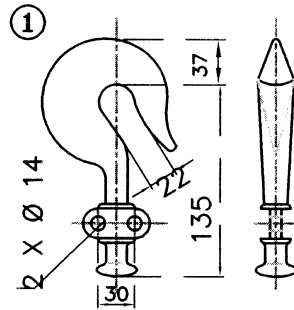
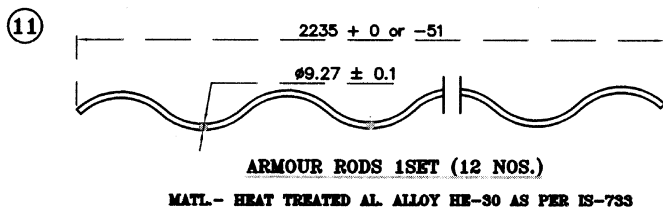
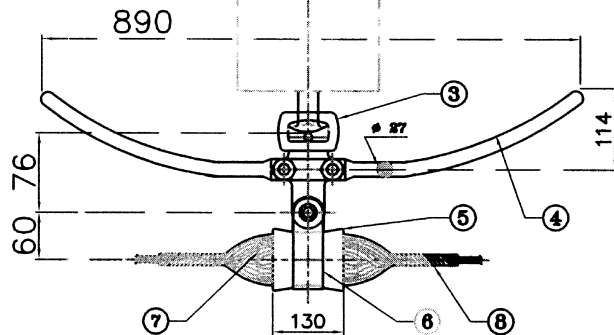
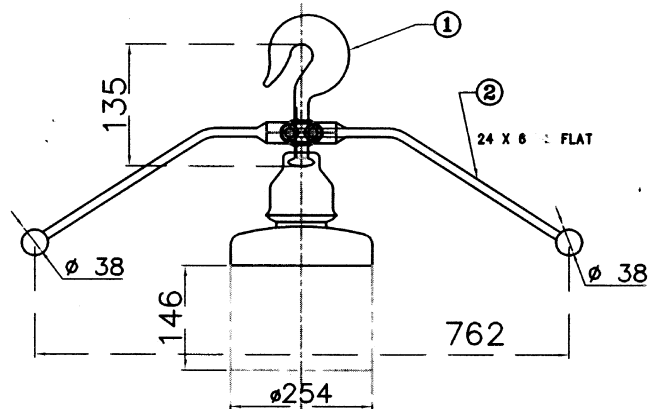
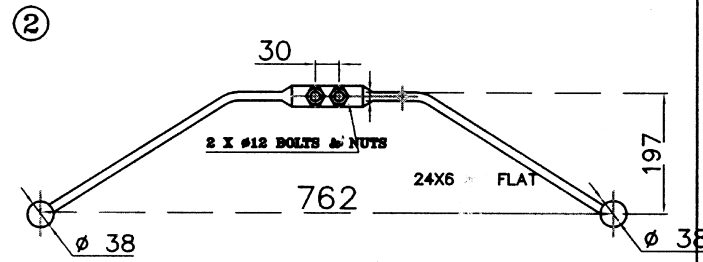


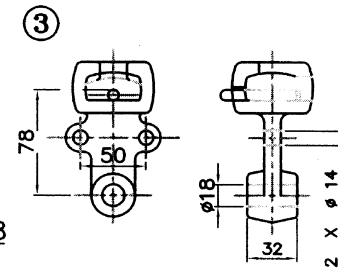
FOR MOOSE



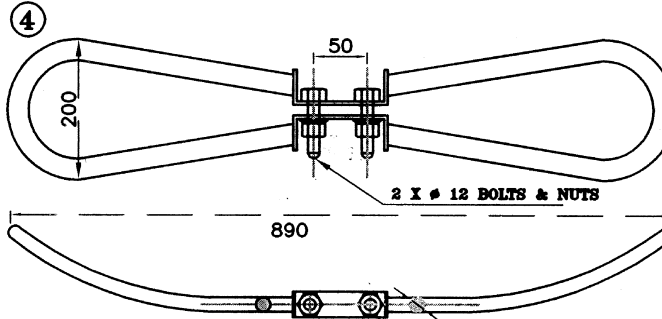
BALL HOOK (H.H.)
MATL-FORGED STEEL QTY.- 1 NO.



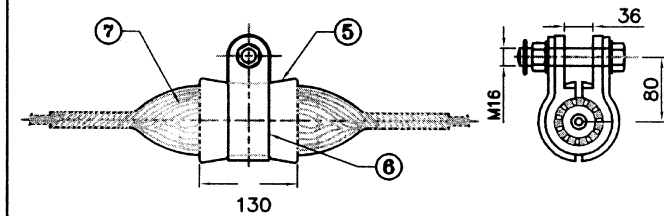
ARCING HORN (TOWER SIDE)
MATL- MILD STEEL FLAT QTY.- 1 NO.



SOCKET EYE (H.H.)
MATL-FORGED STEEL QTY.- 1 NO.



ARCING HORN (LINE SIDE)
QTY.- 1 NO. MATL- M.S. TUBE



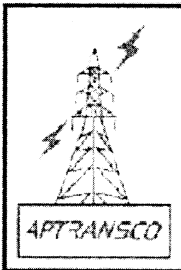
5 A.G.S. CLAMP BODY - DIE CAST AL. ALLOY - 1 PAIR
6 SUPPORTING STRAP - FORGED AL. ALLOY - 1 NO.
7 BODY (CUSHIONED) - NEOPRENE/AL. ALLOY FORGED - 1 PAIR.

APPROVED FOR TURNKEY PROJECTS

9/11/2011
CHIEF ENGINEER / CONSTRUCTION-3
APTRANSCO/VIDYUTH SOUDHA/HYD.

TECHNICAL DATA

1. BALL & SOCKET SIZE - 16mm 'B.
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. ARMOUR GRIP SUSPENSION CLAMP PROVIDED WITH RETAINING RODS SUITABLE FOR ACSR MOOSE CONDUCTOR
4. SLIP STRENGTH OF A.G. SUSPENSION CLAMP - 9% TO 15% OF U.T.S. OF MOOSE ACSR
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS -ELECTRO GALVANISED
6. ALL DIMENSIONS ARE IN MM WITH $\pm 5\%$ TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 & 2633
7. PITCH LENGTH OF PA ROD SHALL BE LESS THAN MOOSE CONDUCTOR OUTER LAYER PITCH LENGTH
8. PA RODS: MIN ULTIMATE STRENGTH 35 KG/MM. SQ. CONDUCTIVITY > 40 % OF IACS.
9. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.



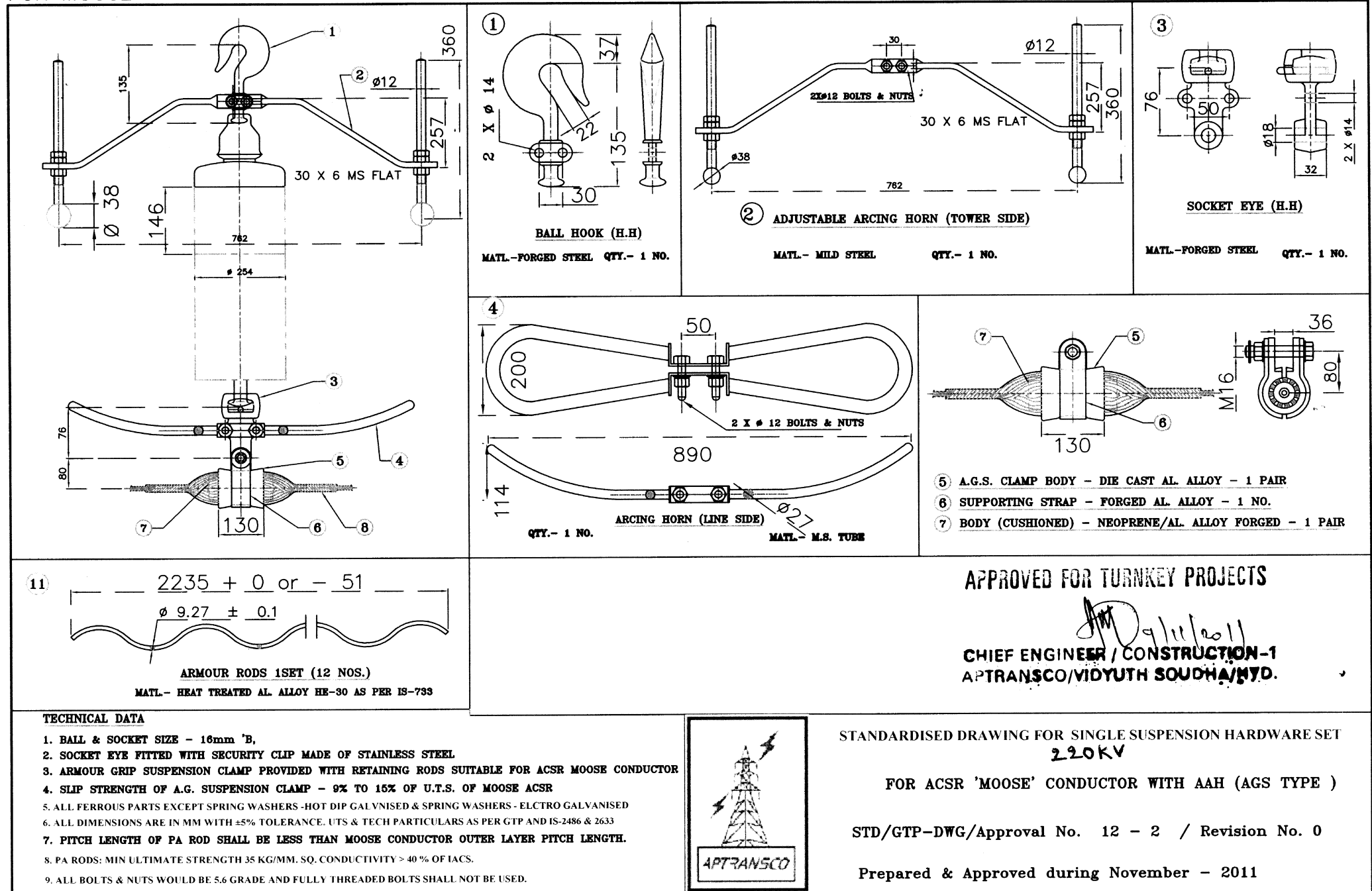
STANDARDISED DRAWING FOR 220KV SINGLE SUSPENSION HARDWARE SET

FOR ACSR 'MOOSE' CONDUCTOR WITH FAH (AGS TYPE)

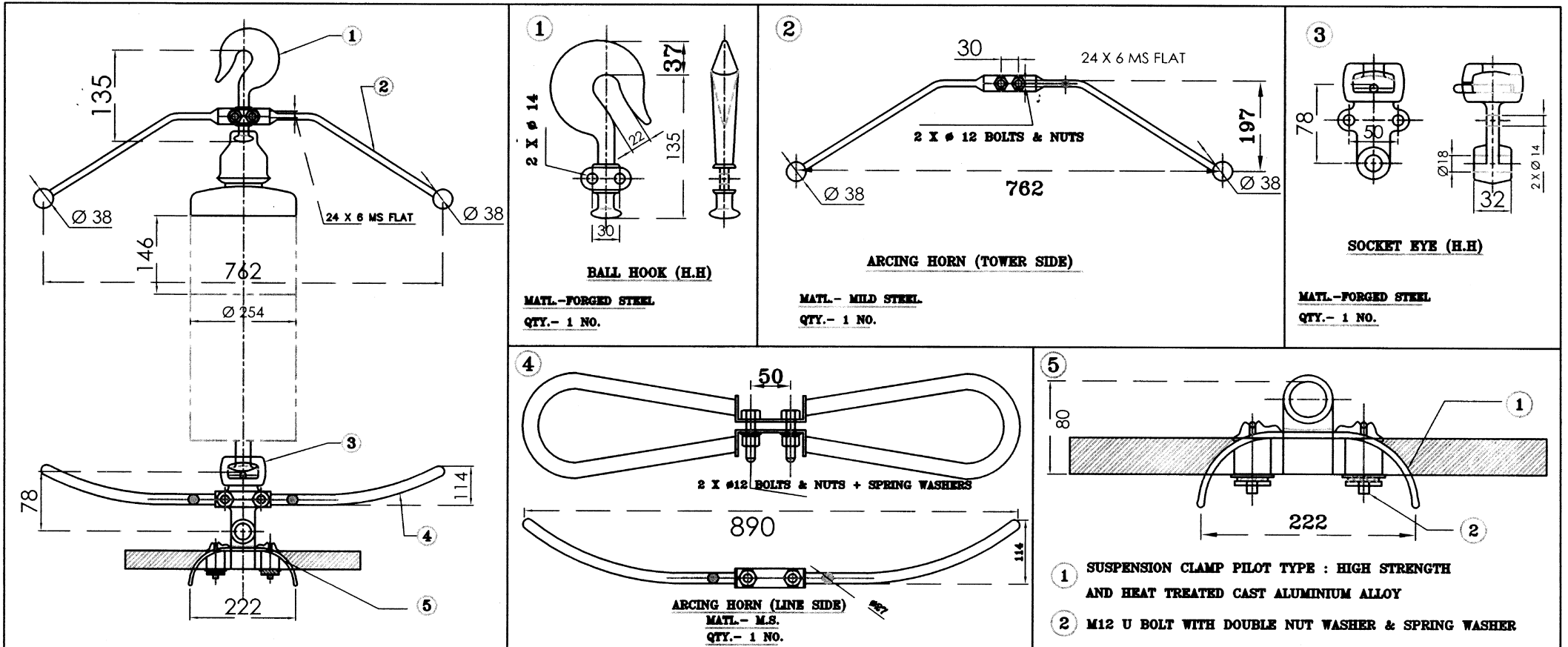
STD/GTP-DWG/Approval No. 12 - 1 / Revision No. 0

Prepared & Approved during November - 2011

FOR MOOSE



FOR MOOSE

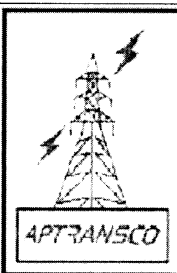


APPROVED FOR TURNKEY PROJECTS

[Signature]
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SODHA/HYD.

TECHNICAL DATA

1. BALL & SOCKET SIZE - 16mm 'B,
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. SUSPENSION CLAMP SUITABLE FOR ACSR MOOSE CONDUCTOR
4. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS -ELECTRO GALVAN
5. ALL DIMENSIONS ARE IN MM WITH $\pm 5\%$ TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 &
- 6 ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.



STANDARDISED DRAWING FOR 220KV SINGLE SUSPENSION HARDWARE SET

FOR ACSR 'MOOSE' CONDUCTOR WITH PILOT TYPE

STD/GTP-DWG/Approval No. 12 - 3 / Revision No. 0

Prepared & Approved during November - 2011

FIG. 1

FIG. 2

1

23 3/8

20 7/16

ANCHOR SHACKLE

MATL.—FORGED STEEL

U.T.S.: 140 KN

QTY. — 2 NOS.

Technical drawing of a Yoke Plate (T.S. & I.S.). The drawing shows a rectangular plate with a central horizontal slot. Key dimensions and specifications are labeled:

- Top Left:** A circled number 2.
- Top Center:** $2 \times \phi 18$ HOLE, with a dimension line indicating a distance of 330 between the centers of the two holes.
- Right Side:** A dimension of 20 from the right edge to the center of the rightmost hole.
- Bottom Left:** A dimension of 50 from the bottom edge to the center of the bottom-left hole.
- Bottom Center:** $4 \times \phi 14$ HOLE, with a dimension line indicating a distance of 22 between the centers of the two holes.
- Bottom Right:** A dimension of 50 from the bottom edge to the center of the bottom-right hole.

YOKE PLATE (T.S. & I.S.)

MATL. - MILD STEEL

U.T.S.: 120 KN

QTY. - 2 NOS.

3

2 X #12 BOLTS & NUTS

24# MS FLAT

50

16

270

Ø38

381

ARCING HORN (TOWER SIDE)

MATL- MILD STEEL

QTY. - 2 NOS.

4 23 16 78

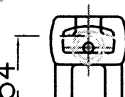
BALL CLEVIS

MATL.-FORGED STEEL

U.T.S.: 70 KN

QTY. - 2 NOS.

5



SOCKET CLEVIS

MATL.—FORGED STEEL

U.T.S.: 70 KN

QTY.— 2 NOS.

6

203

445

203

50

Ø 27

Ø 27

ARCING HORN (LINE SIDE)

MATL.- M.S. TUBE

2 X 1/2 X 1/8 BOLTS & NUTS

QTY.- 1 NO.

7 QTY. - 1 NO. 3

72

16

18

32

CLEVIS EYE

MATL.-FORGED STEEL U.T.S.: 70 KN

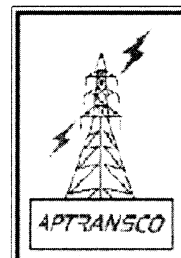
⑧ A.G.S. CLAMP BODY - DIE CAST AL. ALLOY - 70 KN - 1 PAIR

⑨ SUPPORTING STRAP - FORGED AL. ALLOY - 1 NO.

⑩ BODY (CUSHINOD) - NEOPRENE, AL. ALLOY FORGED - 1 PAIR

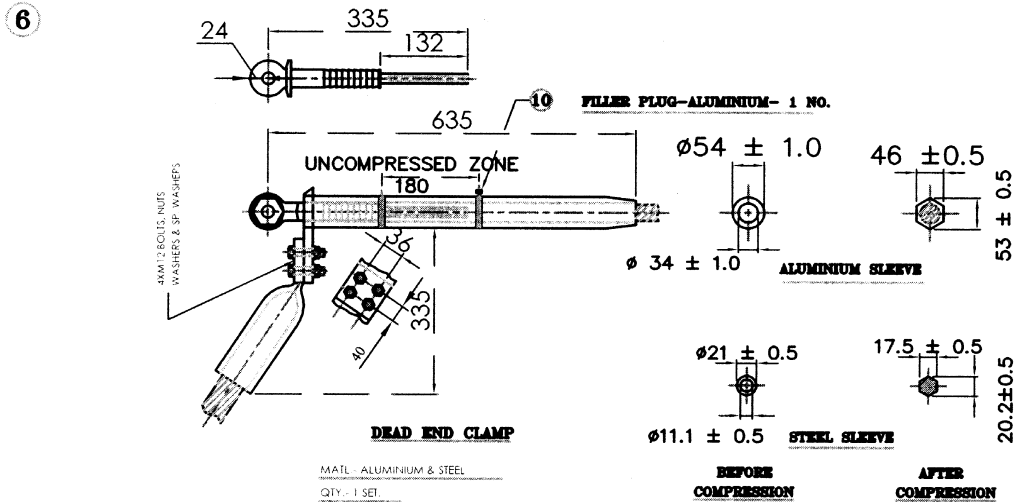
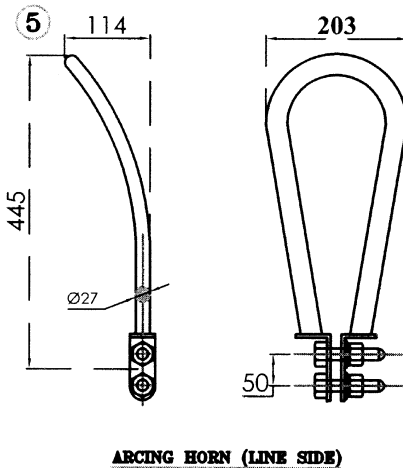
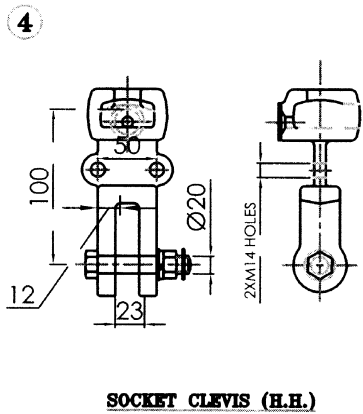
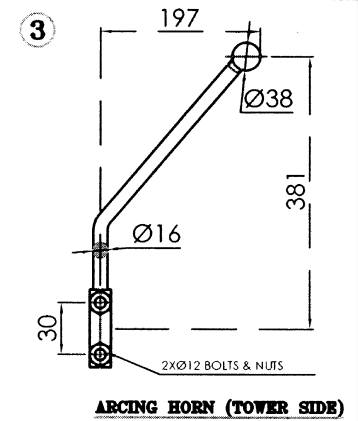
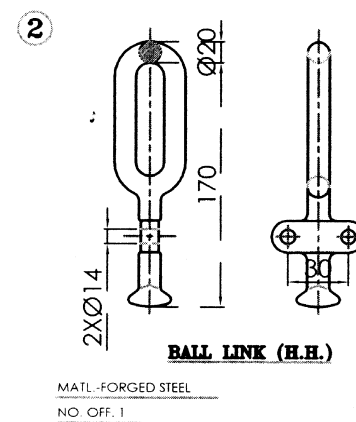
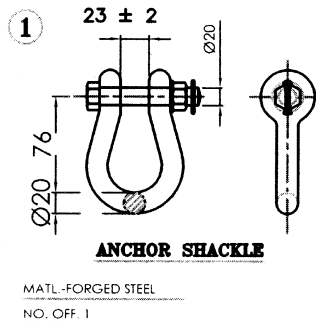
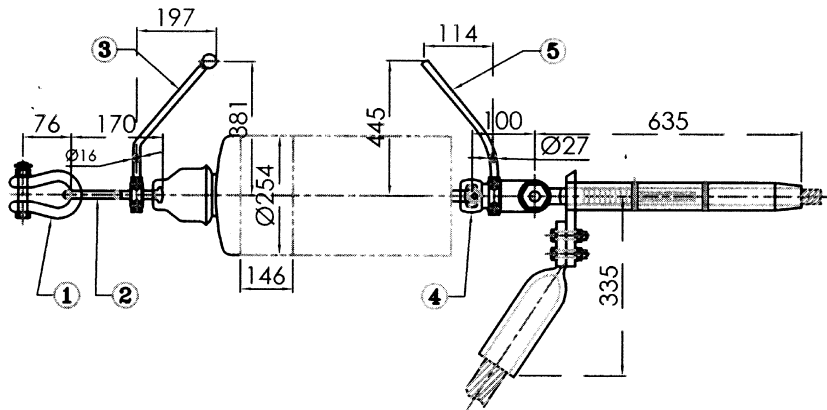
09/11/2018

1. BALL & SOCKET SIZE - 16mm 'B,
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. ARMOUR GRIP SUSPENSION CLAMP PROVIDED WITH RETAINING RODS SUITABLE FOR ACSR MOOSE CONDUCTOR
4. SLIP STRENGTH OF A.G. SUSPENSION CLAMP - 9% TO 15% OF U.T.S. OF MOOSE ACSR
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS -ELECTRO GALVANISED
6. ALL DIMENSIONS ARE IN MM WITH $\pm 5\%$ TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 & 2633
7. PITCH LENGTH OF PA ROD SHALL BE LESS THAN MOOSE CONDUCTOR OUTER LAYER PITCH LENGTH.
8. PA RODS: MIN ULTIMATE STRENGTH 35 KG/MM. SQ. CONDUCTIVITY > 40 % OF IACS.
9. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.



Prepared & Approved during November - 2011

FOR MOOSE

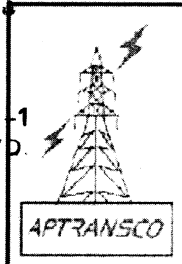


TECHNICAL DATA

1. BALL & SOCKET SIZE - 20mm
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. DEAD END CLAMP SUITABLE FOR ACSR MOOSE CONDUCTOR
4. MINIMUMUM SLIP STRENGTH/UTS OF TENSION CLAMP-95% OF CONDUCTOR UTS.
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVNISED & SPRING WASHERS -ELECTRO GALVANISED
6. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED
7. ALL DIMENSIONS ARE IN MM WITH $\pm 5\%$ TOLERANCE UTS & TECH PARTICULARS AS PER GTP AND IS-2486 PART-II

~~APPROVED FOR TURKEY PROJECT~~

CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYP.



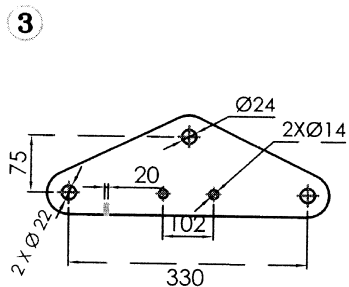
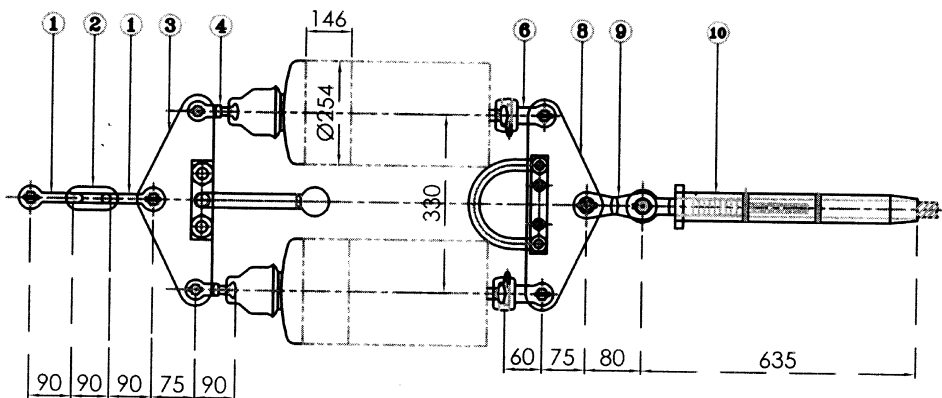
STANDARDISED DRAWING FOR 220KV SINGLE TENSION

HARDWARE SET FOR ACSR 'MOOSE' CONDUCTOR

STD/GTP-DWG/Approval No. 12 - 5 /Revision No. 0

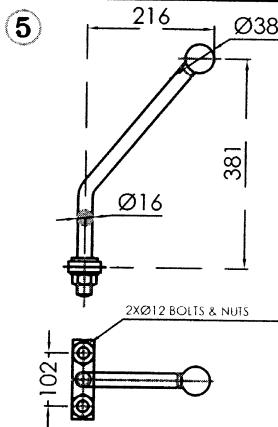
Prepared & Approved during November - 2011

FOR MOOSE



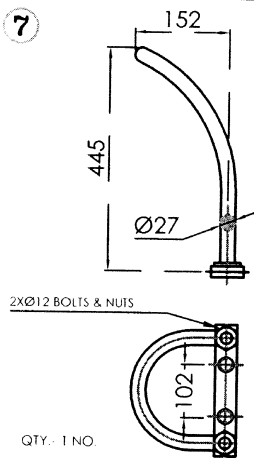
YOKE PLATE (TOWER SIDE)

MATL.- MILD STEEL
U.T.S.: 240 KN
QTY.- 2NOS.



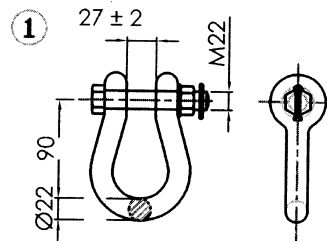
ARCING HORN (TOWER SIDE)

MATL.- M.S. ROD QTY.- 1 NO.



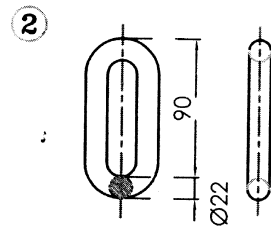
ARCING HORN (L.S.)

MATL.- M.S. TUBE



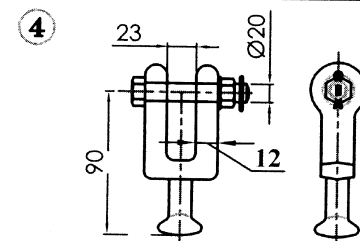
ANCHOR SHACKLE

MATL.-FORGED STEEL
U.T.S.: 240 KN
QTY.- 2 NOS.



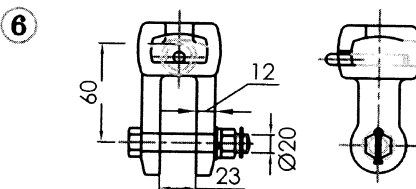
CHAIN LINK

MATL.-FORGED STEEL
QTY.- 240 KN
QTY.- 1 NO.



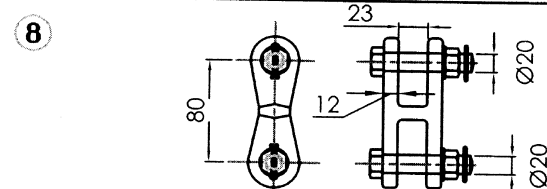
BALL CLEVIS

MATL.-FORGED STEEL
U.T.S.: 120 KN
QTY.- 2 NOS.



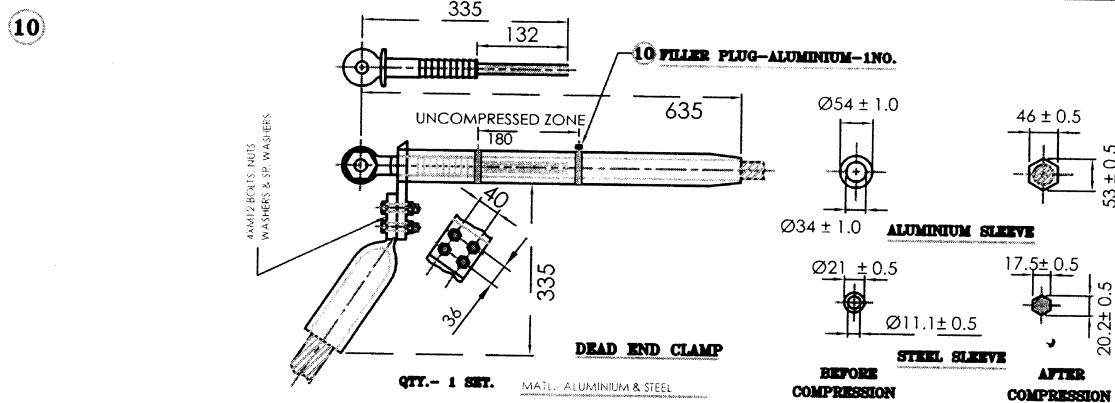
SOCKET CLEVIS

MATL.-FORGED STEEL
U.T.S.: 120 KN
QTY.- 2 NOS.



CLEVIS EYE

MATL.-FORGED STEEL
U.T.S.: 120 KN
QTY.- 1 NO.



DEAD END CLAMP

QTY.- 1 SET.

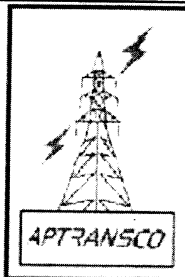
MATL.- ALUMINIUM & STEEL

**BEFORE
COMPRESSION**

**AFTER
COMPRESSION**

APPROVED FOR TURNKEY PROJECTS

**CHIEF ENGINEER / CONSTRUCTION-T
APTRANSCO/VIDYUTH SOUDHA/HYD.**



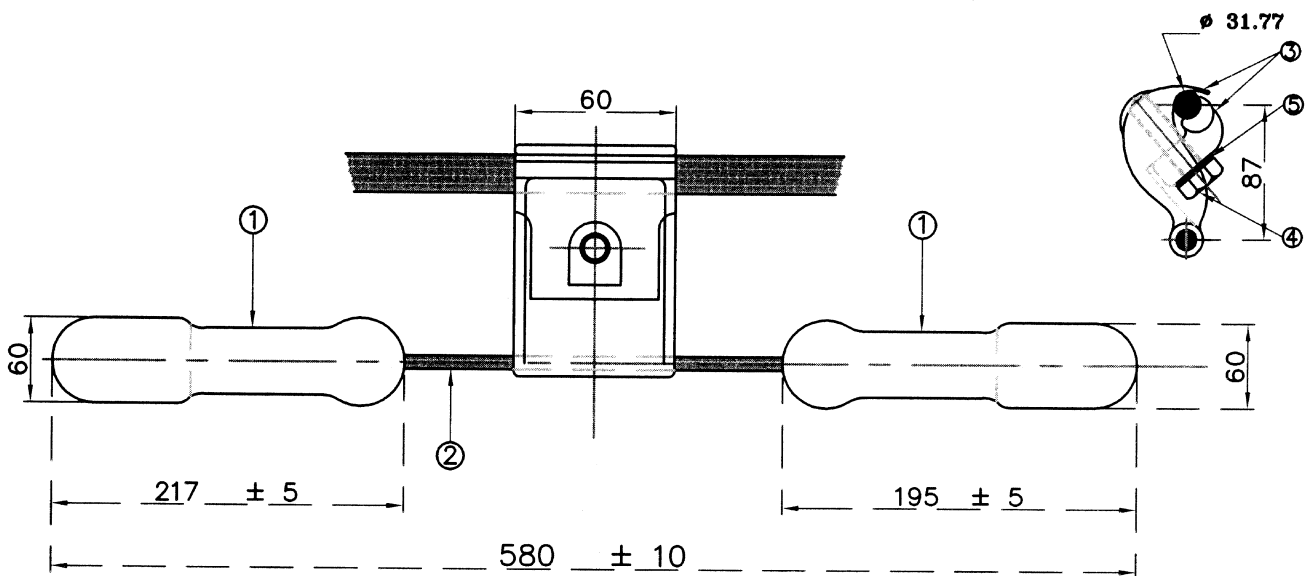
STANDARDISED DRAWING FOR 220KV DOUBLE TENSION HARDWARE SET FOR ACSR 'MOOSE' CONDUCTOR

STD/GTP-DWG/Approval No. 12 - 6 /Revision No. 0

Prepared & Approved during November - 2011

TECHNICAL DATA

1. BALL & SOCKET SIZE - 20mm
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. DEAD END CLAMP SUITABLE FOR ACSR MOOSE CONDUCTOR
4. MINIMUMUM SLIP STRENGTH/UTS OF TENSION CLAMP-95% OF CONDUCTOR UTS.
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVNISED & SPRING WASHERS -ELECTRO GALVANISED
6. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.
7. ALL DIMENSIONS ARE IN MM WITH $\pm 5\%$ TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 PART-II



BILL OF MATERIALS

SL.NO	DESCREPTION	MATERIAL	NO. OFF
1	DAMPER MASS	GALVD.CAST IRON	1 PAIR
2	MESSENGER CABLE	H.T.GALVD.STEEL WIRE 19 STRANDS 135 KG/MM. SQ. QUALITY	1NO.
3	CLAMP BODY & KEEPER	ALUMINIUM ALLOY	1 SET
4	BOLT WITH WASHER	MILD STEEL	1+1
5	SPRINGN WASHER	SPRING STEEL	1NO.

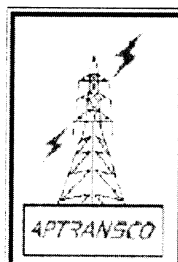
TECHNICAL DATA

- TOTAL WEIGHT OF DAMPER ASSEMBLY 6.6 KG₂ +0.3 & - 0.0
- MESSENGER CABLE SIZE &UTS 19/ 2.59 MM & 135 KG / MM
- CLAMP TORQUE 6.0 KGM.
- MESSENGER CABLE & DAMPER MASS HOT DIP GALVANISED.
- FASTENERS HOT DIP GALVANISED AND SPRING WASHER ELECTRO GALVANIZED.
- SLIP STRENGTH OF MESSENGER CABLE CLAMP - 500 Kgf.

APPROVED FOR TURNKEY PROJECTS

CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.

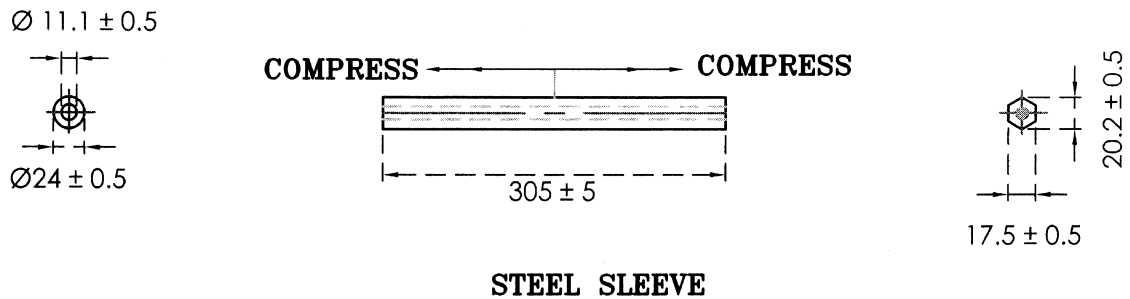
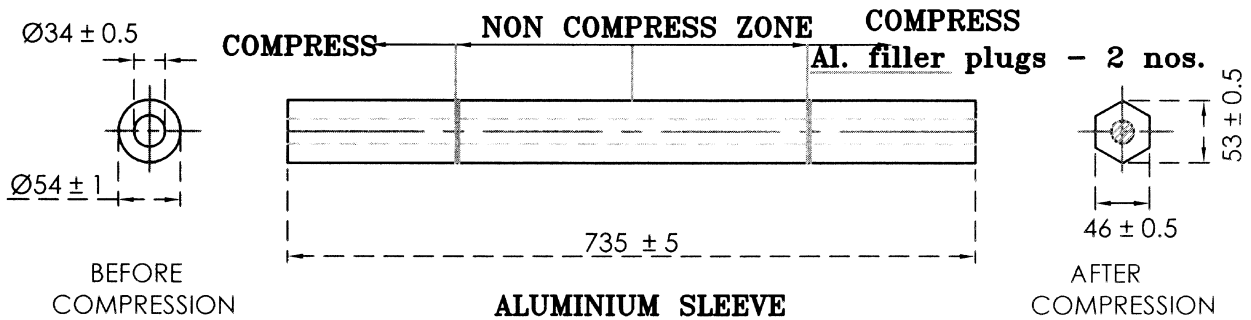
STANDARD: IS-9708



STANDARDISED DRAWING FOR 220KV VIBRATION DAMPER
FOR 'MOOSE' ACSR CONDUCTOR

STD/GTP-DWG/Approval No. 12 - 7 / Revision No. 0

Prepared & Approved during November - 2011

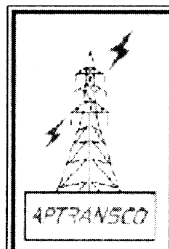
**TECHNICAL DATA**

1. MATERIAL :- a) ALUMINIUM SLEEVE: EXTRUDED ALUMINIUM WITH 99.5% PURITY
b) STEEL SLEEVE : MILD STEEL HOT DIP GALVANISED.
BRINELL HARDNESS < 200
2. SLIP STRENGTH/FAILING LOAD - MINIMUM 95% OF CONDUCTOR U.T.S.
3. ALL UNITS ARE IN MM

STANDARD: IS-2121 PART-II

APPROVED FOR TURNKEY PROJECTS

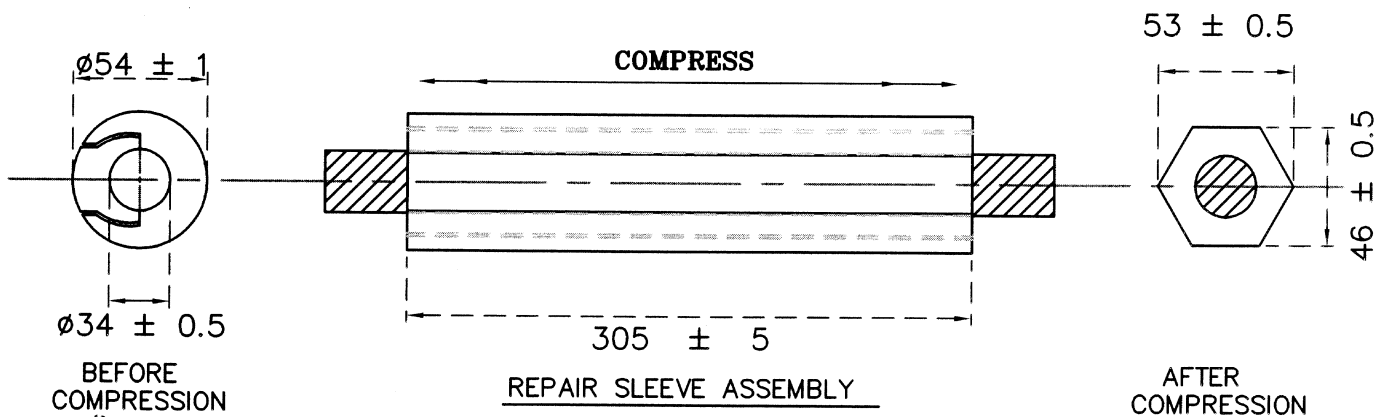
[Signature] 9/11/2011
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.



STANDARDISED DRAWING FOR 220KV MIDSPAN COMPRESSION JOINT
FOR 'MOOSE' ACSR CONDUCTOR

STD/GTP-DWG/Approval No. 12 - 8 / Revision No. 0

Prepared & Approved during November - 2011

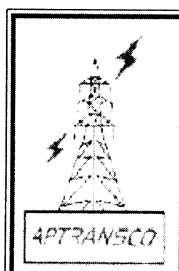


TECHNICAL DATA

1. MATERIAL – EXTRUDED ALUMINIUM.
2. MIN. FAILING LOAD OF THE SLEEVE AFTER COMPRESSION – 95% OF THE CONDUCTOR UTS.
3. AFTER COMPRESSION DIMENSION SHOWN ARE ONLY FOR FIELD USE
4. ALL UNITS ARE IN MM.
5. STANDARD: – IS-2121 PART-II. COMPRESSION DIE CATALOGUE NO. DAH – 12
6. TOTAL WEIGHT: 1.2 Kg. APPROX.

APPROVED FOR TURNKEY PROJECTS

[Signature] 9/11/2011
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.

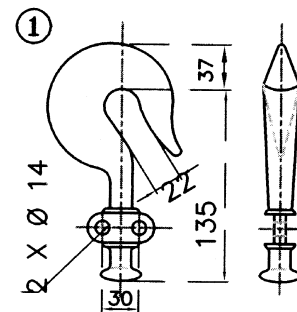
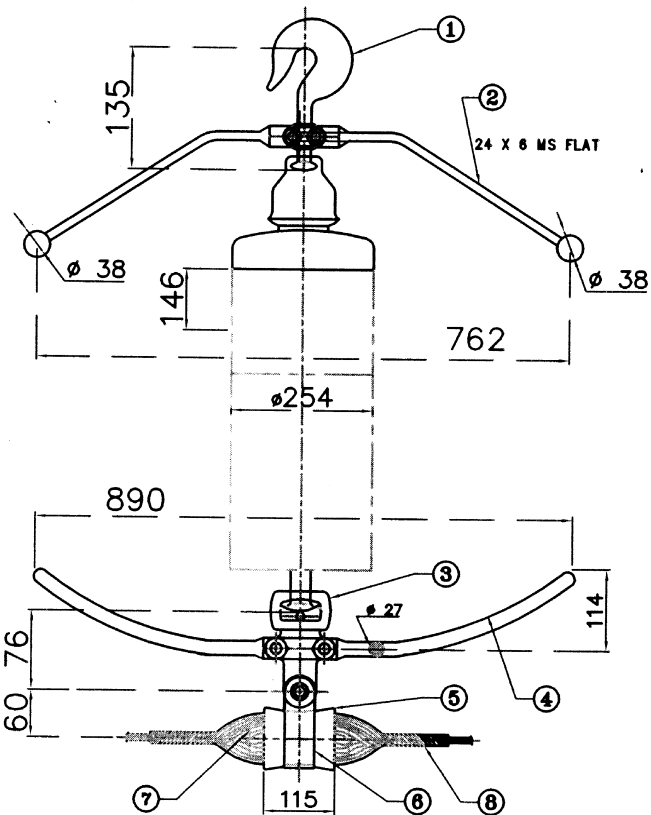


**STANDARDISED DRAWING FOR 220KV LINE REPAIR SLEEVE
 FOR 'MOOSE' ACSR CONDUCTOR**

STD/GTP-DWG/Approval No. 12 - 9 / Revision No. 0

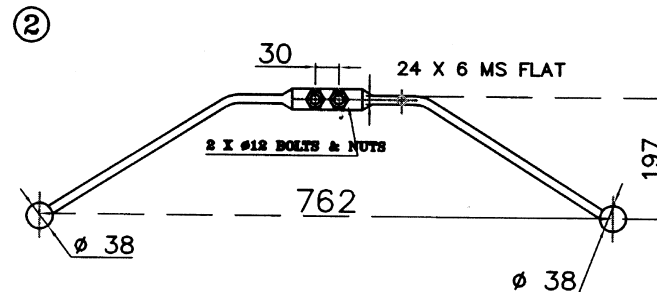
Prepared & Approved during November - 2011

FOR ZEBRA



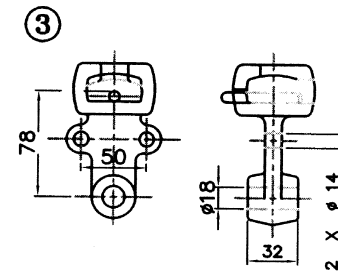
BALL HOOK (H.H.)

MATL-FORGED STEEL QTY.- 1 NO.



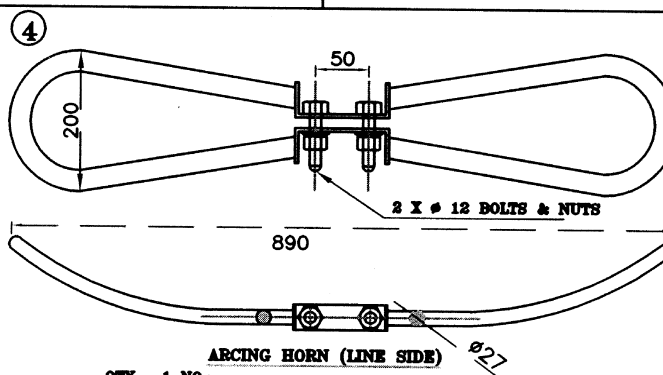
ARCING HORN (TOWER SIDE)

MATL- MILD STEEL FLAT QTY.- 1 NO.



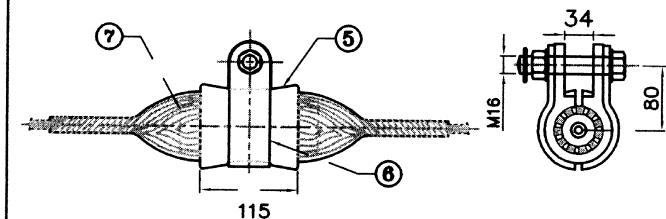
SOCKET EYE (H.H.)

MATL-FORGED STEEL QTY.- 1 NO.

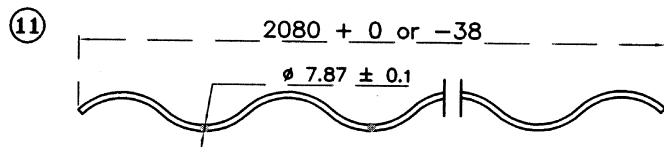


ARCING HORN (LINE SIDE)

QTY.- 1 NO. MATL- M.S. TUBE



- ⑤ A.G.S. CLAMP BODY - DIE CAST AL. ALLOY - 1 PAIR
- ⑥ SUPPORTING STRAP - FORGED AL. ALLOY - 1 NO.
- ⑦ BODY (CUSHIONED) - NEOPRENE/AL. ALLOY FORGED - 1 PAIR.

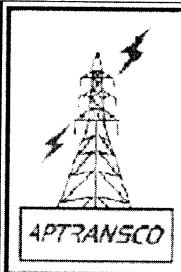


ARMOUR RODS 1SET (12 NOS.)

MATL- HEAT TREATED AL. ALLOY HE-30 AS PER IS-733

TECHNICAL DATA

1. BALL & SOCKET SIZE - 16mm 'B,
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. ARMOUR GRIP SUSPENSION CLAMP PROVIDED WITH RETAINING RODS SUITABLE FOR ACSR ZEBRA CONDUCTOR
4. SLIP STRENGTH OF A.G. SUSPENSION CLAMP - 9% TO 15% OF U.T.S. OF ZEBRA ACSR
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS-ELECTRO GALVANISED
6. ALL DIMENSIONS ARE IN MM WITH ±5% TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 & 2633
7. PITCH LENGTH OF PA ROD SHALL BE LESS THAN CONDUCTOR OUTER LAYER PITCH LENGTH.
8. PA RODS: MIN ULTIMATE STRENGTH 35 KG/MM. SQ. CONDUCTIVITY > 40 % OF IACS.
9. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.



APPROVED FOR TURNKEY PROJECTS

[Signature] 9/11/2011
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/MYD

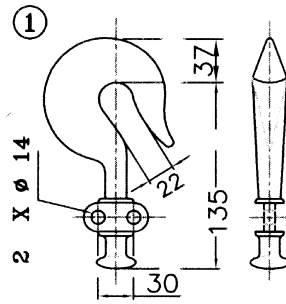
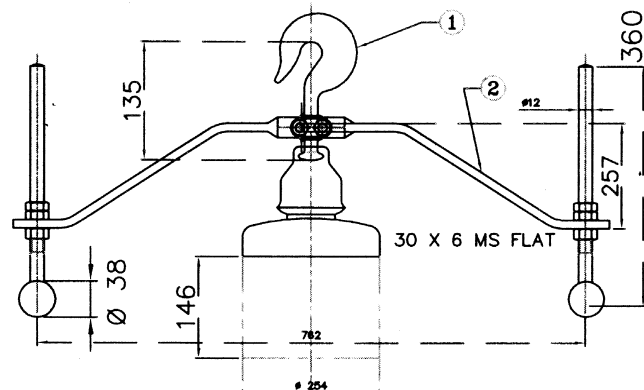
STANDARDISED DRAWING FOR 220KV SINGLE SUSPENSION HARDWARE SET

FOR ACSR 'ZEBRA' CONDUCTOR WITH FAH (AGS TYPE)

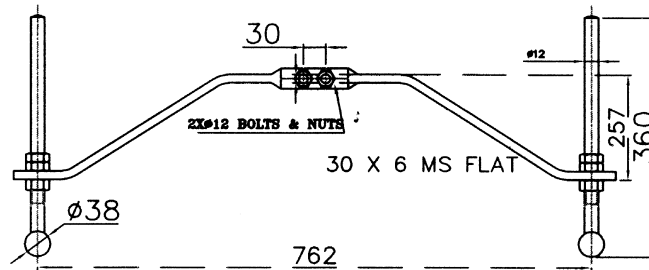
STD/GTP-DWG/Approval No. 13 - 1 / Revision No. 0

Prepared & Approved during November - 2011

FOR ZEBRA

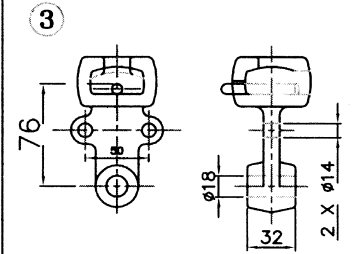


BALL HOOK (H.H)
MATL.-FORGED STEEL QTY.- 1 NO.



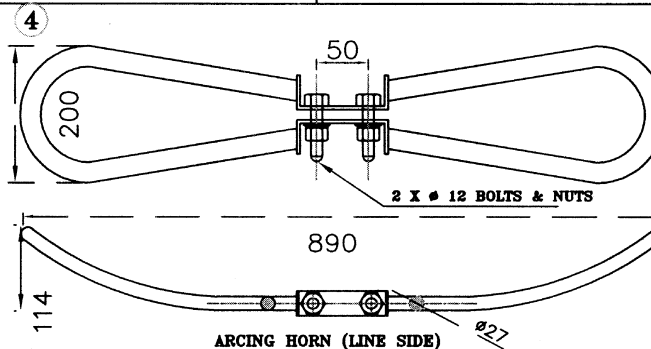
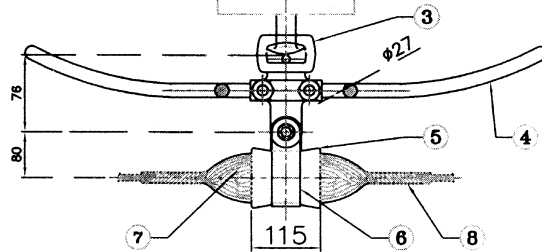
ADJUSTABLE ARCING HORN (TOWER SIDE)

MATL.- MILD STEEL QTY.- 1 NO.

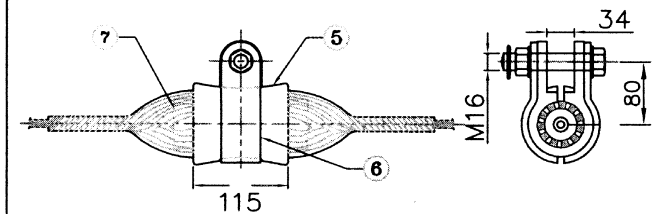


SOCKET EYE (H.H)

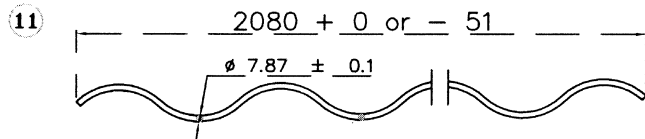
MATL.-FORGED STEEL QTY.- 1 NO.



ARCING HORN (LINE SIDE)
QTY.- 1 NO. MATL.- M.S. TUBE



- 5 A.G.S. CLAMP BODY - DIE CAST AL. ALLOY - 1 PAIR
- 6 SUPPORTING STRAP - FORGED AL. ALLOY - 1 NO.
- 7 BODY (CUSHIONED) - NEOPRENE/AL. ALLOY FORGED - 1 PAIR



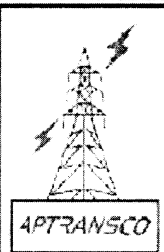
ARMOUR RODS 1SET (12 NOS.)
MATL.- HEAT TREATED AL. ALLOY HE-30 AS PER IS-733

APPROVED FOR TURNKEY PROJECTS

CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/MYD.

TECHNICAL DATA

1. BALL & SOCKET SIZE - 16mm 'B,
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. ARMOUR GRIP SUSPENSION CLAMP PROVIDED WITH RETAINING RODS SUITABLE FOR ACSR ZEBRA CONDUCTOR
4. SLIP STRENGTH OF A.G. SUSPENSION CLAMP - 9% TO 15% OF U.T.S. OF ZEBRA ACSR
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS -HOT DIP GALVANISED & SPRING WASHERS - ELCTRO GALVANISED
6. ALL DIMENSIONS ARE IN MM WITH ±5% TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 & 2633
7. PITCH LENGTH OF PA ROD SHALL BE LESS THAN CONDUCTOR OUTER LAYER PITCH LENGTH.
8. PA RODS: MIN ULTIMATE STRENGTH 35 KG/MM. SQ. CONDUCTIVITY > 40 % OF IACS.
9. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.

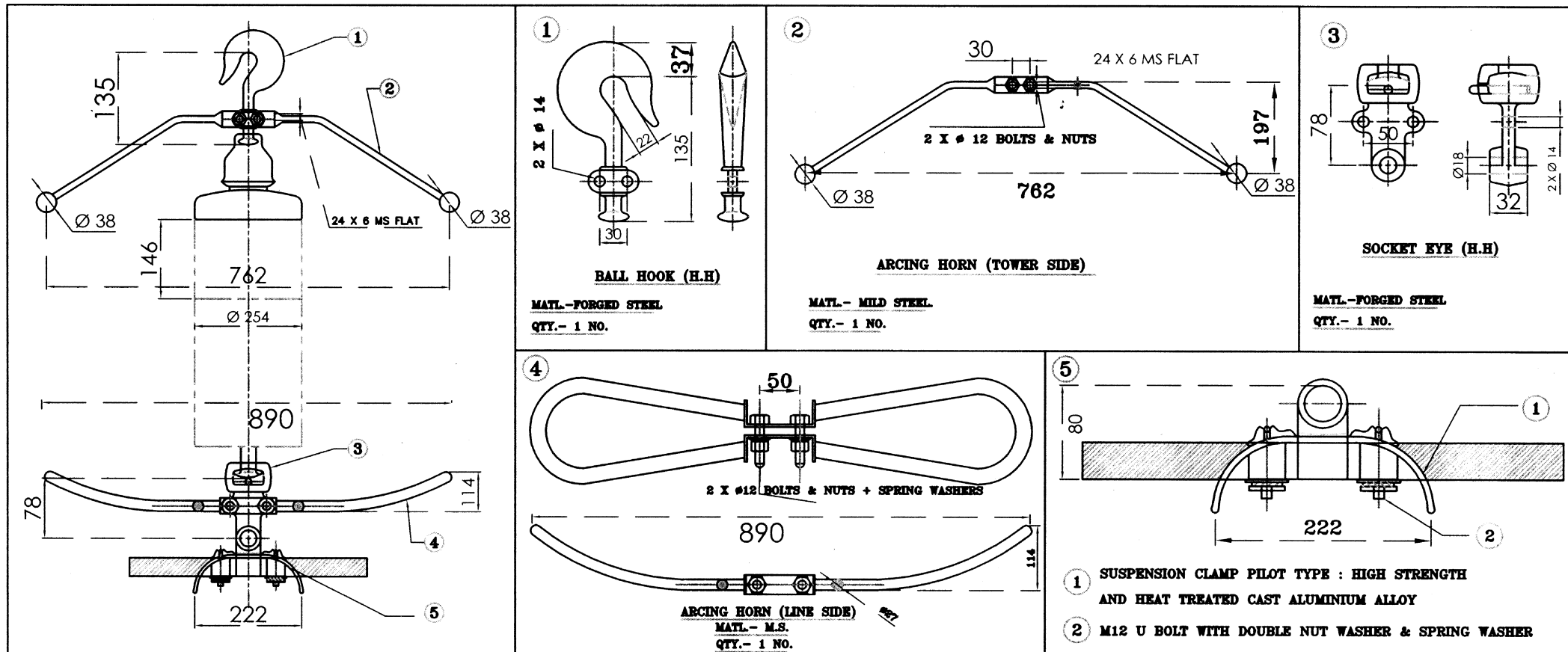


STANDARDISED DRAWING FOR 220KV SINGLE SUSPENSION HARDWARE SET

FOR ACSR 'ZEBRA' CONDUCTOR WITH AAH (AGS TYPE)

STD/GTP-DWG/Approval No. 13 - 2 / Revision No. 0

Prepared & Approved during November - 2011

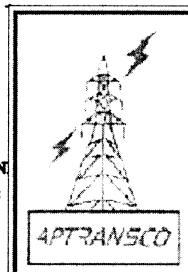


APPROVED FOR TURNKEY PROJECTS

[Signature]
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SQUADHA/HYD.

TECHNICAL DATA

1. BALL & SOCKET SIZE - 16mm 'B'.
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. SUSPENSION CLAMP SUITABLE FOR ACSR ZEBRA CONDUCTOR
4. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS -ELECTRO GALVAN
5. ALL DIMENSIONS ARE IN MM WITH $\pm 5\%$ TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 &
- 6 ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.

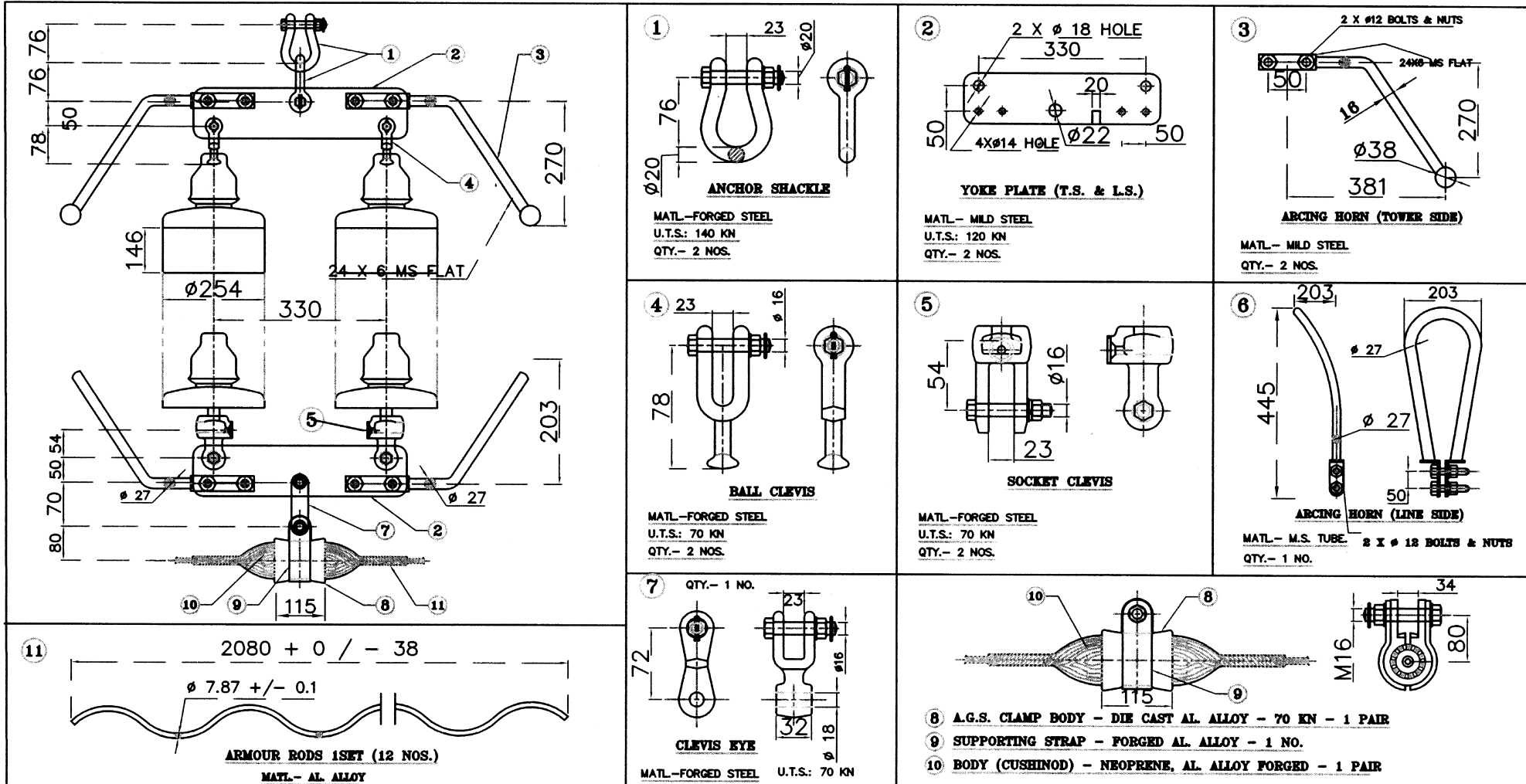


STANDARDISED DRAWING FOR 220KV SINGLE SUSPENSION HARDWARE SET

FOR ACSR 'ZEBRA' CONDUCTOR WITH PILOT TYPE

STD/GTP-DWG/Approval No. 13 - 3 / Revision No. 0

Prepared & Approved during November - 2011

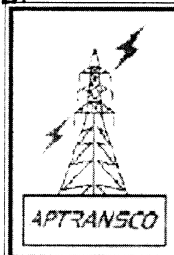


APPROVED FOR TURNKEY PROJECTS

CHIEF ENGINEER / CONSTRUCTION-1
 APTRANSCO/VIDYUTH SODHA/HYP.

TECHNICAL DATA

- BALL & SOCKET SIZE - 16mm 'B'.
- SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL.
- ARMOUR GRIP SUSPENSION CLAMP PROVIDED WITH RETAINING RODS SUITABLE FOR ACSR ZEBRA CONDUCTOR
- SLIP STRENGTH OF A.G. SUSPENSION CLAMP - 9% TO 15% OF U.T.S. OF ZEBRA ACSR
- ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS -ELECTRO GALVANISED
- ALL DIMENSIONS ARE IN MM WITH $\pm 5\%$ TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 & 2633
- PITCH LENGTH OF PA ROD SHALL BE LESS THAN CONDUCTOR OUTER LAYER PITCH LENGTH.
- PA RODS: MIN ULTIMATE STRENGTH 35 KG/MM. SQ. CONDUCTIVITY > 40 % OF IACS.
- ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.



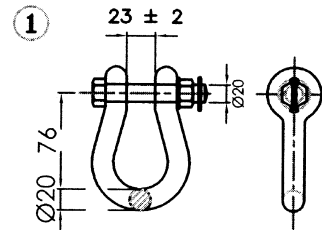
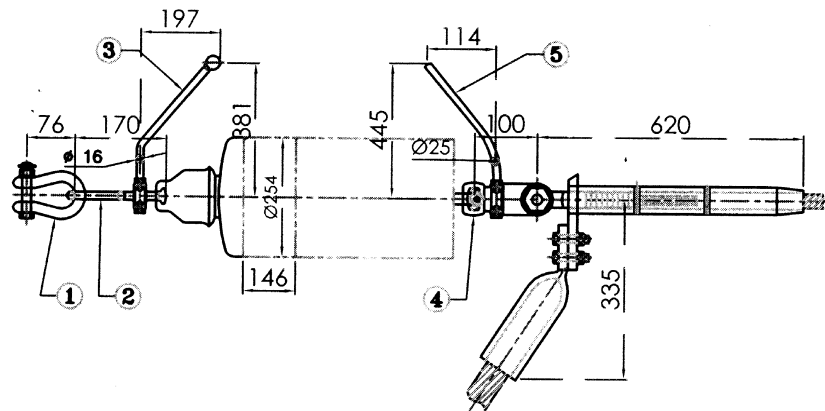
STANDARDISED DRAWING FOR 220KV DOUBLE SUSPENSION HARDWARE SET

FOR ACSR 'ZEBRA' CONDUCTOR WITH FAH (AGS TYPE)

STD/GTP-DWG/Approval No. 13 - 4 / Revision No. 0

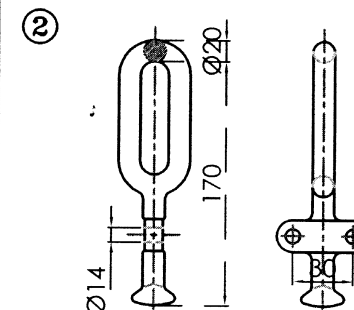
Prepared & Approved during November - 2011

FOR ZEBRA



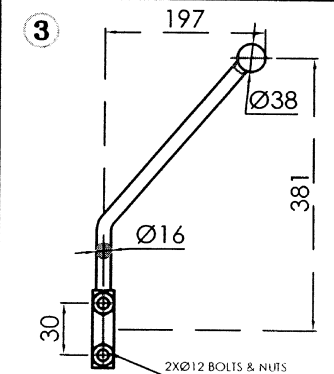
ANCHOR SHACKLE

MATL-FORGED STEEL
NO. OFF. 1



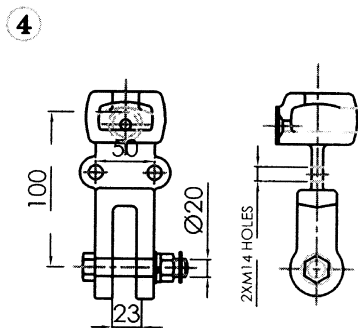
BALL LINK (H.H.)

MATL-FORGED STEEL
NO. OFF. 1



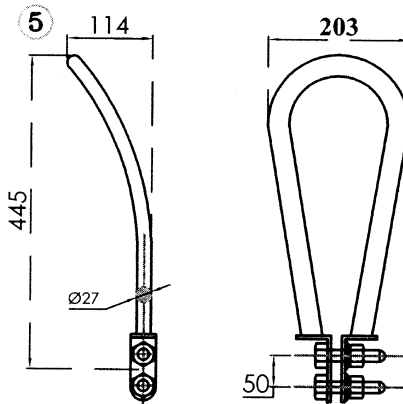
ARCING HORN (TOWER SIDE)

MATL-M.S. ROD
QTY.- 1 NO.



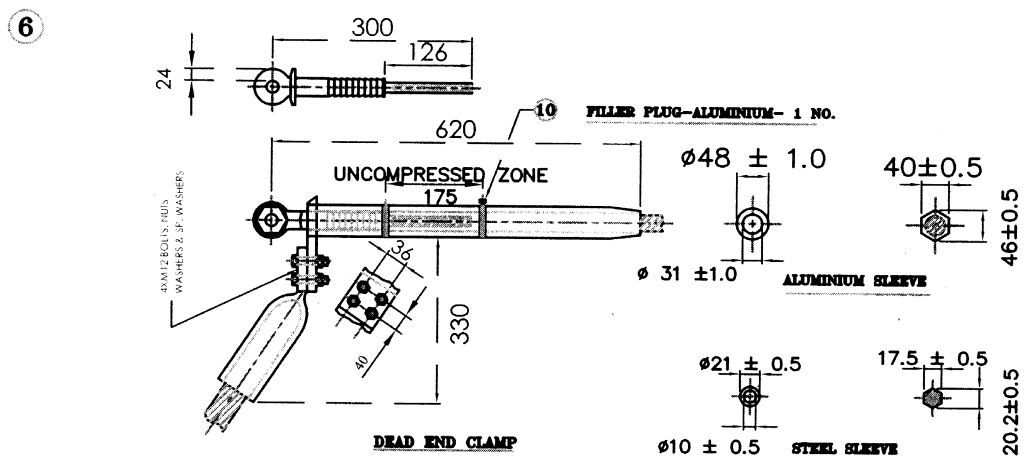
SOCKET CLEVIS (H.H.)

MATL-FORGED STEEL
QTY - 1 NO.



ARCING HORN (LINE SIDE)

MATL - M.S. TUBE
QTY - 1 NO.



DEAD END CLAMP

MATL-ALUMINIUM & STEEL
QTY.- 1 SET

FILLER PLUG-ALUMINIUM- 1 NO.

ALUMINIUM SLEEVE

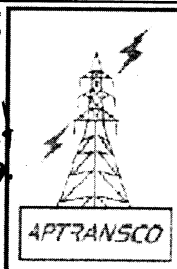
STEEL SLEEVE

BEFORE COMPRESSION

AFTER COMPRESSION

APPROVED FOR TURNKEY PROJECTS

CHIEF ENGINEER / CONSTRUCTION-
APTRANSCO MDYUTH SOUDHA/HYD.



TECHNICAL DATA

- 1 BALL & SOCKET SIZE - 20mm
- 2 SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
- 3 DEAD END CLAMP SUITABLE FOR ACSR ZEBRA CONDUCTOR
- 4 MINIMUM SLIP STRENGTH/UTS OF TENSION CLAMP-95% OF CONDUCTOR UTS
- 5 ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS -ELECTRO GALVANISED
- 6 ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.
- 7 ALL DIMENSIONS ARE IN MM WITH ±5% TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 PART-II

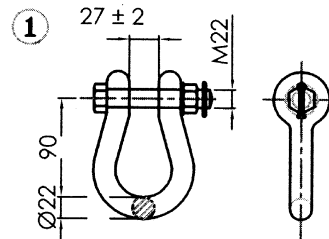
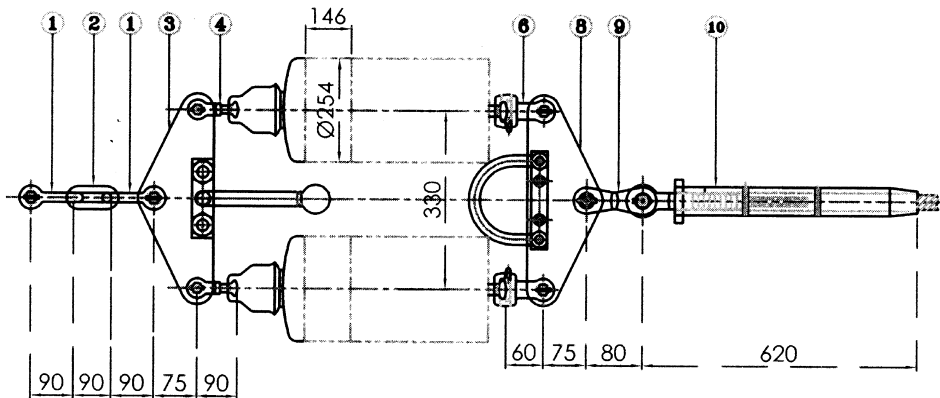
STANDARDISED DRAWING FOR 220KV SINGLE TENSION

HARDWARE SET FOR ACSR 'ZEBRA' CONDUCTOR

STD/GTP-DWG/Approval No. 13 - 5 /Revision No. 0

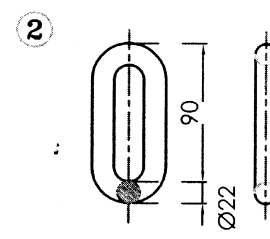
Prepared & Approved during November - 2011

FOR ZEBRA



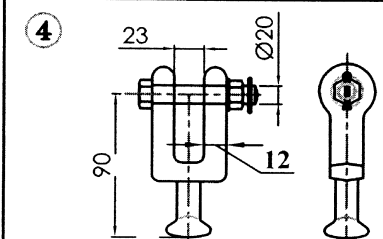
ANCHOR SHACKLE

MATL.-FORGED STEEL
U.T.S.: 240 KN
QTY.- 2 NOS.



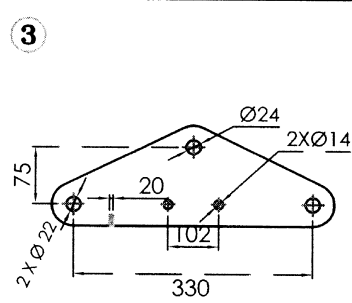
CHAIN LINK

MATL.-FORGED STEEL
QTY.- 240 KN
QTY.- 1 NO.



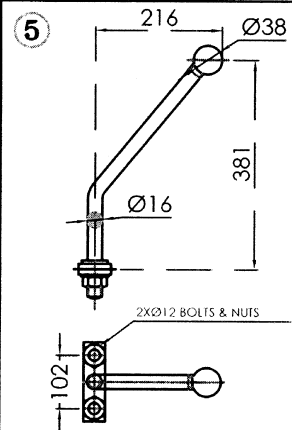
BALL CLEVIS

MATL.-FORGED STEEL
U.T.S.: 120 KN
QTY.- 2 NOS.



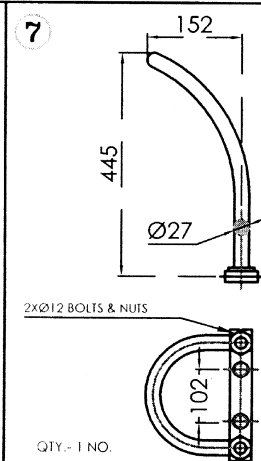
YOKE PLATE (TOWER SIDE)

MATL.- MILD STEEL
U.T.S.: 240 KN
QTY.- 2NOS.



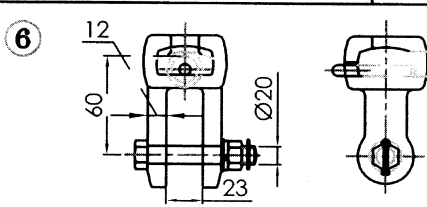
ARCING HORN (TOWER SIDE)

MATL.- M.S. ROD QTY.- 1 NO



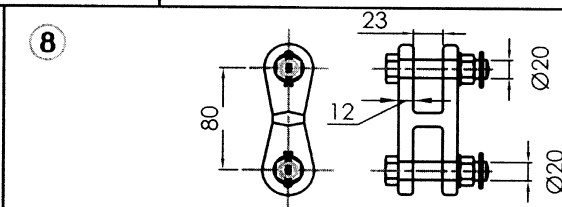
ARCING HORN (L.S.)

QTY.- 1 NO.
MATL.- M.S. TUBE



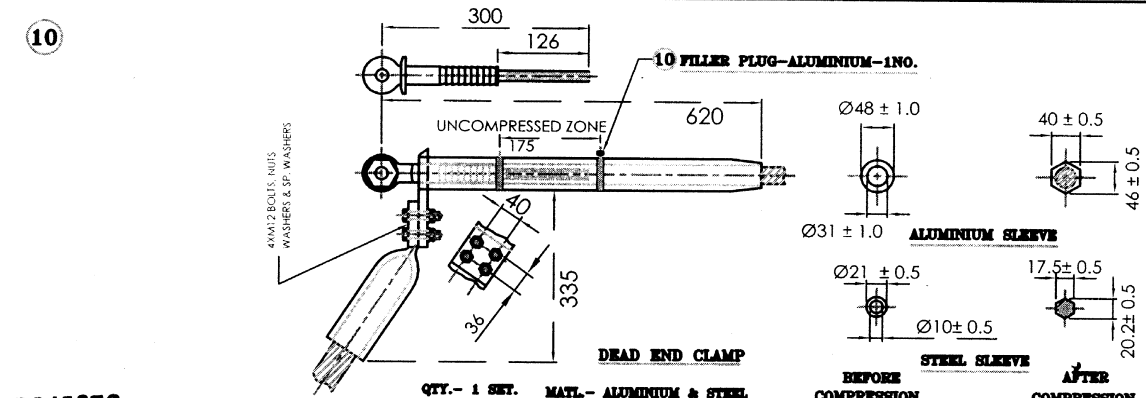
SOCKET CLEVIS

MATL.-FORGED STEEL
U.T.S.: 120 KN
QTY.- 2 NOS.



CLEVIS EYE

MATL.-FORGED STEEL
U.T.S.: 120 KN
QTY.- 1 NO.

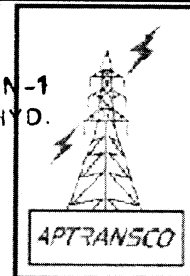


APPROVED FOR TURNKEY PROJECTS

TECHNICAL DATA

1. BALL & SOCKET SIZE - 20mm
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. DEAD END CLAMP SUITABLE FOR ACSR ZEBRA CONDUCTOR
4. MINIMUM SLIP STRENGTH/UTS OF TENSION CLAMP-95% OF CONDUCTOR UTS.
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS -ELECTRO GALVANISED
6. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.
7. ALL DIMENSIONS ARE IN MM WITH ±5% TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 PART-II

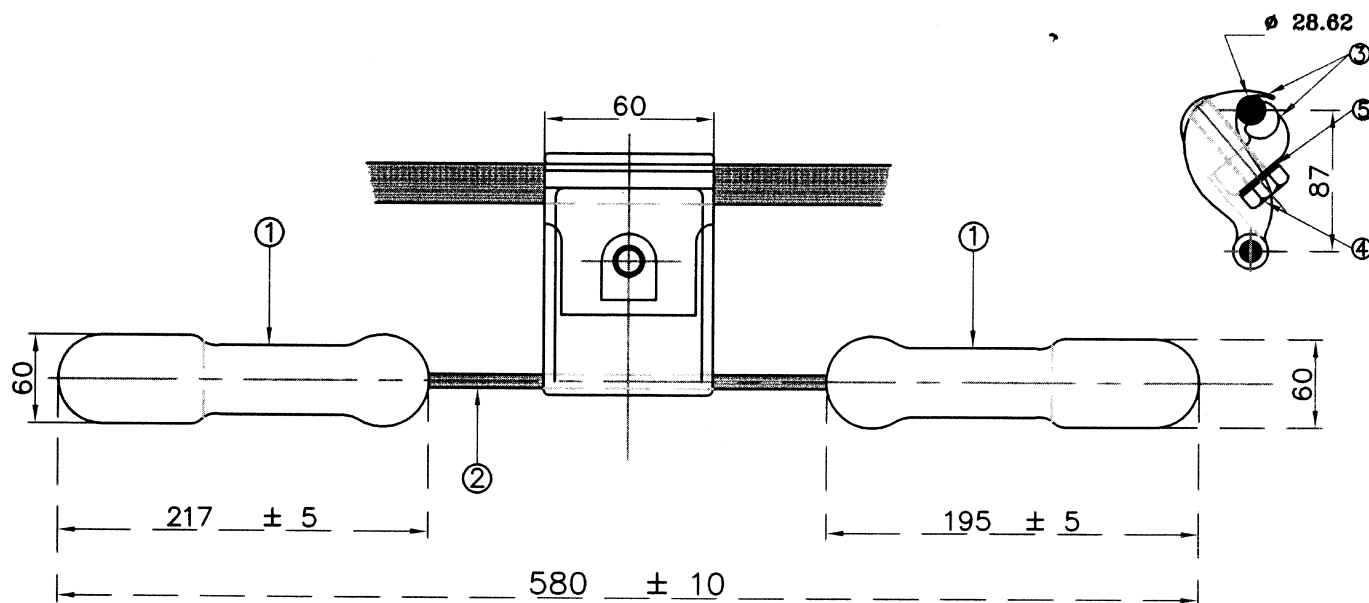
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.



STANDARDISED DRAWING FOR 220KV DOUBLE TENSION
HARDWARE SET FOR ACSR 'ZEBRA' CONDUCTOR

STD/GTP-DWG/Approval No. 13 - 6 /Revision No. 0

Prepared & Approved during November - 2011



BILL OF MATERIALS

SL.NO	DESCREPTION	MATERIAL	NO. OFF
1	DAMPER MASS	GALVD.CAST IRON	1 PAIR
2	MESSANGER CABLE	H.T.GALVD.STEEL WIRE 19 STRANDS 135 KG/MM. SQ. QUALITY	1NO.
3	CLAMP BODY & KEEPER	ALUMINIUM ALLOY	1 SET
4	BOLT WITH WASHER	MILD STEEL	1+1
5	SPRINGN WASHER	SPRING STEEL	1NO.

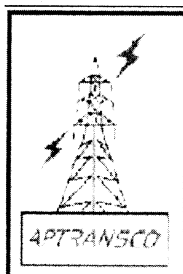
TECHNICAL DATA

- TOTAL WEIGHT OF DAMPER ASSEMBLY 6.6 KG₂ +0.3 & - 0.0
- MESSANGER CABLE SIZE &UTS 19/ 2.59 MM & 135 KG / MM
- CLAMP TORQUE 6.0 KGM.
- MESSANGER CABLE & DAMPER MASS HOT DIP GALVANISED.
- FASTENERS HOT DIP GALVANISED AND SPRING WASHER ELECTRO GALVANIZED.
- SLIP STRENGTH OF MESSANGER CABLE CLAMP - 500 Kgf.

APPROVED FOR TURNKEY PROJECTS

Signature 9/11/2011
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/MTD.

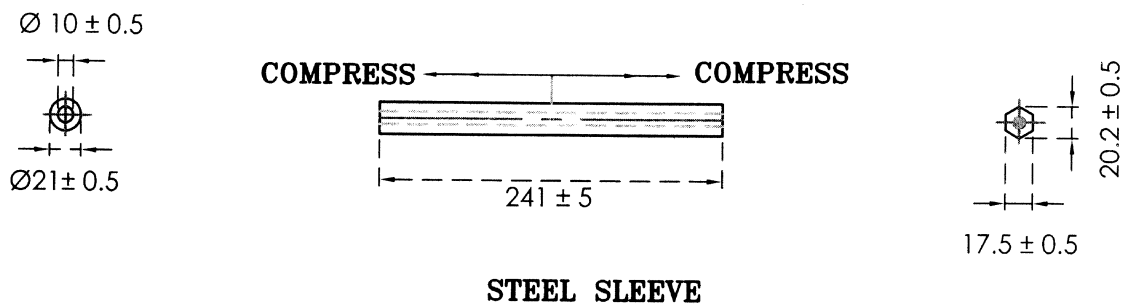
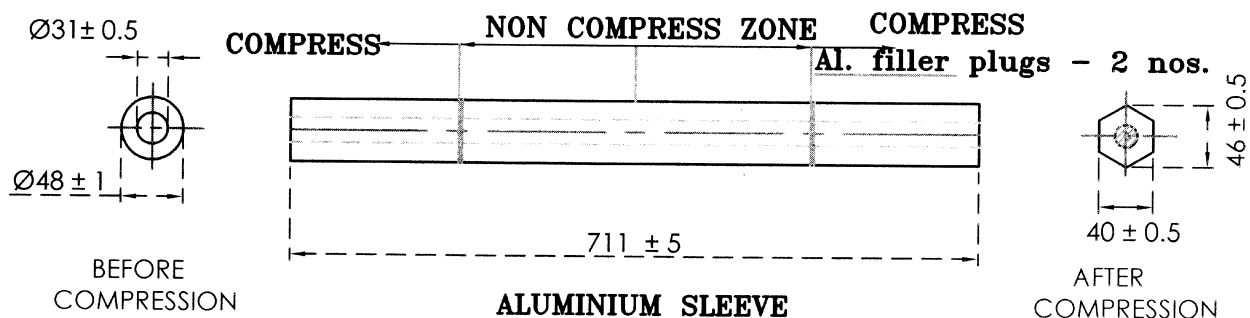
STANDARD: IS-9708



STANDARDISED DRAWING FOR 220KV VIBRATION DAMPER
FOR 'ZEBRA' ACSR CONDUCTOR

STD/GTP-DWG/Approval No. 13- 7 / Revision No. 0

Prepared & Approved during November - 2011



TECHNICAL DATA

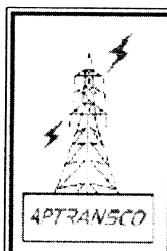
1. MATERIAL :- a) ALUMINIUM SLEEVE: EXTRUDED ALUMINIUM WITH 99.5% PURITY
b) STEEL SLEEVE : MILD STEEL HOT DIP GALVANISED.
BRINELL HARDNESS < 200

2. SLIP STRENGTH/FAILING LOAD - MINIMUM 95% OF CONDUCTOR U.T.S.
3. ALL UNITS ARE IN MM

STANDARD: IS-2121 PART-II

APPROVED FOR TURNKEY PROJECTS

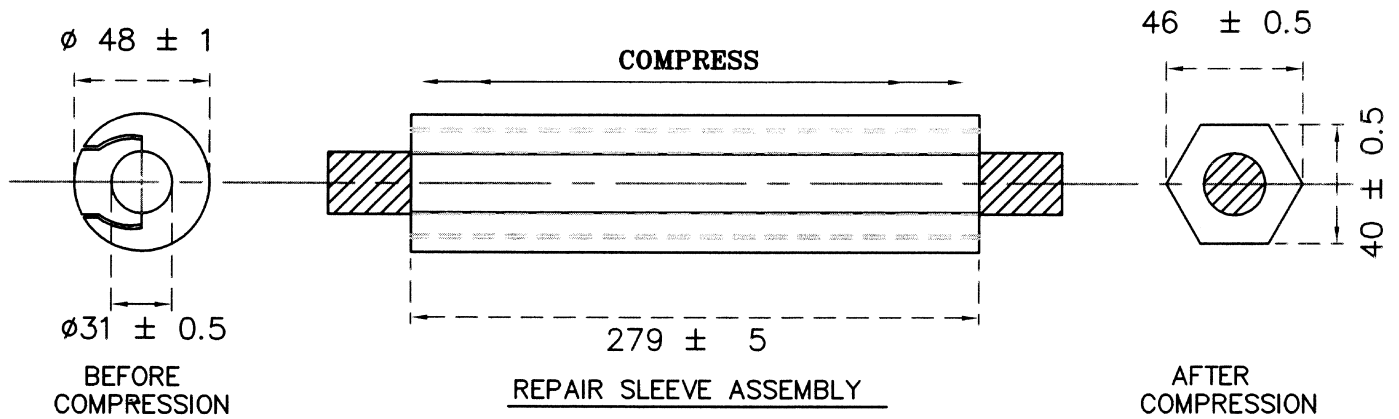
(Signature) 9/11/2011
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.



STANDARDISED DRAWING FOR 220KV MIDSPAN COMPRESSION JOINT
FOR 'ZEBRA' ACSR CONDUCTOR

STD/GTP-DWG/Approval No. 13 - 8 / Revision No. 0

Prepared & Approved during November - 2011

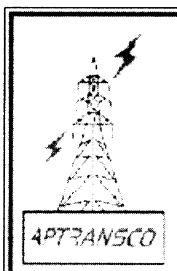


TECHNICAL DATA

1. MATERIAL – EXTRUDED ALUMINIUM.
2. MIN. FAILING LOAD OF THE SLEEVE AFTER COMPRESSION – 95% OF THE CONDUCTOR UTS.
3. AFTER COMPRESSION DIMENSION SHOWN ARE ONLY FOR FIELD USE
4. ALL UNITS ARE IN MM.
5. STANDARD:– IS-2121 PART-II. COMPRESSION DIE CATALOGUE NO. DAH – 12
6. TOTAL WEIGHT: 1.2 Kg. APPROX.

APPROVED FOR TURNKEY PROJECTS

[Signature] 9/11/2011
CHIEF ENGINEER / CONSTRUCTION -1
APTRANSCO/VIDYUTH SOUDHA/HYD

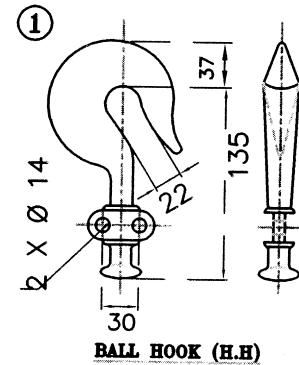
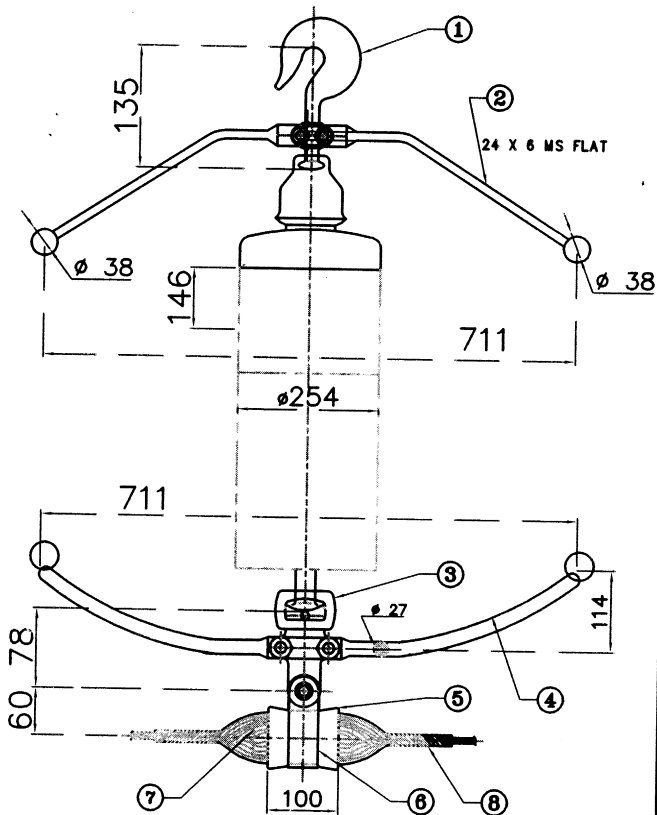


**STANDARDISED DRAWING FOR 220KV LINE REPAIR SLEEVE
 FOR 'ZEBRA' ACSR CONDUCTOR**

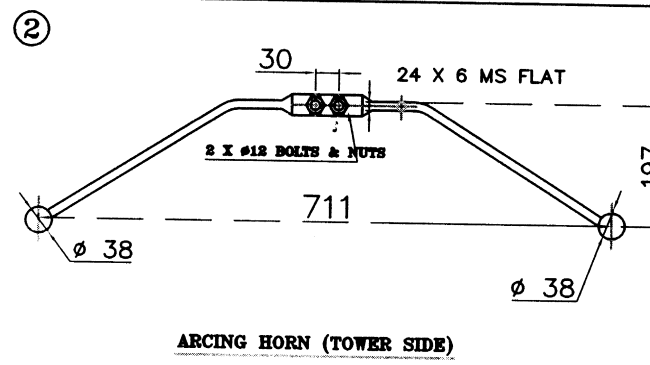
STD/GTP-DWG/Approval No. 13 - 9 / Revision No. 0

Prepared & Approved during November - 2011

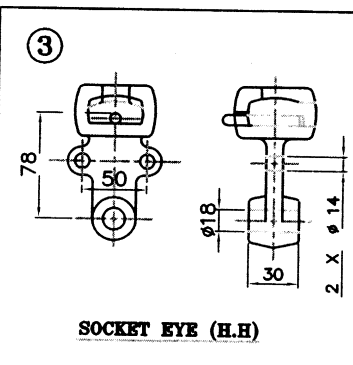
FOR PANTEHR ACSR



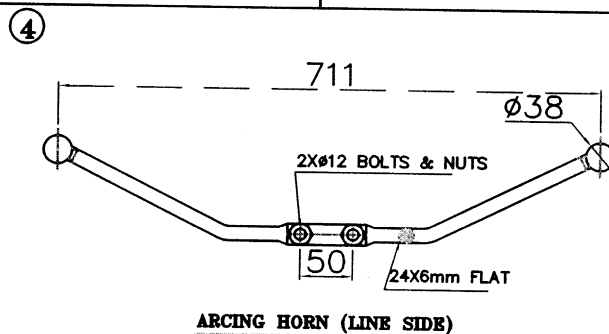
BALL HOOK (H.H)
MATL.-FORGED STEEL QTY.- 1 NO.



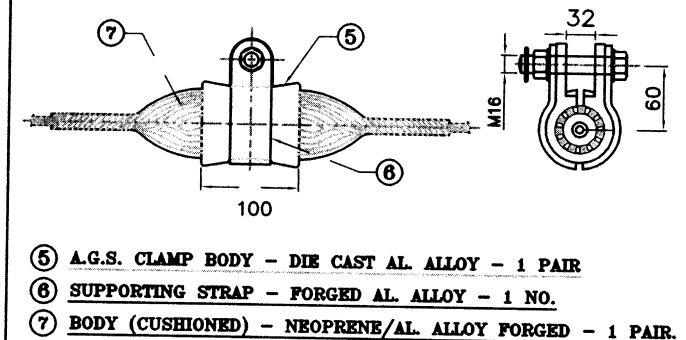
ARCING HORN (TOWER SIDE)
MATL.- MILD STEEL FLAT QTY.- 1 NO.



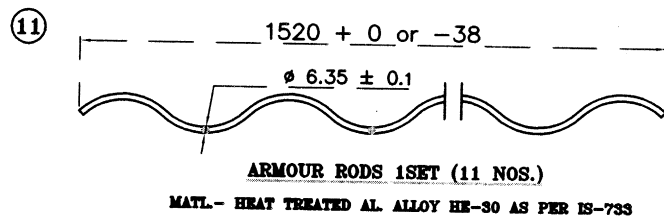
SOCKET EYE (H.H)
MATL.-FORGED STEEL QTY.- 1 NO.



ARCING HORN (LINE SIDE)
MATL.- M.S. FLAT QTY.- 1 NO.



⑤ **A.G.S. CLAMP BODY - DIE CAST AL. ALLOY - 1 PAIR**
⑥ **SUPPORTING STRAP - FORGED AL. ALLOY - 1 NO.**
⑦ **BODY (CUSHIONED) - NEOPRENE/AL. ALLOY FORGED - 1 PAIR.**



ARMOUR RODS 1SET (11 NOS.)
MATL.- HEAT TREATED AL. ALLOY HE-30 AS PER IS-733

APPROVED FOR TURNKEY PROJECTS

[Signature]
CHIEF ENGINEER / CONSTRUCTION
APTRANSCO/VIDYUTH SOUDHA

TECHNICAL DATA

1. BALL & SOCKET SIZE - 16mm 'B',
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. ARMOUR GRIP SUSPENSION CLAMP PROVIDED WITH RETAINING RODS SUITABLE FOR ACSR PANTHER CONDUCTOR
4. SLIP STRENGTH OF A.G. SUSPENSION CLAMP - 9% TO 15% OF U.T.S. OF PANTHER ACSR
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS - ELECTRO GALVANISED
6. ALL DIMENSIONS ARE IN MM WITH ±5% TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 & 2633
7. PITCH LENGTH OF PA ROD SHALL BE LESS THAN CONDUCTOR OUTER LAYER PITCH LENGTH.
8. PA RODS: MIN ULTIMATE STRENGTH 35 KG/MM. SQ. CONDUCTIVITY > 40 % OF IACS.
9. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.



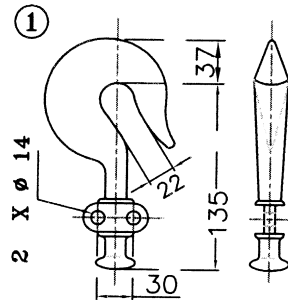
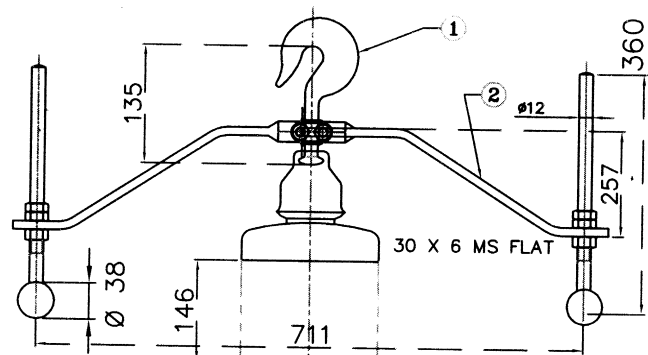
APTRANSCO

STANDARDISED DRAWING FOR 132KV SINGLE SUSPENSION HARDWARE SET
FOR ACSR 'PANTEHR' CONDUCTOR WITH FAH (AGS TYPE)

STD/GTP-DWG/Approval No. 14 - 1 / Revision No. 0

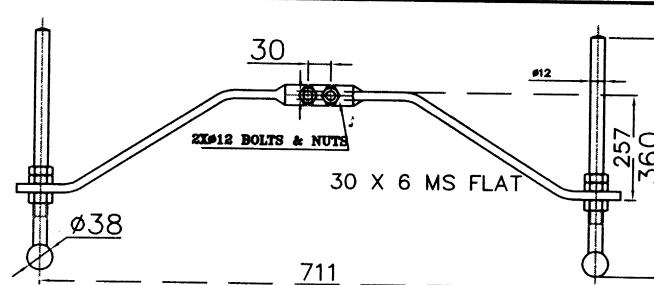
Prepared & Approved during November - 2011

FOR PANTHER ACSR



BALL HOOK (H.H.)

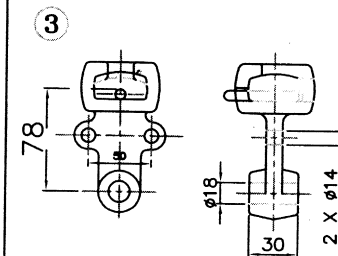
MATL- FORGED STEEL QTY.- 1 NO.



ADJUSTABLE ARCING HORN (TOWER SIDE)

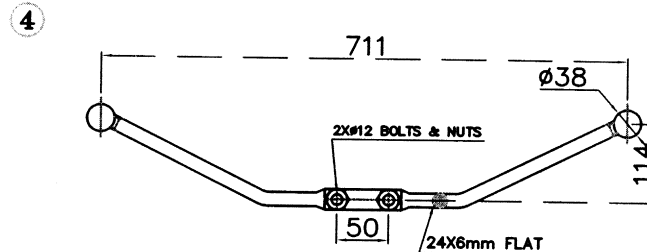
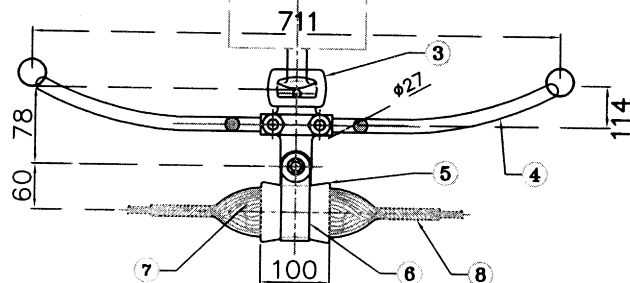
MATL- MILD STEEL

QTY.- 1 NO.



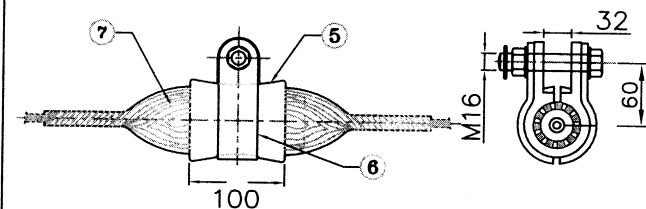
SOCKET EYE (H.H.)

MATL- FORGED STEEL QTY.- 1 NO.



ARCING HORN (LINE SIDE)

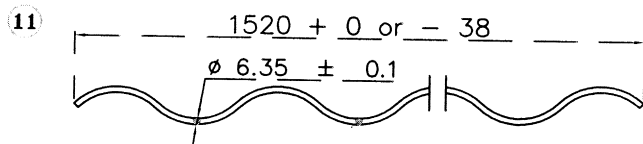
MATL- M.S. FLAT
QTY.- 1 NO.



5 A.G.S. CLAMP BODY - DIE CAST AL. ALLOY - 1 PAIR

6 SUPPORTING STRAP - FORGED AL. ALLOY - 1 NO.

7 BODY (CUSHIONED) - NEOPRENE/AL. ALLOY FORGED - 1 PAIR



ARMOUR RODS 1SET (12 NOS.)

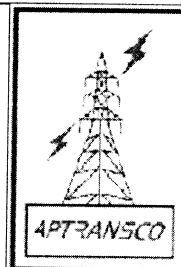
MATL- HEAT TREATED AL. ALLOY HE-30 AS PER IS-733

TECHNICAL DATA

1. BALL & SOCKET SIZE - 16mm 'B',
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. ARMOUR GRIP SUSPENSION CLAMP PROVIDED WITH RETAINING RODS SUITABLE FOR ACSR PANTHER CONDUCTOR
4. SLIP STRENGTH OF A.G. SUSPENSION CLAMP - 9% TO 15% OF U.T.S. OF ACSR *pant her*
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS -HOT DIP GALVNISED & SPRING WASHERS - ELCTRO GALVNISED
6. ALL DIMENSIONS ARE IN MM WITH ±5% TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 & 2633
7. PITCH LENGTH OF PA ROD SHALL BE LESS THAN CONDUCTOR OUTER LAYER PITCH LENGTH.
8. PA RODS: MIN ULTIMATE STRENGTH 35 KG/MM. SQ. CONDUCTIVITY > 40 % OF IACS.
9. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.

APPROVED FOR TURNKEY PROJECTS

g/h/holl
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.

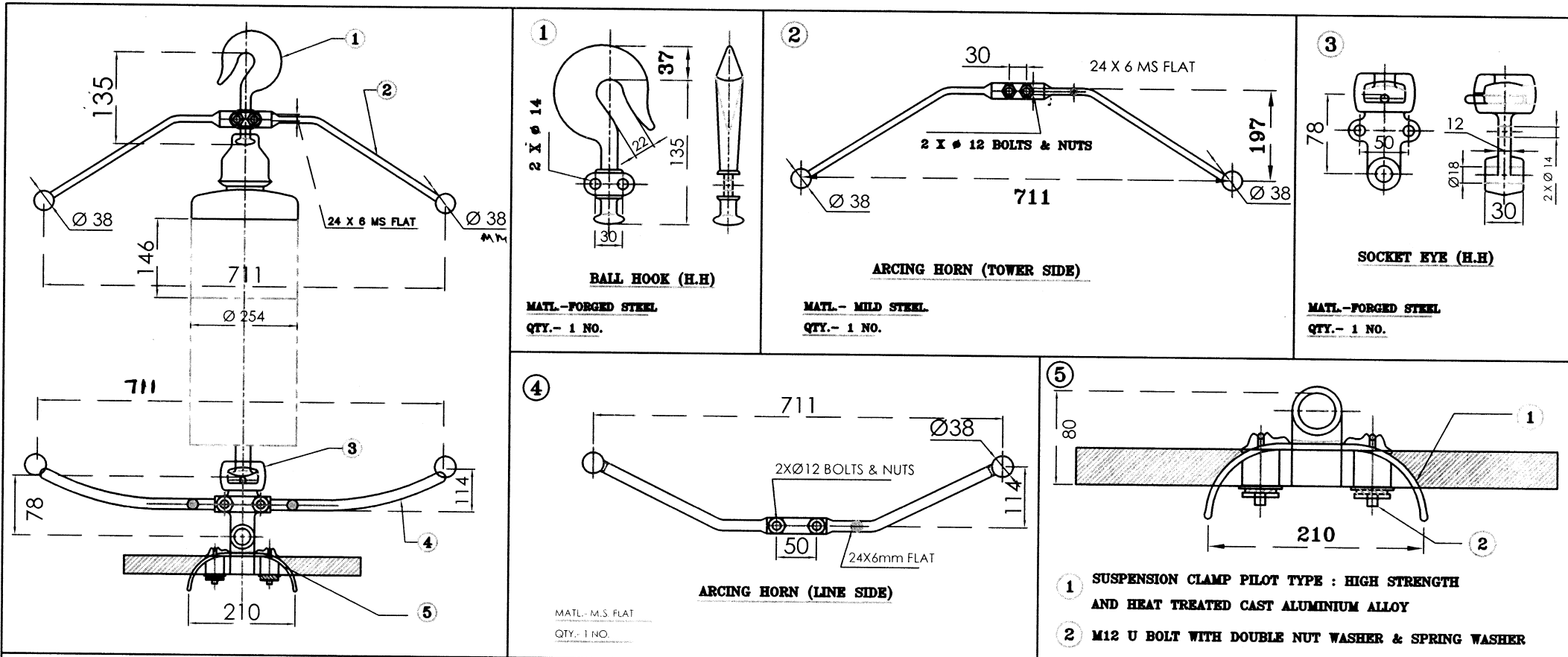


STANDARDISED DRAWING FOR 132KV SINGLE SUSPENSION HARDWARE SET

FOR ACSR 'PANTHER' CONDUCTOR WITH AAH (AGS TYPE)

STD/GTP-DWG/Approval No. 14 - 2 / Revision No. 0

Prepared & Approved during November - 2011

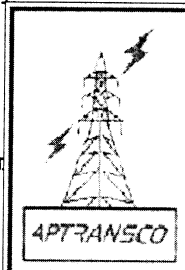


APPROVED FOR TURNKEY PROJECTS

CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD

TECHNICAL DATA

1. BALL & SOCKET SIZE - 16mm 'B',
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. SUSPENSION CLAMP SUITABLE FOR ACSR PANTHER CONDUCTOR
4. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS -ELECTRO GALVAN
5. ALL DIMENSIONS ARE IN MM WITH $\pm 5\%$ TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 & IS 2633
6. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.



STANDARDISED DRAWING FOR 132KV SINGLE SUSPENSION HARDWARE SET

FOR ACSR 'PANTHER' CONDUCTOR WITH PILOT TYPE

STD/GTP-DWG/Approval No. 14 - 3 / Revision No. 0

Prepared & Approved during November - 2011

Technical drawing of a mechanical assembly, likely a pump or motor, showing a top view and a side view. The top view includes dimensions: 76, 76, 76, 50, 78, 270, 146, 330, 203, 60, 70, 50, 52. It also shows a central circular component with a diameter of 254 and a 38mm diameter hole. The side view shows a 100mm diameter hole and a 24 X 6 MS FLAT bar. Various components are labeled with numbers 1 through 11.



YOKE PLATE (T.S. & L.S.)

ARCING HORN (TOWER SIDE)

BALL CLEVIS

SOCKET CLEVIS

ARCING HORN (LINE SIDE)

11. $\frac{1520 + 0}{-38}$

ARMOUR RODS 1SET (12 NOS.)

CLEVIS EYE

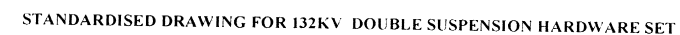
8 A.G.S. CLAMP BODY - DIE CAST AL. ALLOY - 70 KN - 1 PAIR

9 SUPPORTING STRAP - FORGED AL. ALLOY - 1 NO.

10 BODY (CUSHINOD) - NEOPRENE, AL. ALLOY FORGED - 1 PAIR

CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/MIDYUTH SOUDHA/HYD

1. BALL & SOCKET SIZE - 16mm 'B,
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. ARMOUR GRIP SUSPENSION CLAMP PROVIDED WITH RETAINING RODS SUITABLE FOR ACSR PANTHER CONDUCTOR
4. SLIP STRENGTH OF A.G. SUSPENSION CLAMP - 9% TO 15% OF U.T.S. OF PANTHER ACSR
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS -ELECTRO GALVANISED
6. ALL DIMENSIONS ARE IN MM WITH $\pm 5\%$ TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 & 2633
7. PITCH LENGTH OF PA ROD SHALL BE LESS THAN CONDUCTOR OUTER LAYER PITCH LENGTH.
8. PA RODS: MIN ULTIMATE STRENGTH 35 KG/MM. SQ. CONDUCTIVITY > 40 % OF IACS.
9. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.



FOR ACSR 'PANTHER' CONDUCTOR WITH FAH (AGS TYPE)

STD/GTP-DWG/Approval No. 14 - 4 / Revision No. 0

Prepared & Approved during November - 2011

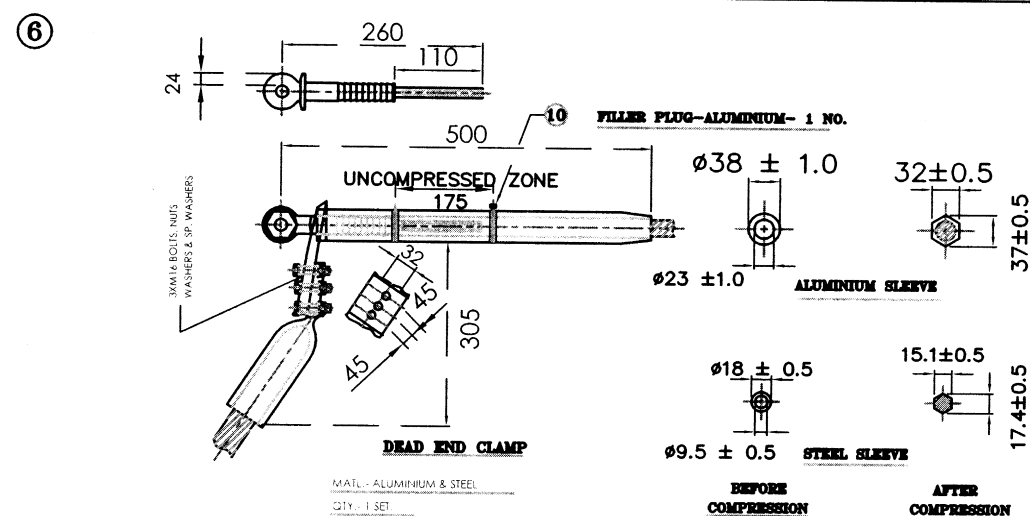
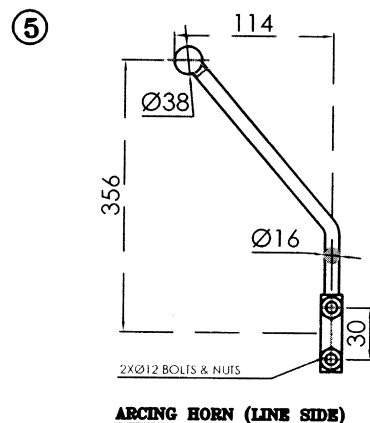
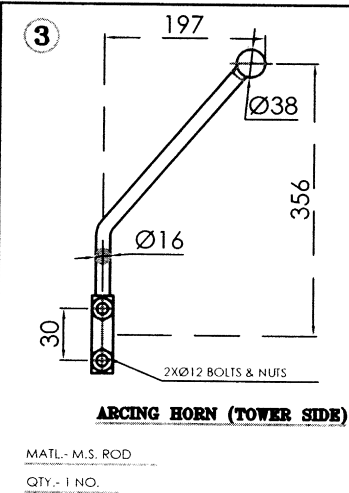
Technical drawing of a mechanical assembly, likely a pump or valve mechanism, showing dimensions and numbered components (1 through 6).

Dimensions (mm):

- 197 (Total length of the upper arm assembly)
- 76 (Distance from the left end to the first joint)
- 170 (Distance from the first joint to the second joint)
- 16 (Diameter of the central shaft)
- 356 (Distance from the second joint to the third joint)
- 146 (Distance from the third joint to the fourth joint)
- 356 (Distance from the fourth joint to the fifth joint)
- 114 (Distance from the fifth joint to the sixth joint)
- 100 (Distance from the sixth joint to the seventh joint)
- 500 (Total length of the lower arm assembly)
- 305 (Distance from the seventh joint to the eighth joint)
- Ø13 (Diameter of the central shaft)

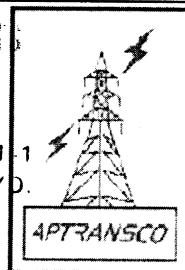
Numbered components:

- 1: Leftmost joint/connector
- 2: Second joint/connector
- 3: Upper arm assembly
- 4: Lower arm assembly
- 5: Sixth joint/connector
- 6: Rightmost joint/connector



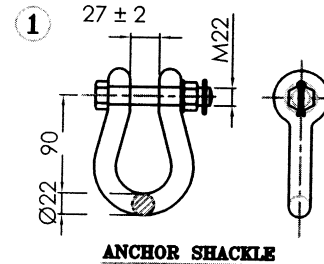
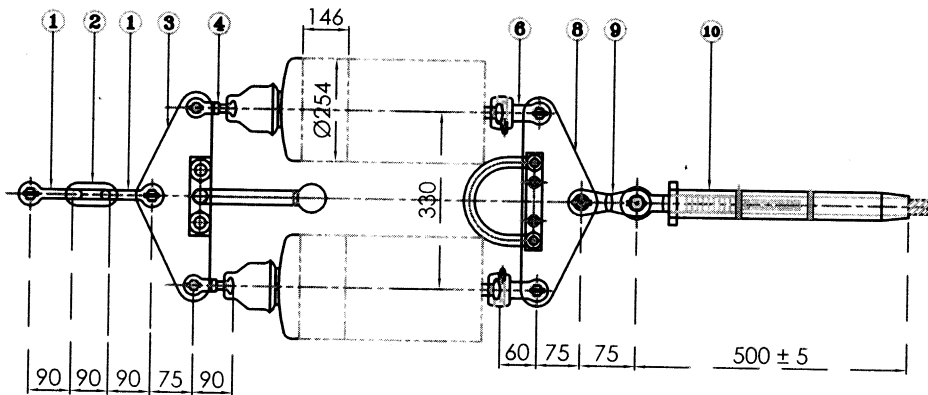
1. BALL & SOCKET SIZE - 20mm
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. DEAD END CLAMP SUITABLE FOR ACSR PANTHER CONDUCTOR
4. MINIMUM UTM SLIP STRENGTH/UTS OF TENSION CLAMP-95% OF CONDUCTOR UTS.
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS -ELECTRO GALVANISED
6. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED
7. ALL DIMENSIONS ARE IN MM WITH $\pm 5\%$ TOLERANCE UTS & TECH PARTICULARS AS PER GTP AND IS-2486 PART-II

CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD



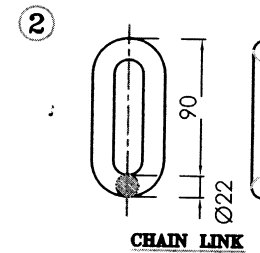
Prepared & Approved during November - 2011

FOR PANTHER ACSR



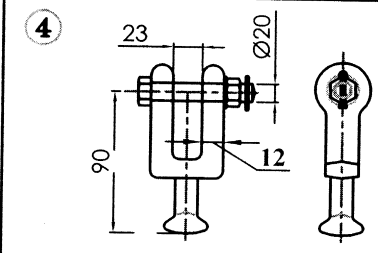
ANCHOR SHACKLE

MATL - FORGED STEEL
U.T.S.: 240 KN
QTY. - 2 NOS.



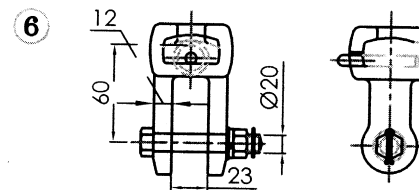
CHAIN LINK

MATL - FORGED STEEL
QTY. - 240 KN
QTY. - 1 NO.



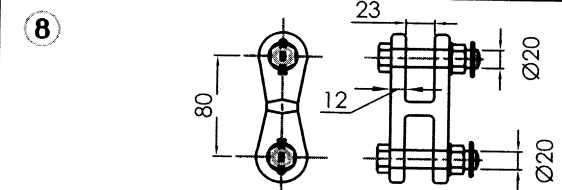
BALL CLEVIS

MATL - FORGED STEEL
U.T.S.: 120 KN
QTY. - 2 NOS.



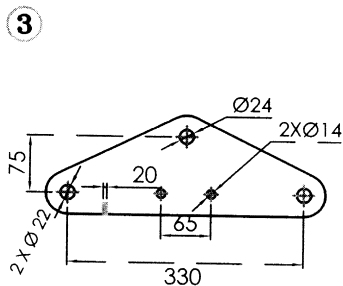
SOCKET CLEVIS

MATL - FORGED STEEL
U.T.S.: 120 KN
QTY. - 2 NOS.



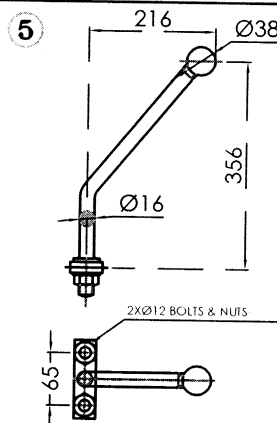
CLEVIS EYE

MATL - FORGED STEEL
U.T.S.: 120 KN
QTY. - 1 NO.



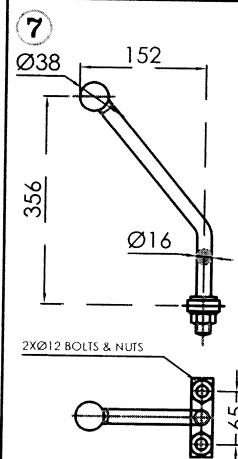
YOKE PLATE (T.S & L.S)

MATL - MILD STEEL
U.T.S.: 240 KN
QTY. - 2 NOS.



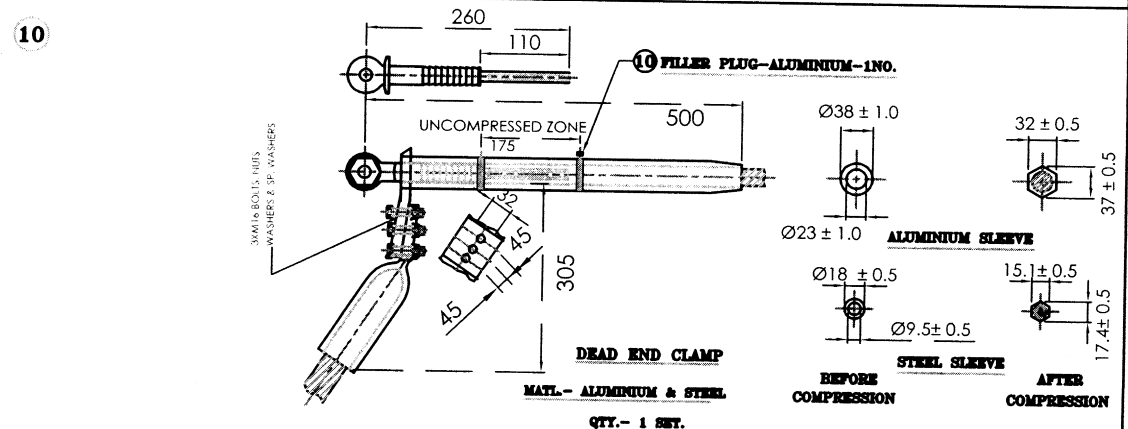
ARCING HORN (TOWER SIDE)

MATL - M.S. ROD QTY. - 1 NO.



ARCING HORN (L.S.)

MATL - M.S. ROD QTY. - 1 NO.



DEAD END CLAMP

MATL - ALUMINIUM & STEEL

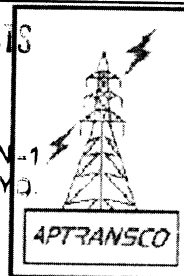
QTY. - 1 SET.

TECHNICAL DATA

1. BALL & SOCKET SIZE - 20mm
2. SOCKET EYE FITTED WITH SECURITY CLIP MADE OF STAINLESS STEEL
3. DEAD END CLAMP SUITABLE FOR ACSR PANTHER CONDUCTOR
4. MINIMUM SLIP STRENGTH/UTS OF TENSION CLAMP-95% OF CONDUCTOR UTS.
5. ALL FERROUS PARTS EXCEPT SPRING WASHERS - HOT DIP GALVANISED & SPRING WASHERS - ELECTRO GALVANISED
6. ALL BOLTS & NUTS WOULD BE 5.6 GRADE AND FULLY THREADED BOLTS SHALL NOT BE USED.
7. ALL DIMENSIONS ARE IN MM WITH ±5% TOLERANCE. UTS & TECH PARTICULARS AS PER GTP AND IS-2486 PART-II

APPROVED FOR TURNKEY PROJECTS

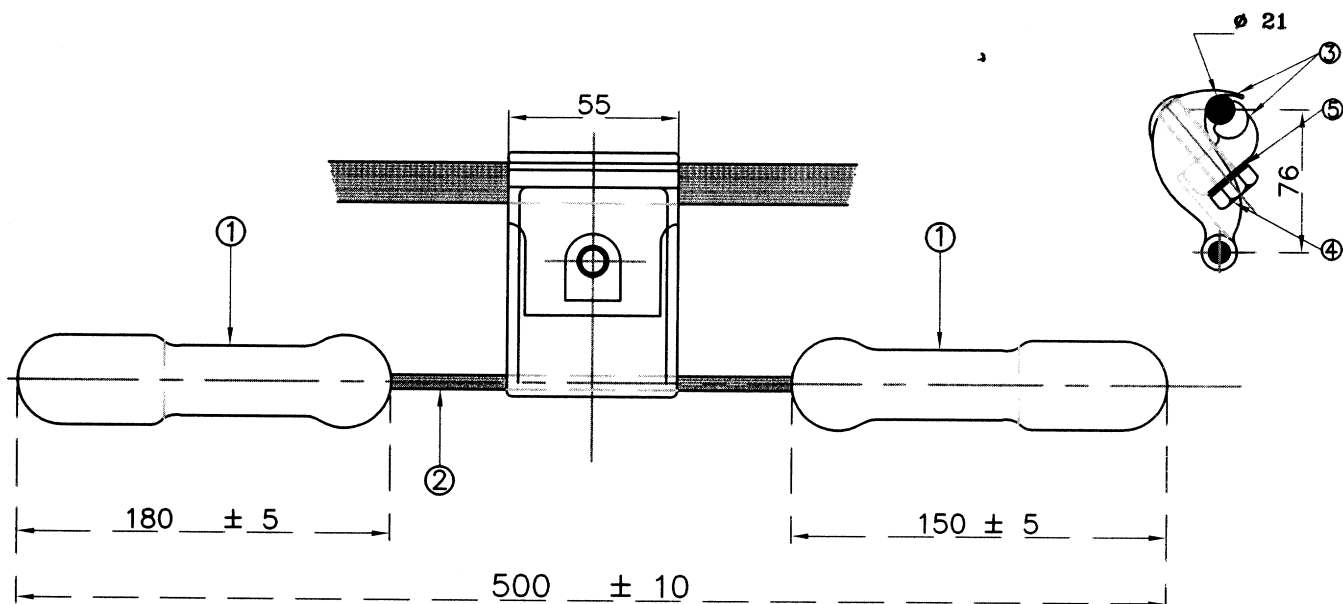
CHIEF ENGINEER / CONSTRUCTION
APTRANSCO/VIDYUTH SOUDHA/HYD.



STANDARDISED DRAWING FOR 132KV DOUBLE TENSION
HARDWARE SET FOR ACSR 'PANTHER' CONDUCTOR

STD/GTP-DWG/Approval No. 14 - 6 /Revision No. 0

Prepared & Approved during November - 2011



BILL OF MATERIALS

SL.NO	DESCREPTION	MATERIAL	NO. OFF
1	DAMPER MASS	GALVD.CAST IRON	1 PAIR
2	MESSENGER CABLE	H.T.GALVD.STEEL WIRE 19 STRANDS 135 KG/MM. SQ. QUALITY	1NO.
3	CLAMP BODY & KEEPER	ALUMINIUM ALLOY	1 SET
4	BOLT WITH WASHER	MILD STEEL	1+1
5	SPRINGN WASHER	SPRING STEEL	1NO.

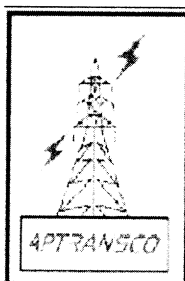
TECHNICAL DATA

- TOTAL WEIGHT OF DAMPER ASSEMBLY 4.5 KG₂ +0.3 / - 0.0
- MESSENGER CABLE SIZE &UTS 19/ 2.45 MM & 135 KG / MM. SQ.
- CLAMP TORQUE 5.0 KGM.
- MESSENGER CABLE & DAMPER MASS HOT DIP GALVANISED.
- FASTENERS HOT DIP GALVANISED AND SPRING WASHER ELECTRO GALVANIZED.
- SLIP STRENGTH OF MESSENGER CABLE CLAMP - 500 Kgf.

APPROVED FOR TURNKEY PROJECTS

[Signature]
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/VIDYUTH SOUDHA/HYD.

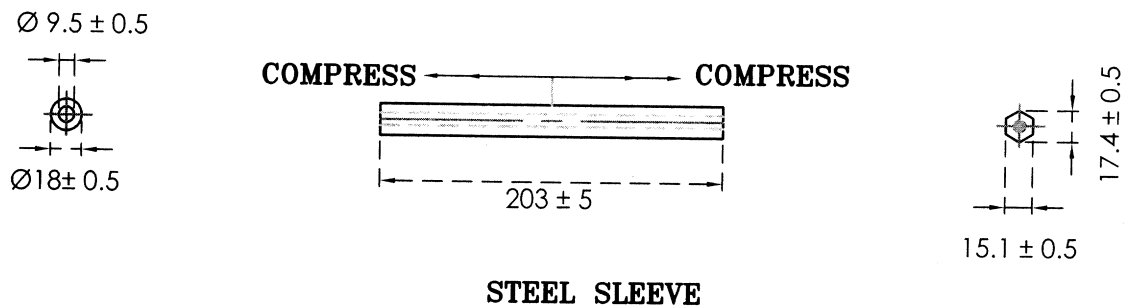
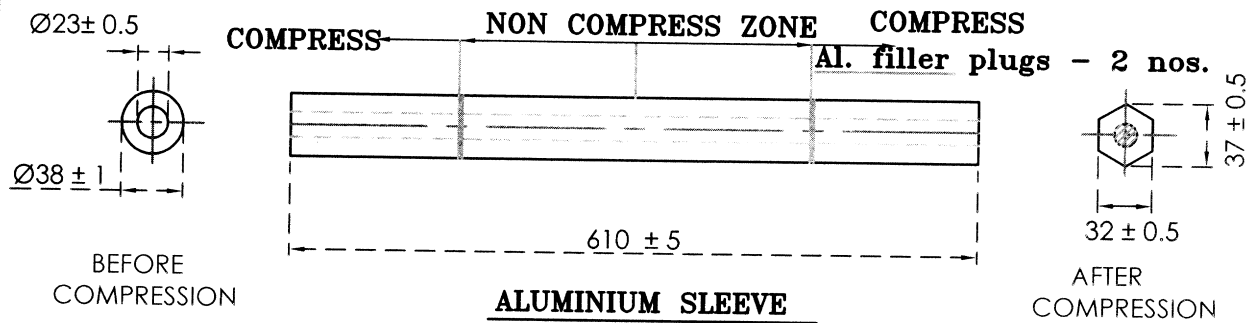
STANDARD: IS-9708



STANDARDISED DRAWING FOR 132KV VIBRATION DAMPER
FOR 'PANTHER-' ACSR CONDUCTOR

STD/GTP-DWG/Approval No. 14- 7 / Revision No. 0

Prepared & Approved during November - 2011



TECHNICAL DATA

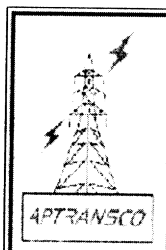
1. MATERIAL :- a) ALUMINIUM SLEEVE: EXTRUDED ALUMINIUM WITH 99.5% PURITY
b) STEEL SLEEVE : MILD STEEL HOT DIP GALVANISED.
BRINELL HARDNESS < 200

2. SLIP STRENGTH/FAILING LOAD - MINIMUM 95% OF CONDUCTOR U.T.S.
3. ALL UNITS ARE IN MM

STANDARD: IS-2121 PART-II

APPROVED FOR TURNKEY PROJECTS

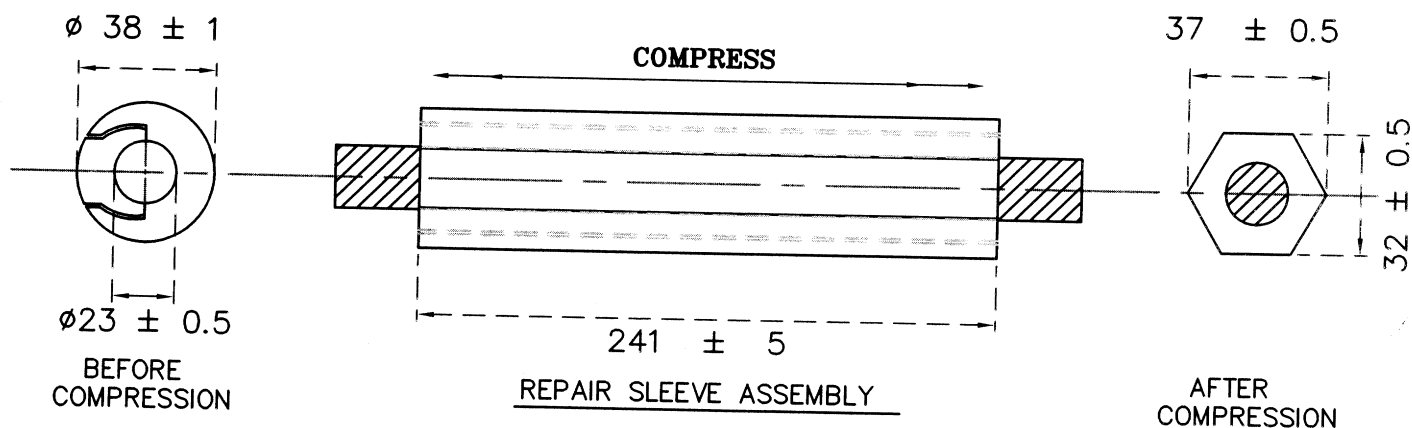
[Signature]
CHIEF ENGINEER / CONSTRUCTION-1
APTRANSCO/MIDYUTHI SOUDHA/HYD



STANDARDISED DRAWING FOR 132KV MIDSPAN COMPRESSION JOINT
FOR 'PANTHER' ACSR CONDUCTOR

STD/GTP-DWG/Approval No. 14 - 8 / Revision No. 0

Prepared & Approved during November - 2011

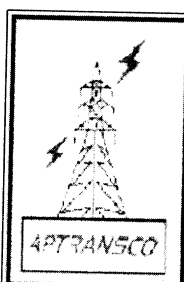


TECHNICAL DATA

1. MATERIAL – EXTRUDED ALUMINIUM.
2. MIN. FAILING LOAD OF THE SLEEVE AFTER COMPRESSION – 95% OF THE CONDUCTOR UTS.
3. AFTER COMPRESSION DIMENSION SHOWN ARE ONLY FOR FIELD USE
4. ALL UNITS ARE IN MM.
5. STANDARD: – IS-2121 PART-II. COMPRESSION DIE CATALOGUE NO. DAH – 12
6. TOTAL WEIGHT: 1.2 Kg. APPROX.

APPROVED FOR TURNKEY PROJECTS

[Signature] 9/11/2011
 CHIEF ENGINEER / CONSTRUCTION 1
 APTRANSCO/VIDYUTHI SOUDHA/HYD



STANDARDISED DRAWING FOR 132KV LINE REPAIR SLEEVE
 FOR 'PANTHER' ACSR CONDUCTOR

STD/GTP-DWG/Approval No. 14 - 9 / Revision No. 0

Prepared & Approved during November - 2011