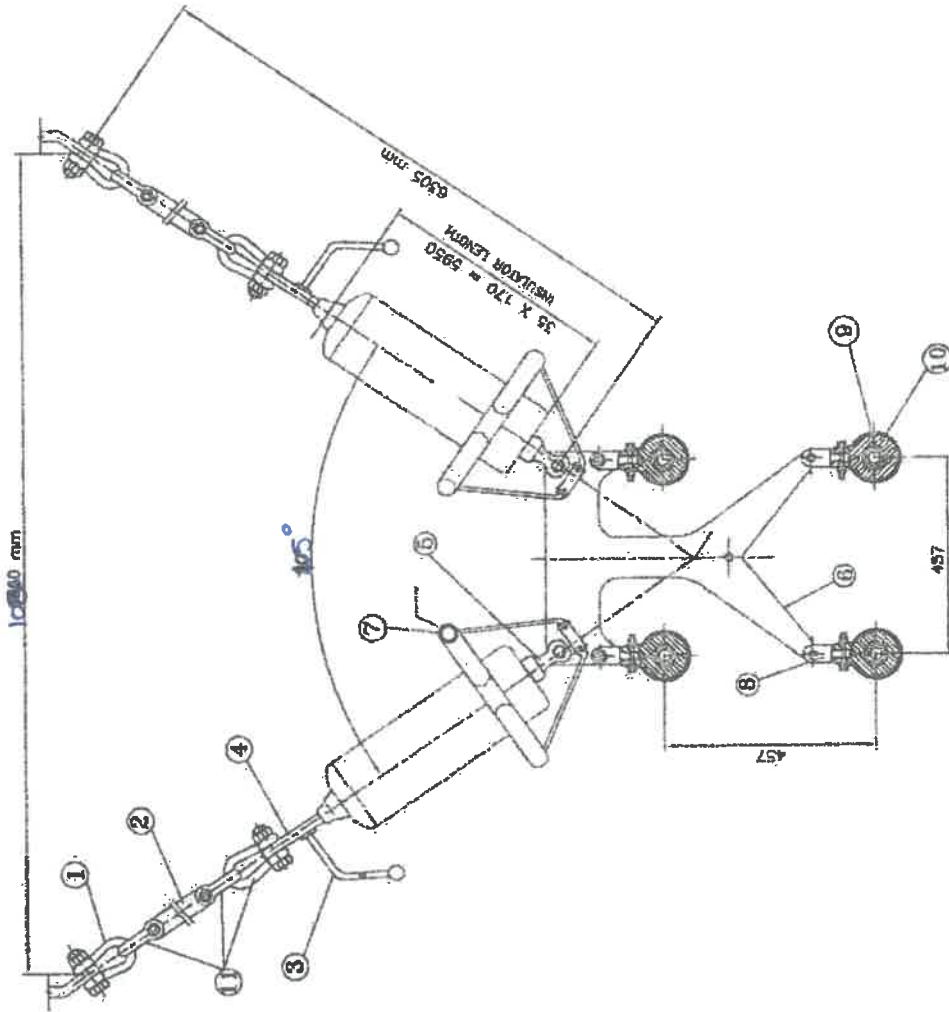


POWERGRID CORPORATION  
OF INDIA LTD.

**TITLE:**

765 KV SINGLE 'V' SUSPENSION INSULATOR  
STRING FOR QUADRUPEL ACSR 'BERSIMIS'  
CONDUCTOR FOR TT 'A'. UTS : 230 KN.  
(HORIZONTAL)

DRG No. IL/765/SVS/A/230 Rev: 0



INDICATIVE DRAWING ONLY

Sl.No.	DESCRIPTION	UTS.
11	ANCHOR SHACKLE	230 KN
10	ARMOUR ROD	58 Kg/mm <sup>2</sup>
9	SUSPENSION CLAMP	76 KN
8	CLEVIS EYE	70 KN
7	GRADING RING	1.5 KN
6	YONG PLATE (LINE SIDE)	286 KN
5	SOCKET CLEVIS	230 KN
4	HORN HOLDER BALL EYE	230 KN
3	ARCHING HORN (TOWER SIDE)	1.5 KN
2	EXTENSION LINK	230 KN
1	ANCHOR SHACKLE	230 KN

**TECHNICAL DETAILS:**

- 1) ALL DIMENSIONS ARE IN mm.
- 2) SPRING WASHER ELECTRO GALVANIZED.
- 3) SLIP STRENGTH OF SUSPENSION CLAMP BETWEEN 20 TO 20 KN.
- 4) BALL & SOCKET SIZE 24 mm. IS2486. (PART-N).
- 5) ALL FERROUS PARTS HOT DIP GALVANIZED AS PER IS: 2629.
- 6) MINICORONA EXTINCTION VOLTAGE (DRY) 510 KV (RMS).
- 7) RV AT 510 KV (DRY) BELOW 1000 MICROVOLTS.
- 8) HARDWARE TOLERANCES ON LENGTH  $\pm 2\%$ .
- 9) INSULATOR DISC TOLERANCES :  $\pm 5$  mm PER DISC.
- 10) GENERAL TOLERANCE  $\pm 3\%$  APPLICABLE FOR INDIVIDUAL COMPONENTS.

TENDER PURPOSE ONLY



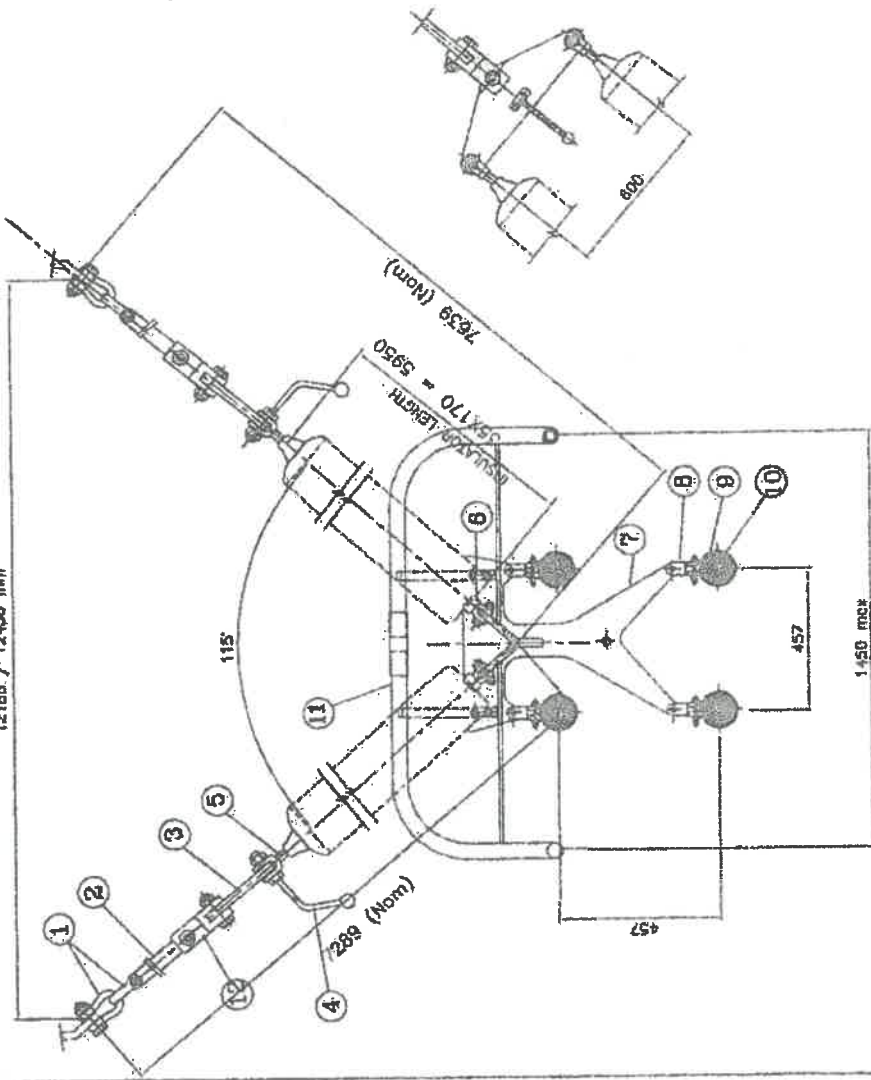
POWERGRID CORPORATION  
OF INDIA LTD.

**TITLE:**

765 KV DOUBLE V SUSPENSION INSULATOR  
STRING FOR QUADRUPLA ACSR "BERSIMIS"  
CONDUCTOR for TT 'B'  
UTS : 460 KN.

DRG No. TL/765/DVS/B/460 Rev: 0

12185 / 12430 mm



INDICATIVE DRAWING ONLY

Sl.No.	DESCRIPTION	UTS.
12	CLEVIS CLEVIS	460 KN
11	CORONA CONTROL RING	1.5 KN
10	ARMOUR ROD	30 kg/mm <sup>2</sup>
9	SUSPENSION CLAMP (SCM)	120 KN
8	CLEVIS EYE	120 KN
7	YOKE PLATE (LINE SIDE)	440 KN
6	SOCKET CLEVIS	230 KN
5	BALL CLEVIS	230 KN
4	ARCING HORN	1.5 KN
3	YOKE PLATE (TOWER SIDE)	460 KN
2	EXTENSION LINK	460 KN
1	ANCHOR SHACKLE	460 KN

**TECHNICAL DETAILS:**

- 1) ALL DIMENSIONS ARE IN mm.
- 2) SPRING WASHER ELECTRO GALV.
- 3) SLIPPING STRENGTH OF CLAMP : 146.3 KN (min)
- 4) BALL & SOCKET SIZE 20 mm AS PER IS:2486. (PART-II).
- 5) ALL FERROUS PARTS HOT DIP GALV. AS PER IS:2829.
- 6) MANGONOMA EXTINCTION VOLTAGE (DRY) 510 KV (RMS).
- 7) RV AT 510 KV (DRY) BELOW 1000 MICROVOLTS.
- 8) HARDWARE TOLERANCES ON LENGTH  $\pm 2\%$
- 9) INSULATOR DISC TOLERANCES :  $\pm 4$  mm PER DISC.
- 10) GENERAL TOLERANCE  $\pm 3\%$  APPLICABLE FOR INDIVIDUAL COMPONENTS.

TENDER PURPOSE ONLY

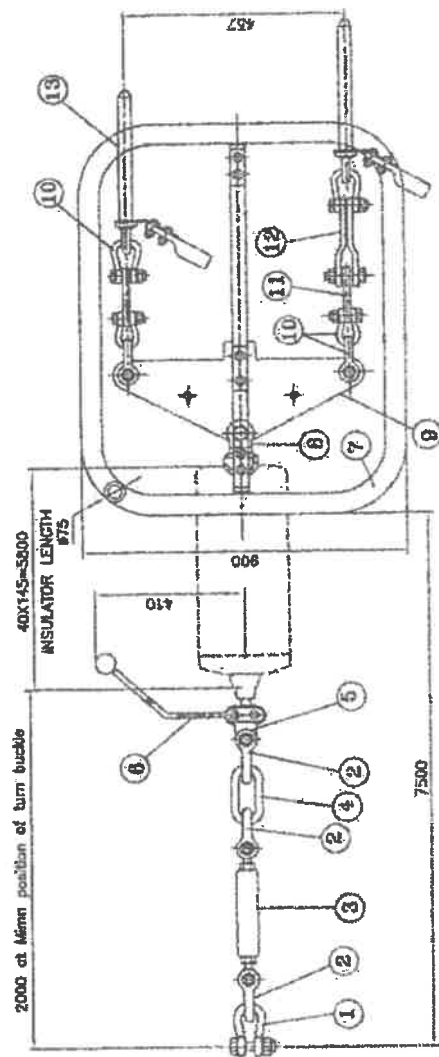


POWERGRID CORPORATION  
OF INDIA LTD.

**TITLE:**

**765 KV. SINGLE TENSION INSULATOR**  
**STRING FOR QUADRUPE ACSR "BERSIMIS"**  
UTS : 120KN

DRG. NO: TL/765/ST/TRANS/120 REV 0



INDICATIVE DRAWING ONLY

Sl.No.	DESCRIPTION	U.T.S.	QTY.
14	SPACER (250 mm)		1
13	COMPRESSION DEADEND	146.3 KN (min)	4
12	STRAP	65 KN	2
11	YOKER PLATE	95 KN	2
10	ANCHOR SHACKLE	65 KN	8
9	YOKER PLATE	190 KN	1
8	SOCKET CLEWS	150 KN	1
7	CORONA CONTROL RING	1.5 KW	2-SETS
6	ARCING HORN	1.5 KN	1
5	HORN HOLDER BALL EYE	170 KN	1
4	CHAIN LINK	130 KN	1
3	TURN BUCKLE	170 KN	1
2	ANCHOR SHACKLE	180 KN	6
1	ANCHOR SHACKLE	150 KN	1