


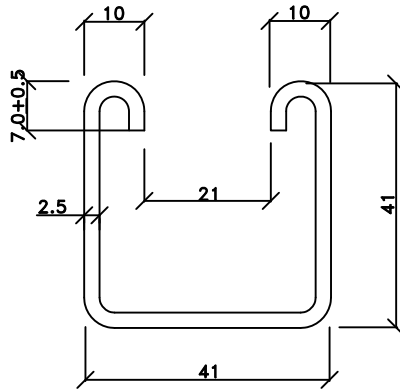


INSTALLATION DETAILS FOR CABLE TRAY SUPPORT SYSTEM (BOLTABLE TYPE)

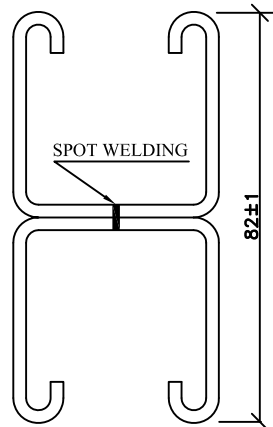
PROJECT	2X660MW ENNORE SEZ SUPERCRITICAL THERMAL POWER PROJECT AT ASH DYKE OF NCTPS,CHENNAI		
	OWNER	TAMIL NADU GENERATION & DISTRIBUTION CORPORATION LIMITED	
	OWNER'S CONSULTANT	DESEIN PRIVATE LIMITED, DESEIN HOUSE,NEW DELHI	
	EPC CONTRACTOR	BHARAT HEAVY ELECTRICALS LIMITED POWER SECTOR PROJECT ENGINEERING MANAGEMENT NOIDA(U.P) INDIA	

REV	DATE	DRN	CHD	APPD	REV	DATE	DRN	CHD	APPD
02	01.04.15	AAT	SL	RG	01	13.02.15	AAT	SL	RG
DRAWING REVISED AS PER CUSTOMER COMMENT DT 27.03.15.					DRAWING REVISED AS PER CUSTOMER COMMENT DT 10.02.15.				

DOCUMENT TITLE:		DPT CODE-E	NAME	SIGN	DATE	
INSTALLATION DETAILS FOR CABLE TRAY SUPPORT SYSTEM(BOLTABLE TYPE)			DRN	AAT	-SD-	11.12.14
			CHD	SL	-SD-	11.12.14
DOCUMENT NO:		APP	RG	-SD-	11.12.14	
PE-DG-412-507-E006						



SINGLE CHANNEL C1



DOUBLE CHANNEL C2

TWO LENGTHS OF SINGLE CHANNEL

SPOT WELDED BACK TO BACK

AT 75MM C/C

NOTE:

1. ALL DIMENSIONS ARE IN mm.
2. MATERIAL : HOT/ COLD ROLLED M.S. AS PER RELEVANT IS.
3. FINISH : HOT DIP GALVANISED AS PER IS 2629
4. TOLERANCE ON THICKNESS IS AS PER IS 1852
5. PROFILE TOLERANCE ± 0.5 mm

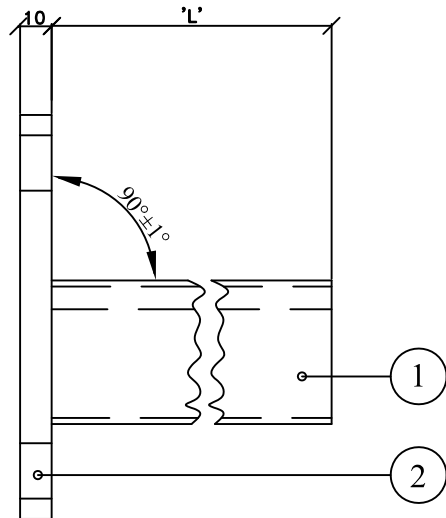
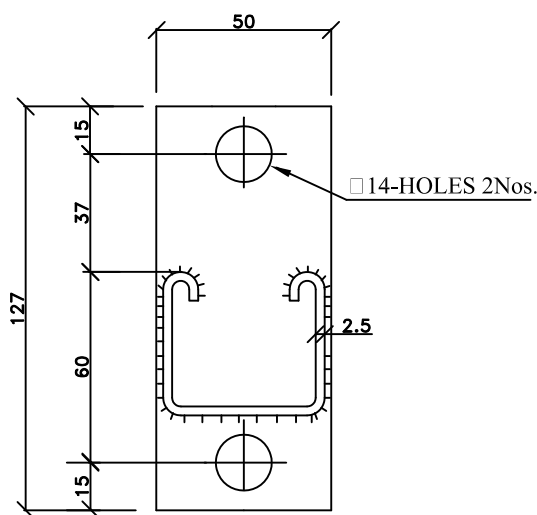


TITLE:

INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM

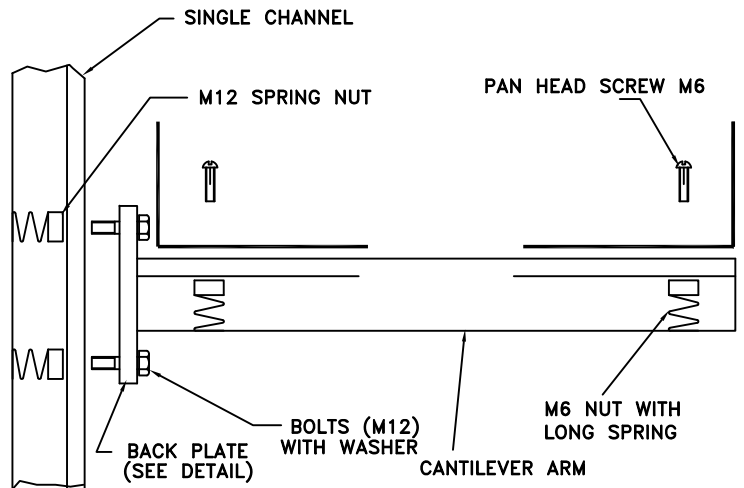
DRG. NO.

PE-DG-412-507-E006



CANTILEVER ARMS

TRAY WIDTH IN MM	CANTILEVER ARM LENGTH (L) IN MM
150	200
300	350
450	500
600	650



TYPICAL ASSEMBLY OF CHANNEL SUPPORTS AND CABLE TRAY

- M12 HEX BOLT & WASHER-2NOs.**
- M12 SPRING NUTS-2NOs.**
- M6 PAN HEAD SCREWS & WASHER-2NOs.**
- M6 SPRING NUTS-2NOs.**

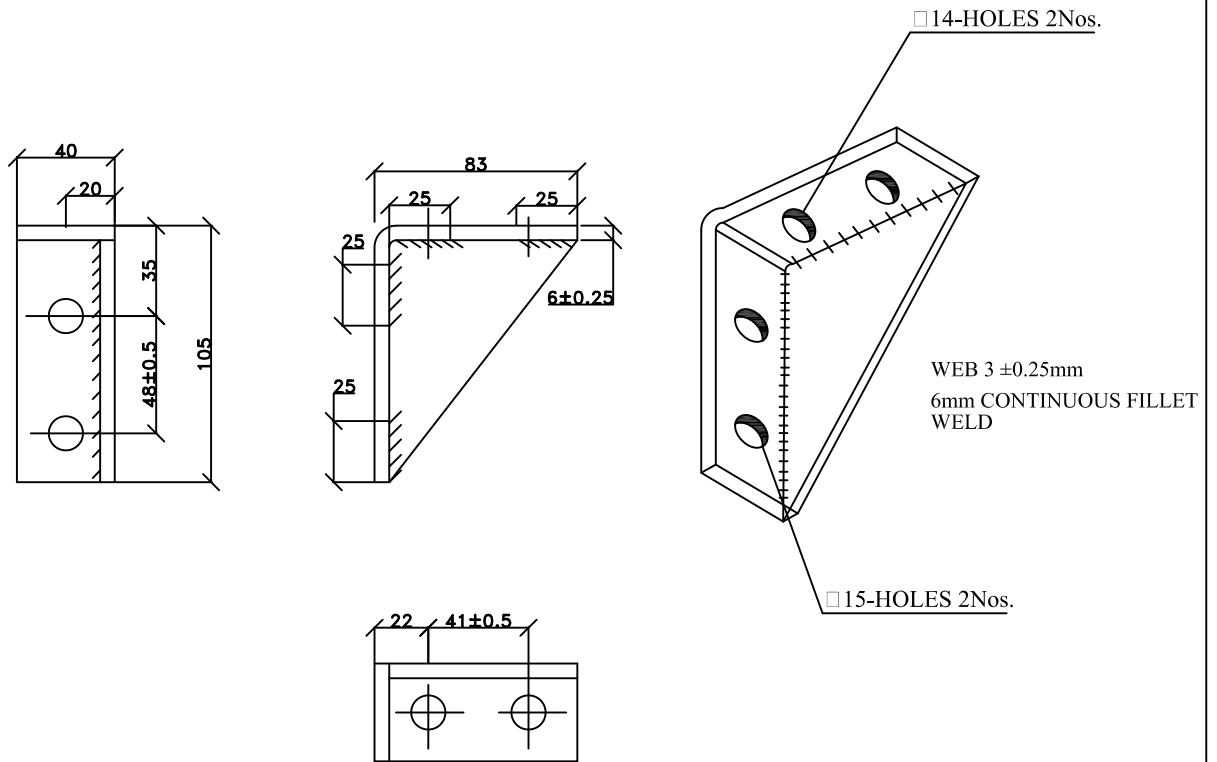
NOTES :

1. ALL DIMENSIONS ARE IN mm.
2. ITEM NO.1 MATERIAL : HOT/ COLD ROLLED M.S. AS PER RELEVANT IS.
3. ITEM NO.2 MATERIAL : M.S AS PER IS-2062
4. FINISH : HOT DIP GALVANISED AS PER IS:2629
5. TOLERANCE ON THICKNESS IS AS PER IS:1852
5. ALL FABRICATION TOLERANCES ARE $\pm 1.0\text{mm}$



TITLE:
INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM

DRG. NO.
PE-DG-412-507-E006



90° ANGLE FITTING HL1

**ANCHOR FASTENER-2Nos.
SPRING NUT & WASHER-2Nos.**

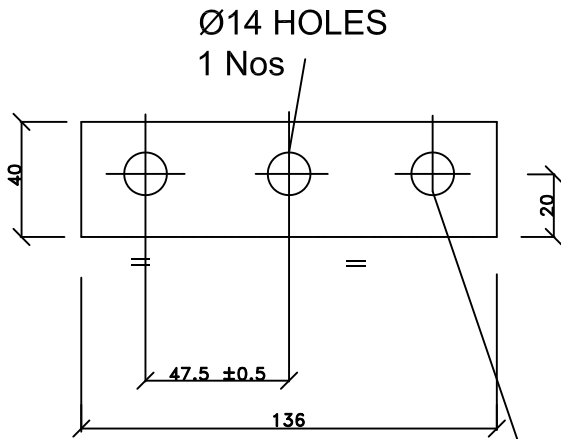
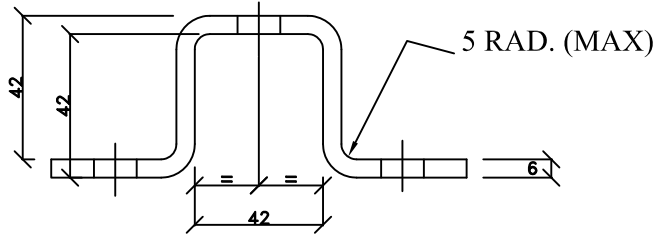
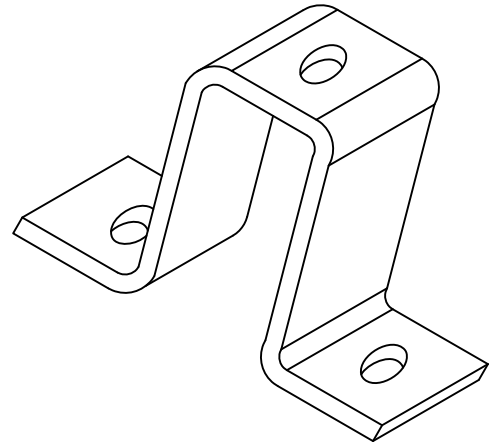
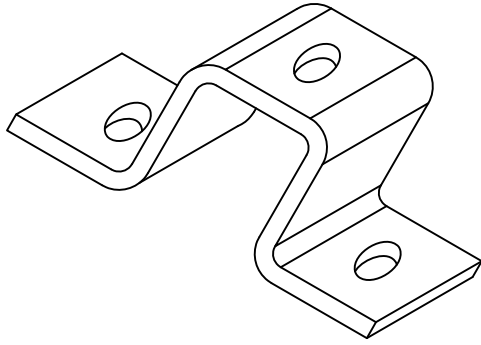
NOTES :

1. ALL DIMENSIONS ARE IN mm.
2. ALL FABRICATION TOLERANCES ± 1.0 mm
3. MATERIAL :MILD STEEL AS PER IS-2062
4. FINISH : HOT DIP GALVANISED AS PER IS:2629
5. TOLERANCE ON THICKNESS AS PER IS:1852

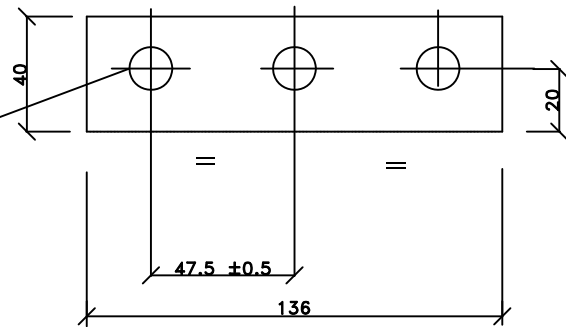
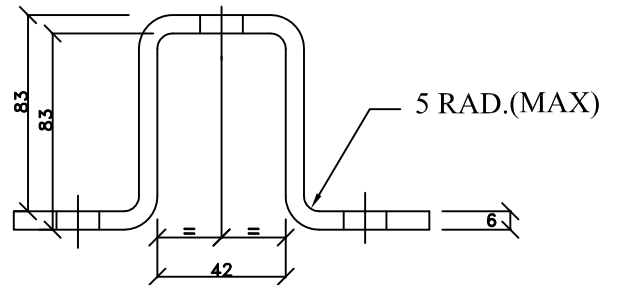


TITLE:
**INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM**

DRG. NO.
PE-DG-412-507-E006



Ø14 HOLES
1 Nos



Ø15 HOLES
2 Nos

CLAMP FOR SINGLE CHANNEL CC1

CLAMP FOR DOUBLE CHANNEL CC2

NOTES

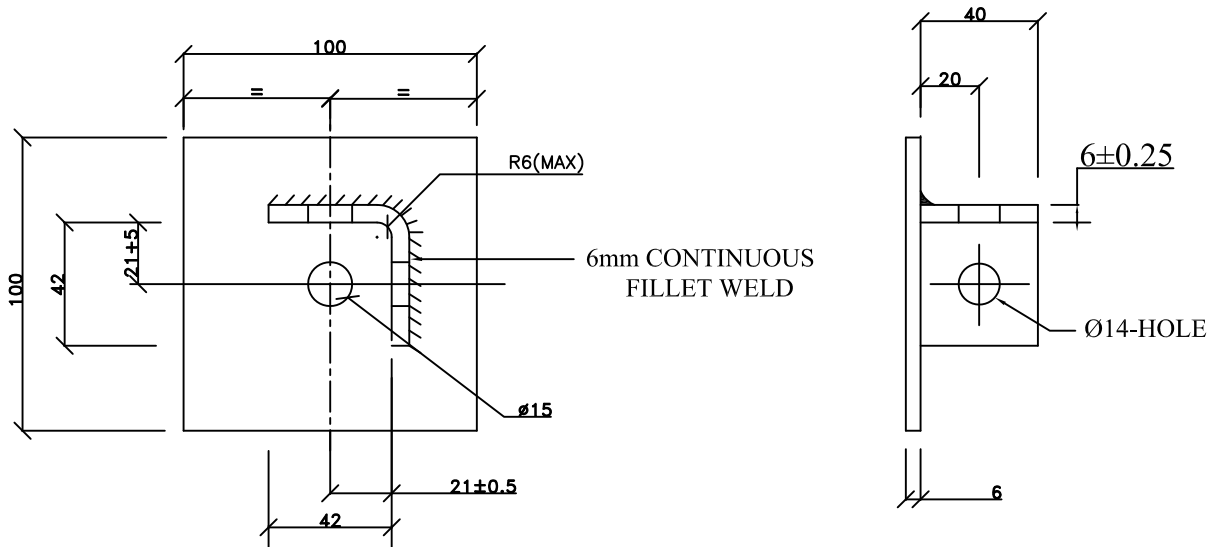
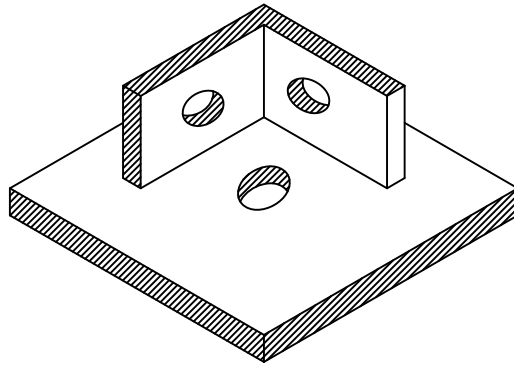
1. ALL DIMENSIONS ARE IN mm.
2. ALL FABRICATION TOLERANCES ± 1.0 mm
3. MATERIAL :MILD STEEL AS PER IS-2062
4. FINISH : HOT DIP GALVANISED AS PER IS:2629
5. TOLERANCE ON THICKNESS AS PER IS:1852

*ANCHOR FASTENER-2NOs.
SPRING NUT & WASHER-1NO.*



TITLE:
**INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM**

DRG. NO.
PE-DG-412-507-E006



BASE PLATE FOR SINGLE CHANNEL BP1

NOTE

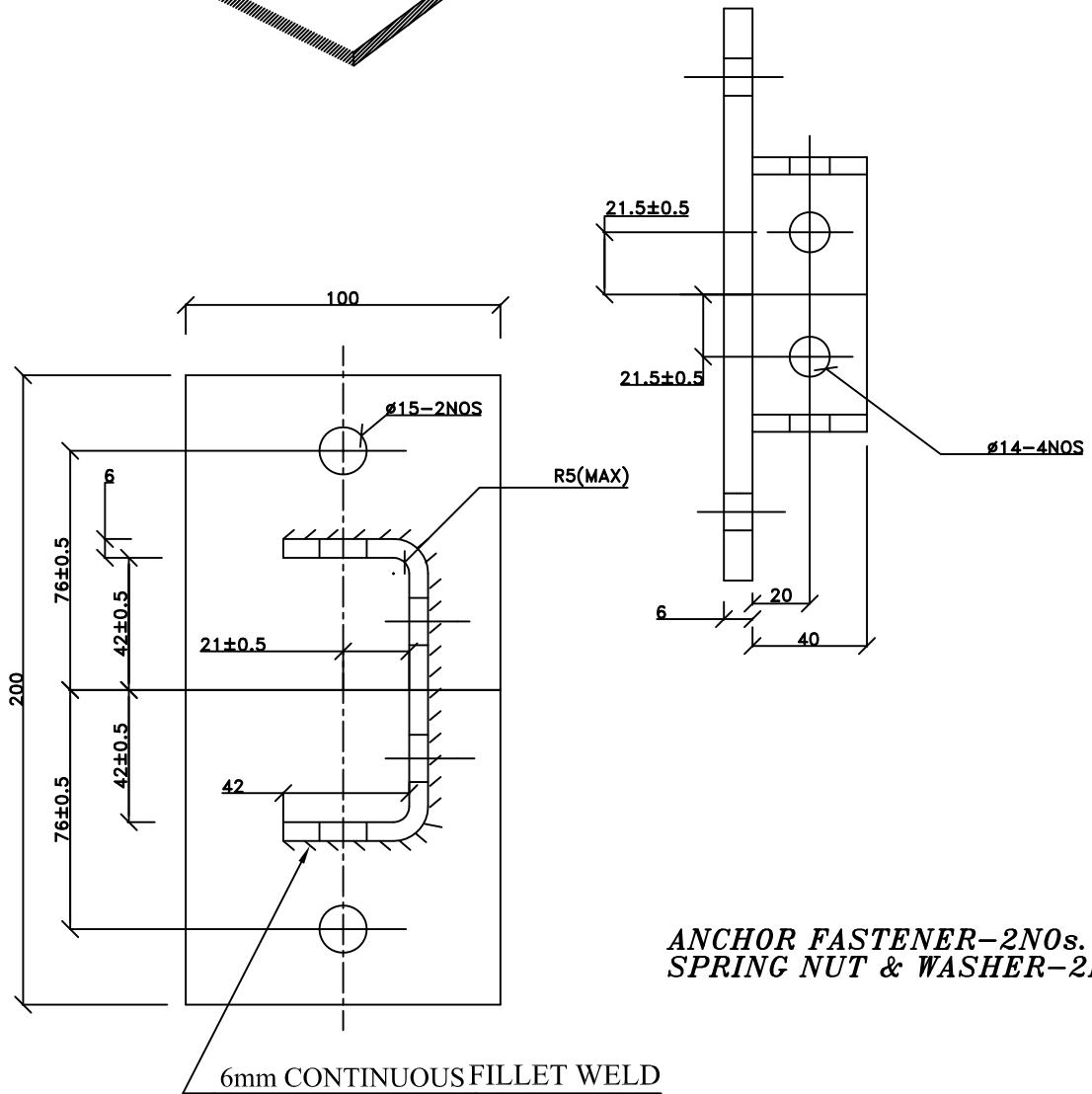
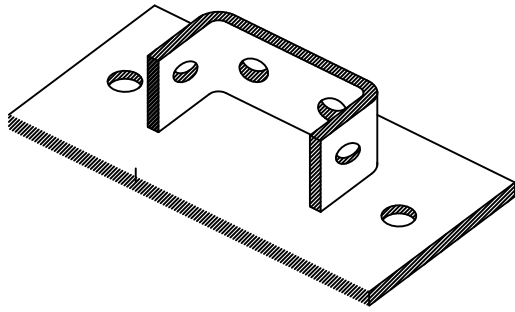
1. ALL DIMENSIONS ARE IN MM.
2. ALL FABRICATION TOLERANCES $\pm 1.0\text{mm}$.
3. MATERIAL :MILD STEEL AS PER IS-2062
4. FINISH : HOT DIP GALVANISED AS PER IS:2629
5. TOLERANCE ON THICKNESS AS PER IS:1852

***ANCHOR FASTENER-1NO.
SPRING NUT & WASHER-1NO.***



TITLE:
**INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM**

DRG. NO.
PE-DG-412-507-E006



**ANCHOR FASTENER-2NOS.
SPRING NUT & WASHER-2NOS.**

BASE PLATE FOR DOUBLE CHANNEL BP2

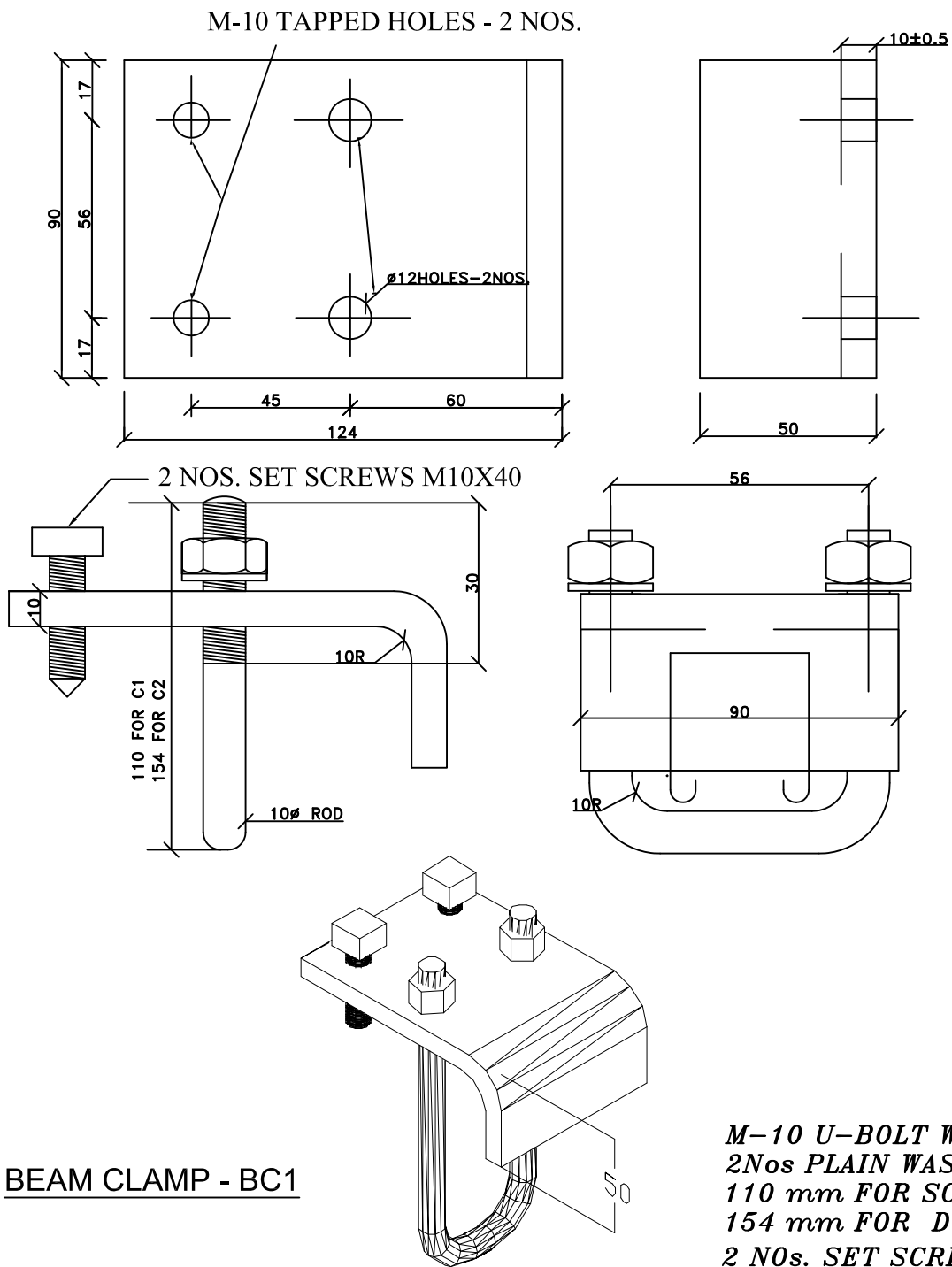
NOTES

1. ALL DIMENSIONS ARE IN MM
2. ALL FABRICATION TOLERANCES $\pm 1.0\text{mm}$
3. MATERIAL :MILD STEEL AS PER IS-2062
4. FINISH : HOT DIP GALVANISED AS PER IS:2629
5. TOLERANCE ON THICKNESS AS PER IS:1852



TITLE:
**INSTALLATION DETAILS FOR
 CABLE TRAYS SUPPORT SYSTEM**

DRG. NO.
PE-DG-412-507-E006



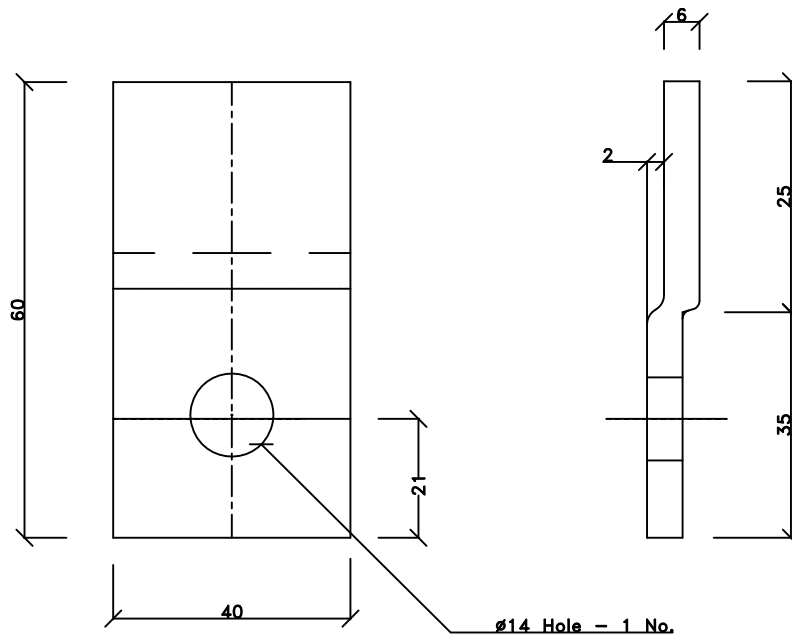
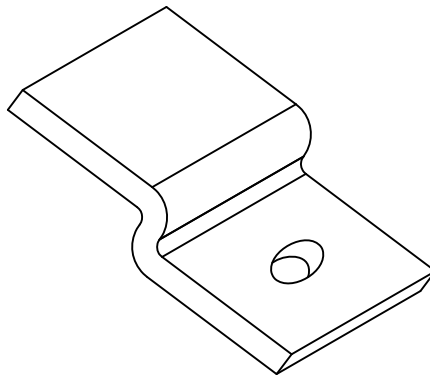
NOTES

1. ALL DIMENSIONS ARE IN mm.
2. ALL FABRICATION TOLERANCES ±1.0mm
3. MATERIAL :MILD STEEL AS PER IS-2062
4. FINISH : HOT DIP GALVANISED AS PER IS:2629
5. TOLERANCE ON THICKNESS AS PER IS:1852



TITLE:
**INSTALLATION DETAILS FOR
 CABLE TRAYS SUPPORT SYSTEM**

BHEL DRAWING NO.
PE-DG-412-507-E006



TRAY FIXING CLAMP - TC1

SPRING NUT & WASHER-1NO.

NOTES

1. ALL DIMENSIONS ARE IN mm.
2. ALL FABRICATION TOLERANCES : ± 1.0 mm
3. MATERIAL :MILD STEEL AS PER IS-2062
4. FINISH : HOT DIP GALVANISED AS PER IS:2629
5. TOLERANCE ON THICKNESS AS PER IS:1852



TITLE:

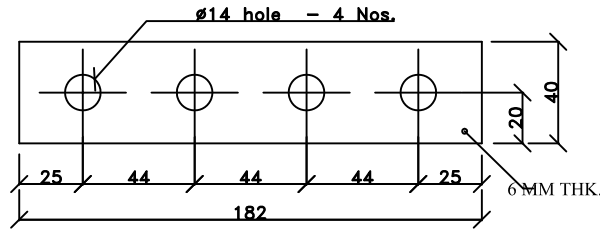
**INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM**

BHEL DRAWING NO.

PE-DG-412-507-E006

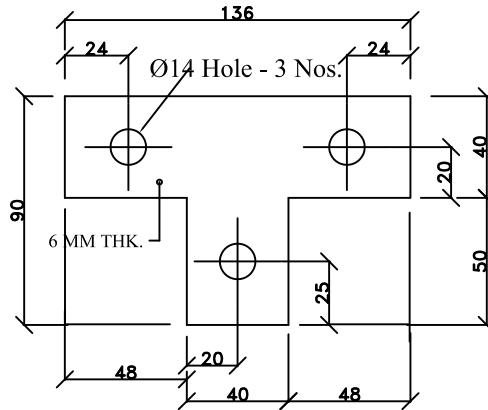
SH 9 OF 19

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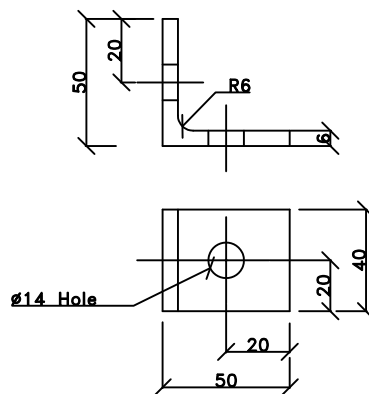
SPRING NUT & WASHER-4Nos.

FLAT PLATE STRAIGHT FITTING PF2



SPRING NUT & WASHER-3Nos.

FLAT PLATE TEE FITTING PF1



SPRING NUT & WASHER-2Nos.

90° ANGLE FITTING LA1

NOTES

1. ALL DIMENSIONS ARE IN mm.
2. ALL FABRICATION TOLERANCES ± 1.0 mm
3. MATERIAL :MILD STEEL AS PER IS-2062
4. FINISH : HOT DIP GALVANISED AS PER IS:2629



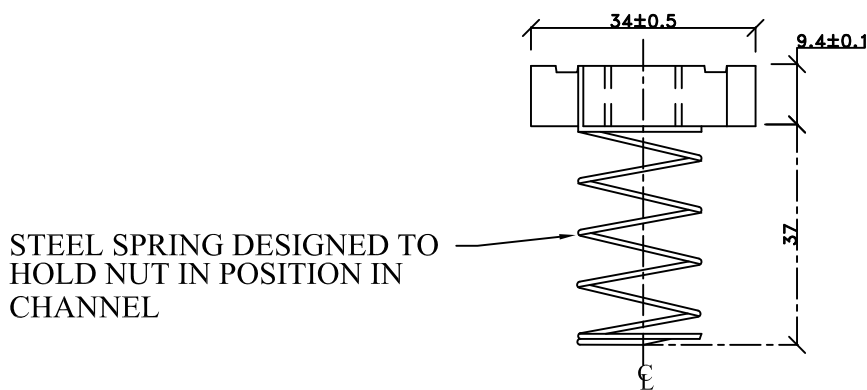
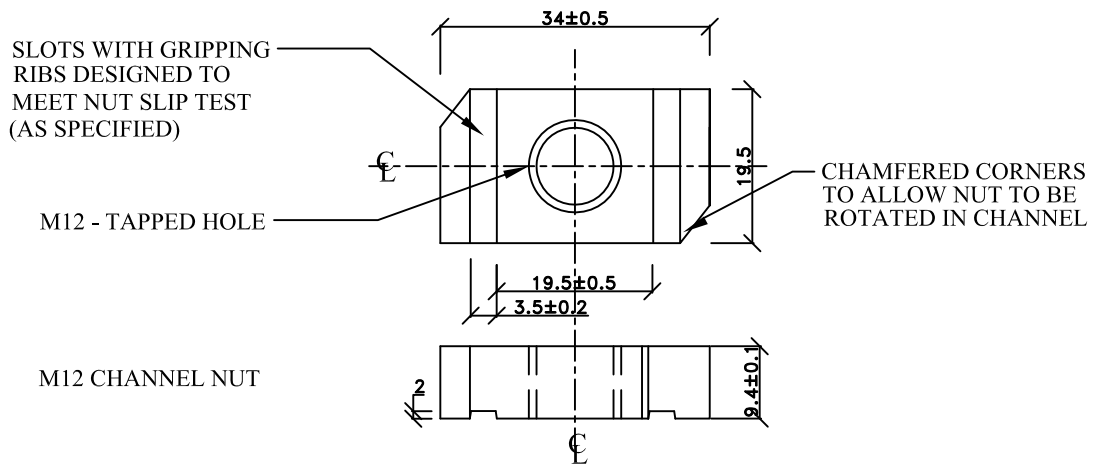
TITLE:

INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM

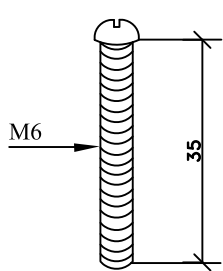
BHEL DRAWING NO.

PE-DG-412-507-E006

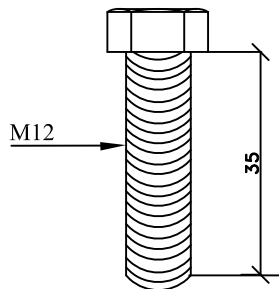
SH 10 OF 19



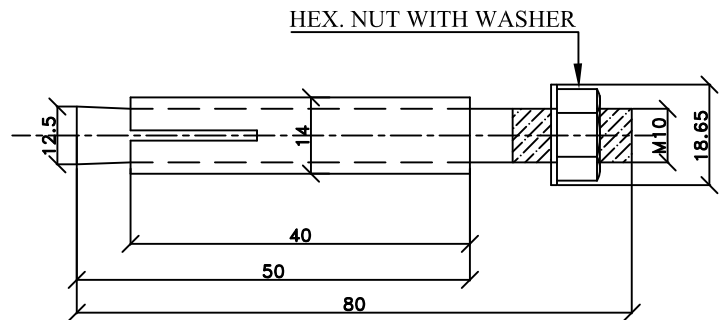
SPRING NUT ASSEMBLY



PAN HEAD SCREW



HEX BOLT



ANCHOR BOLT M10

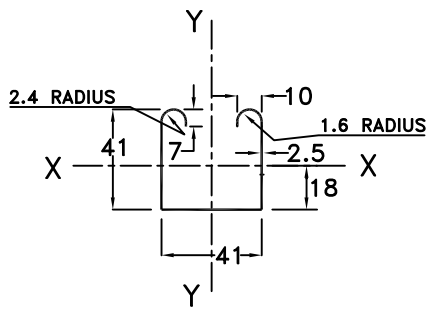
NOTES:

1. MATERIAL - MS AS PER IS - 2062.
2. M6 CHANNEL NUT DIMENSIONAL SIMILAR TO M12.
EXCEPT HOLE DRILLED AND TAPPED TO M6 PAN HEAD SCREWS.
3. TAPPED HOLE THREADING TO MATCH WITH THREADING OF BOLTS.
4. SURFACE PROTECTION ELECTROGALVANISED / CADMIUM PLATED.
5. ALL DIMENSIONS ARE IN MM.

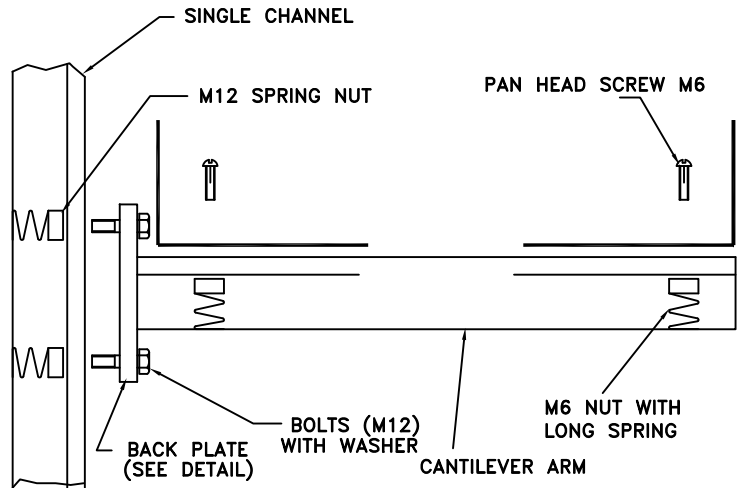


TITLE:
**INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM**

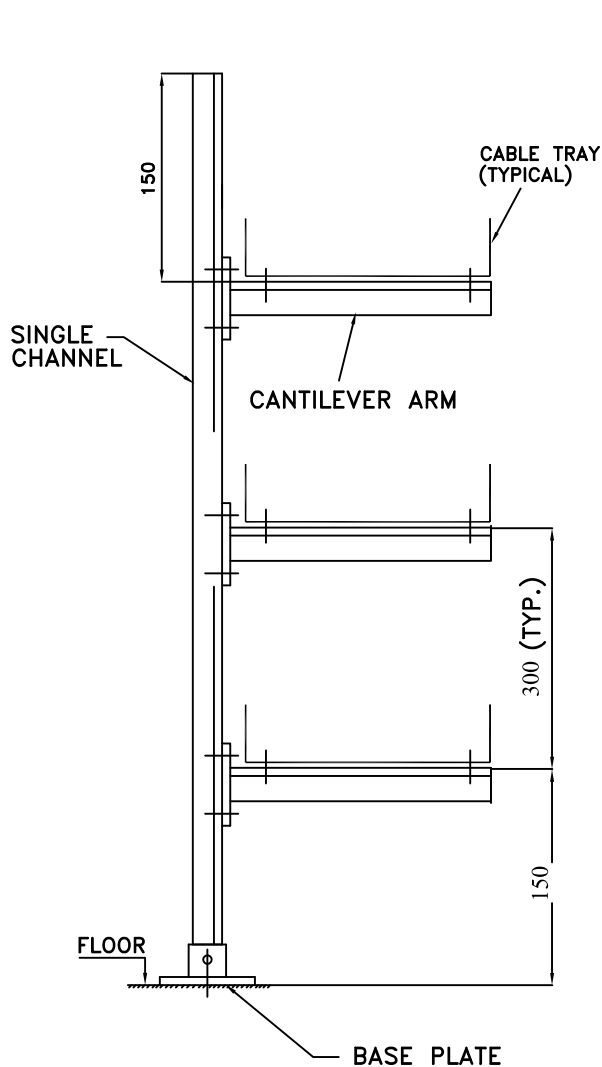
BHEL DRAWING NO.
PE-DG-412-507-E006



**DETAIL OF ITEM-1
(SINGLE CHANNEL)**

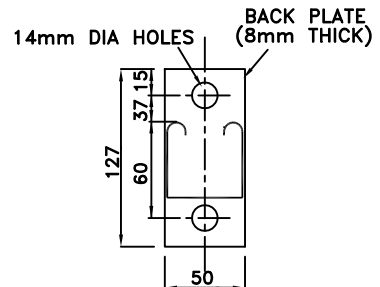


**TYPICAL ASSEMBLY OF CHANNEL
SUPPORTS AND CABLE TRAY**

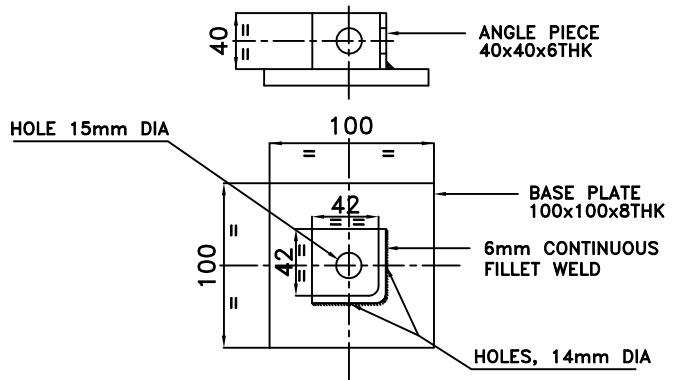


FLOOR SUPPORTED (SINGLE SIDE TYPE)

SEE GENERAL NOTES IN SHEET 15.



**END VIEW OF
(CANTILEVER ARM)**



**DETAILS OF BASE PLATE
FOR SINGLE CHANNEL**

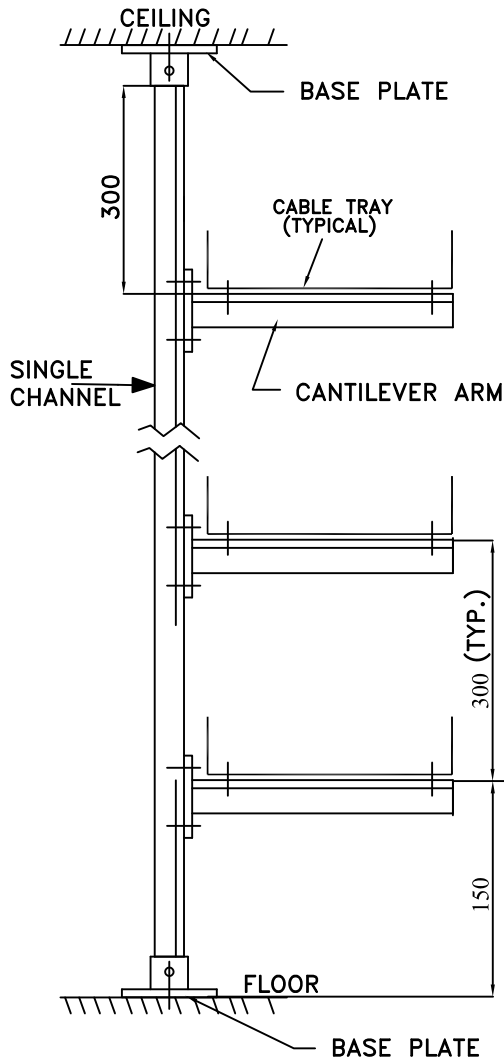


TITLE:
INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM

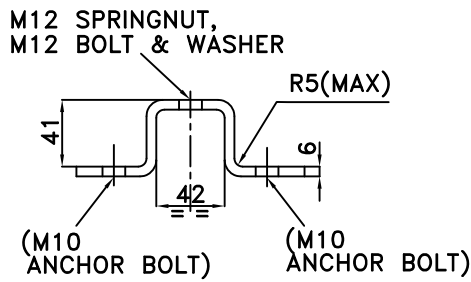
BHEL DRAWING NO.

PE-DG-412-507-E006

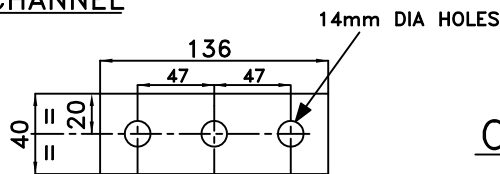
SH 12 OF 19



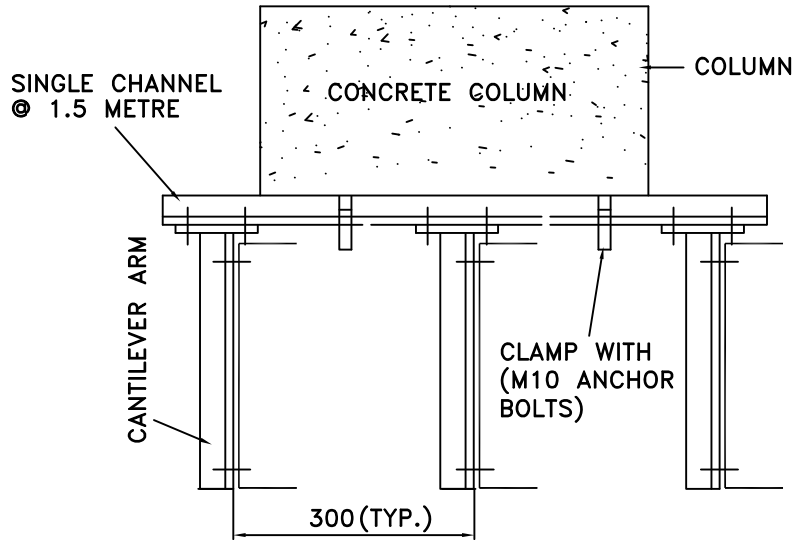
**SUPPORTING ARRANGEMENT
BETWEEN FLOOR AND CEILING
(SINGLE SIDE TYPE)**



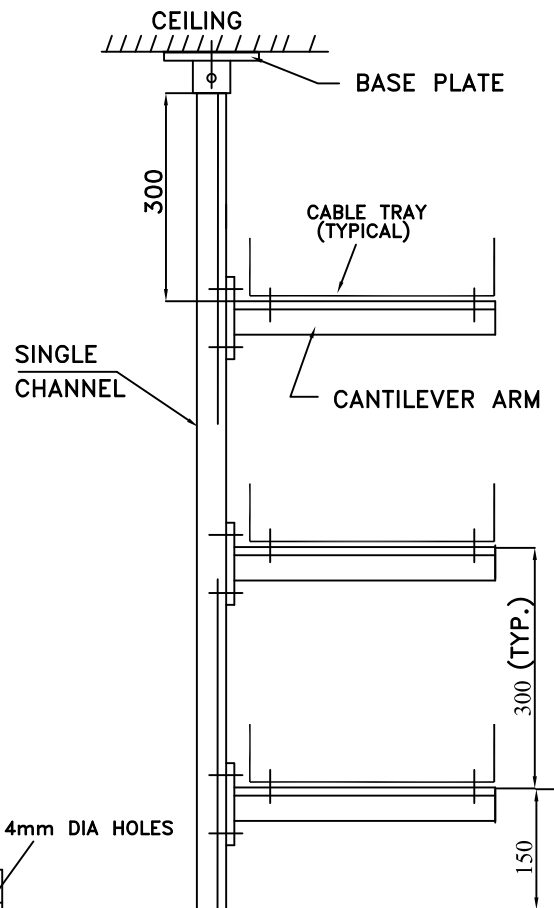
CLAMP FOR SINGLE CHANNEL



SEE GENERAL NOTES IN SHEET 15.



**SUPPORT ARRANGEMENT
FROM BUILDING COLUMN**

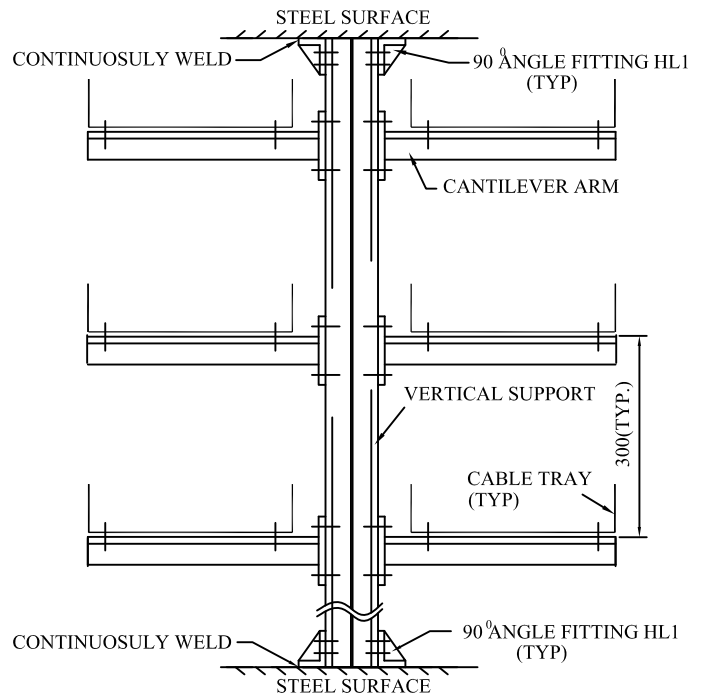
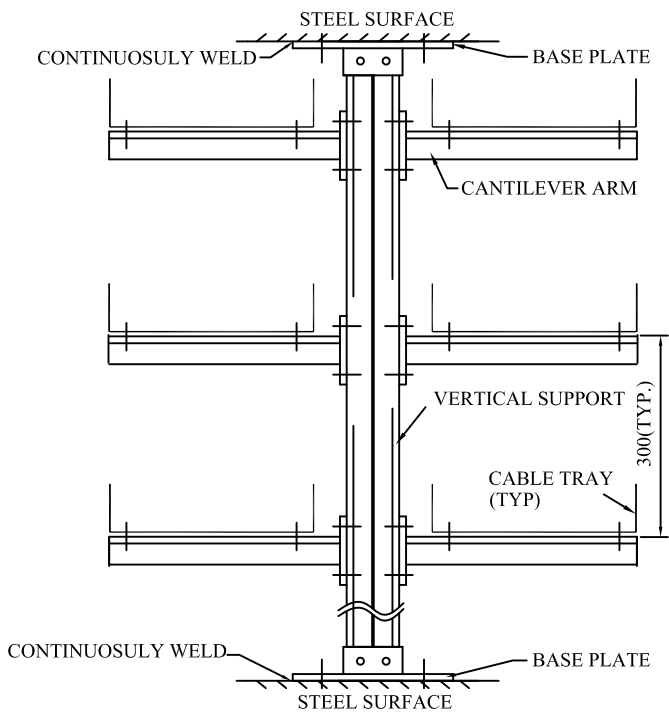
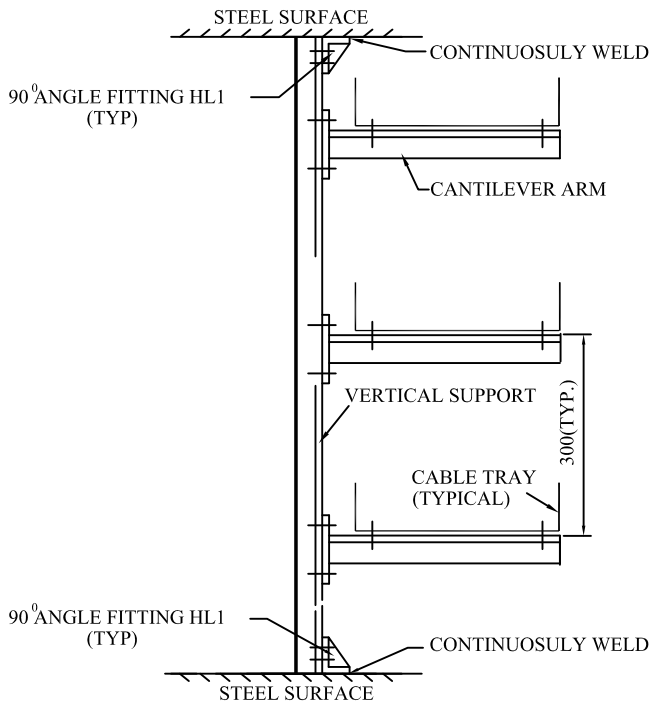


**CEILING SUPPORTED
(SINGLE SIDE TYPE)**



TITLE:
**INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM**

BHEL DRAWING NO.
PE-DG-412-507-E006



**SUPPORTING ARRANGEMENT
OF (SINGLE SIDE/DOUBLE SIDE)
BETWEEN TWO STEEL SURFACE**

SEE GENERAL NOTES IN SHEET 15.

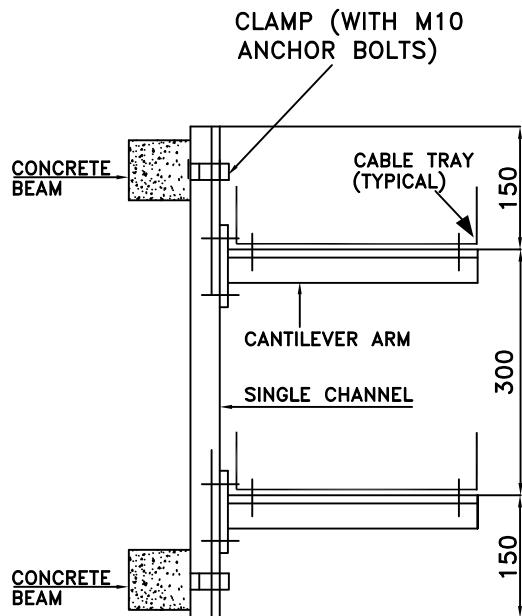


TITLE: INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM

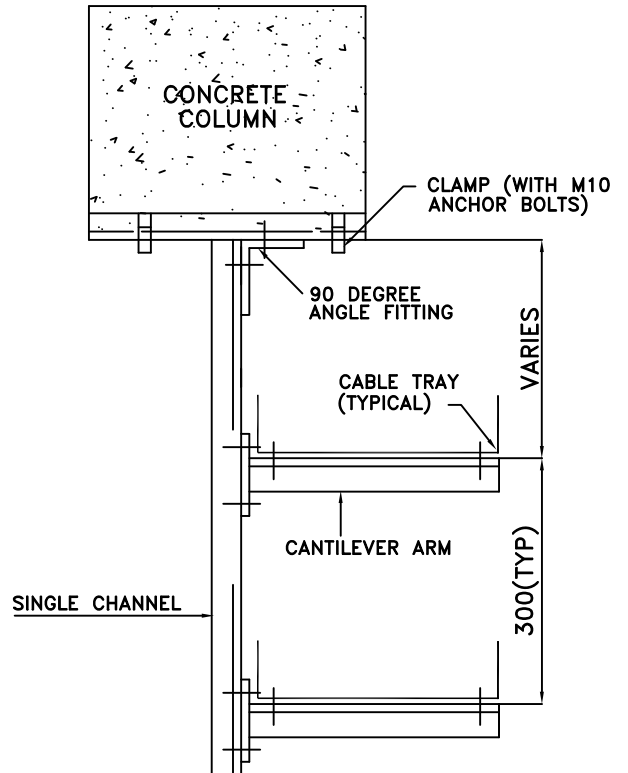
BHEL DRAWING NO.

PE-DG-412-507-E006

SH 14 OF 19



SUPPORT ARRANGEMENT
FROM CONCRETE BEAMS



SUPPORT ARRANGEMENT
FROM CONCRETE COLUMNS
WITH ANGLE FITTING

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS INDICATED OTHERWISE.
2. ALL SUPPORTS ARE OF 2.5 MM THICK MS CHANNEL SECTIONS AND GALVANISED.
3. ALL FASTENERS SHALL BE ZINC PASSIVATED/ CADMIUM PLATED.
4. ALL SUPPORT SHALL BE FIXED ON WALL / COLUMN / TRENCH BY MEANS OF 136 X 40 X 6 MM THICK CLAMP.
5. ARRANGEMENT SHOWN ARE TYPICAL ONLY.
6. ALL WELDS FOR CABLE TRAY SUPPORTS SHALL HAVE A MINIMUM THROAT THICKNESS OF 6 MM.



TITLE:

INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM

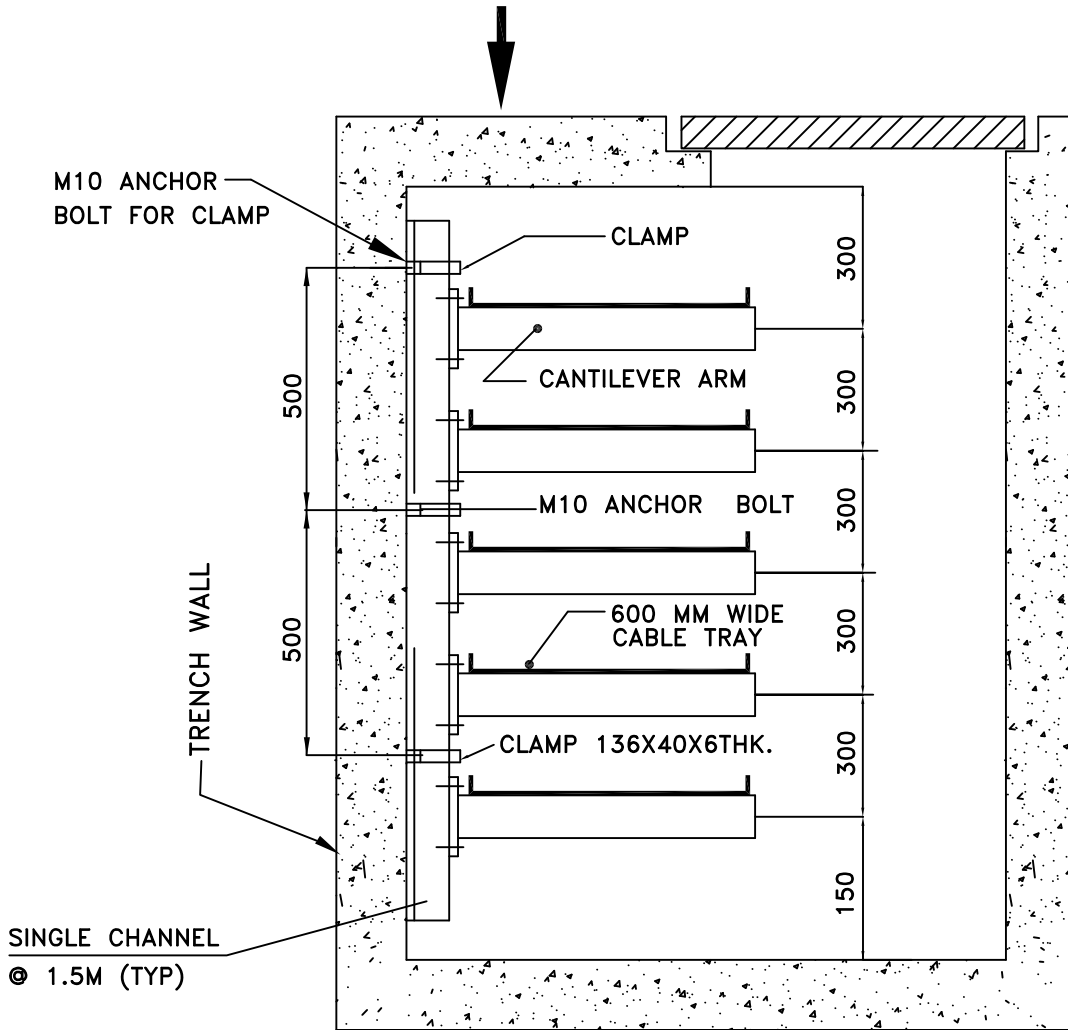
BHEL DRAWING NO.

PE-DG-412-507-E006

SH 15 OF 19

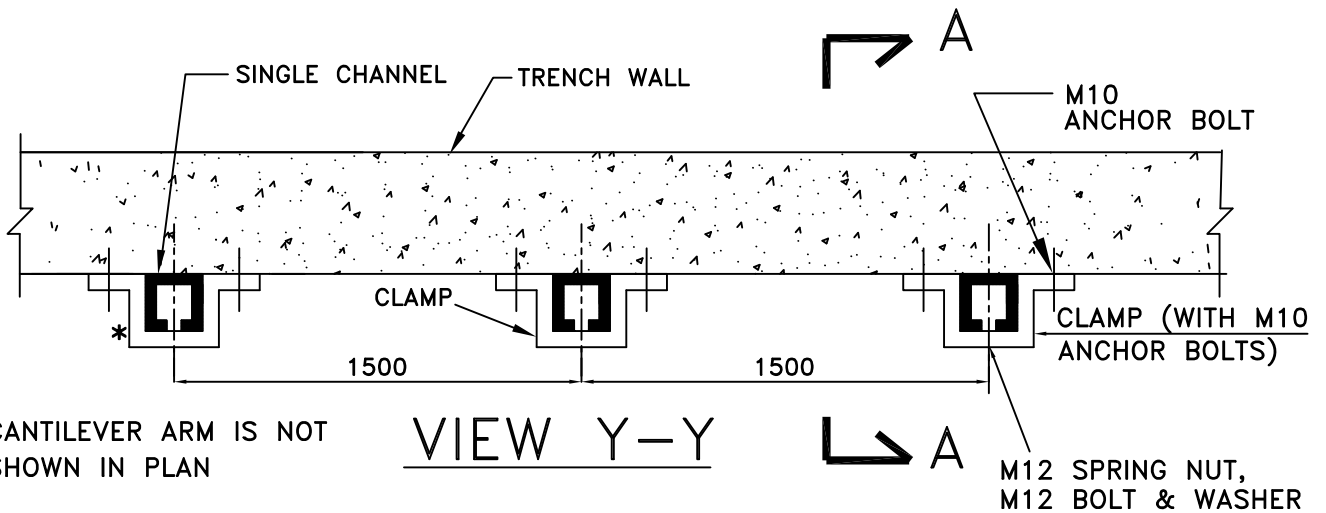
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VIEW Y-Y



SECTION-AA

TYP. CABLE TRAYS FIXING ARRANGEMENT IN TRENCH



*CANTILEVER ARM IS NOT SHOWN IN PLAN

SEE GENERAL NOTES IN SHEET 15.



TITLE:
INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM

BHEL DRAWING NO.
PE-DG-412-507-E006

BASE PLATE
(FOR SINGLE CHANNEL)

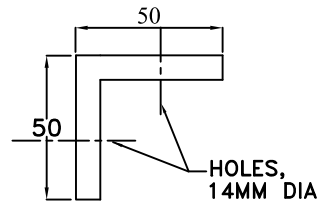
SINGLE CHANNEL
⊙ 1.5M

90° ANGLE
FITTING

FLAT PLATE
STRAIGHT/TEE
FITTING

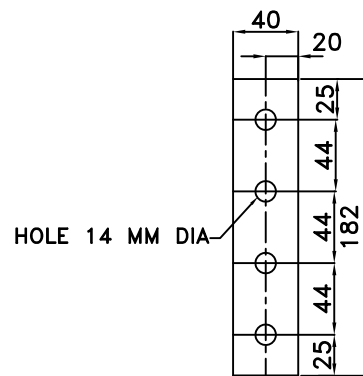
SINGLE
CHANNEL
⊙ 1.5M

CABLE TRAY
(TYPICAL)



90 DEG. ANGLE FITTING
(6 MM THICK, 40 MM WIDE)

TYPICAL FLOOR SUPPORTED
CHANNEL FRAME WORK
(FOR BOLTABLE TYPE
CABLE TRAY RISER)



HOLE 14 MM DIA

FLAT PLATE
STRAIGHT FITTING
(6 MM THICK)

BRICK WALL (TYP)

SINGLE CHANNEL
⊙ 1.5M

CABLE TRAY
(TYPICAL)

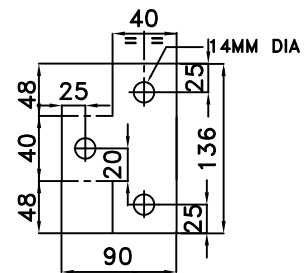
150

CANTILEVER ARM

300(TYP.)

150

CLAMP



FLAT PLATE TEE FITTING
(6 MM THICK)

TYPICAL CHANNEL SUPPORT
(ON WALL)

SEE GENERAL NOTES IN SHEET 15.



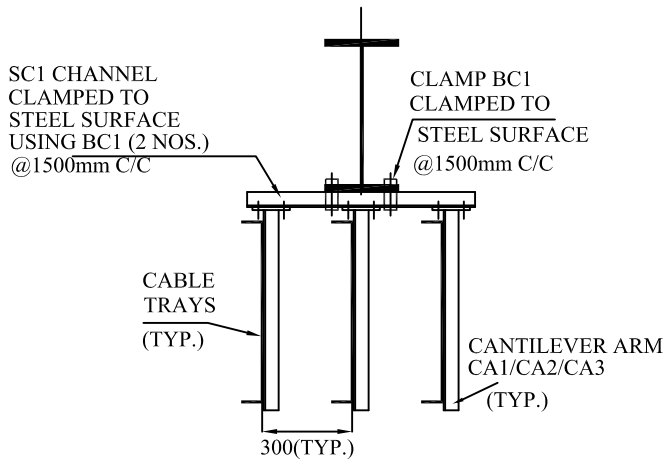
TITLE:

INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM

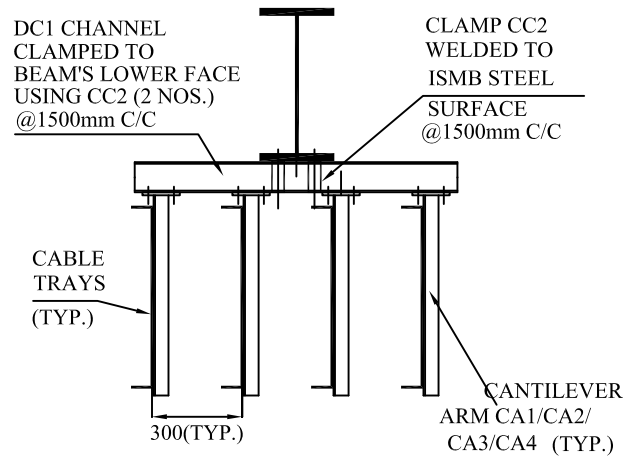
BHEL DRAWING NO.

PE-DG-412-507-E006

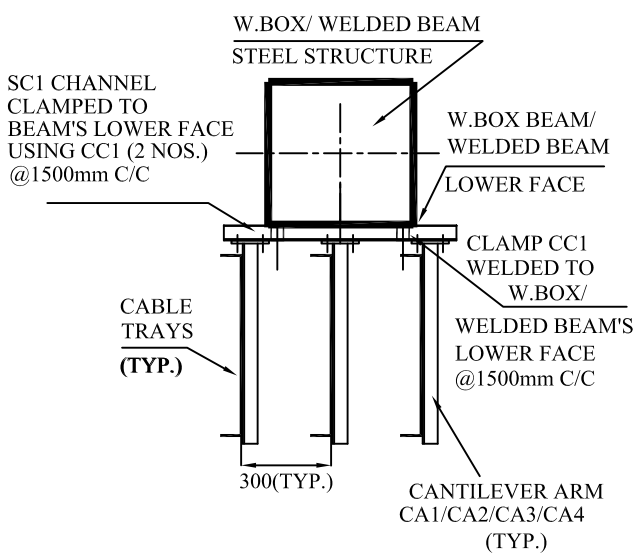
SH 17 OF 19



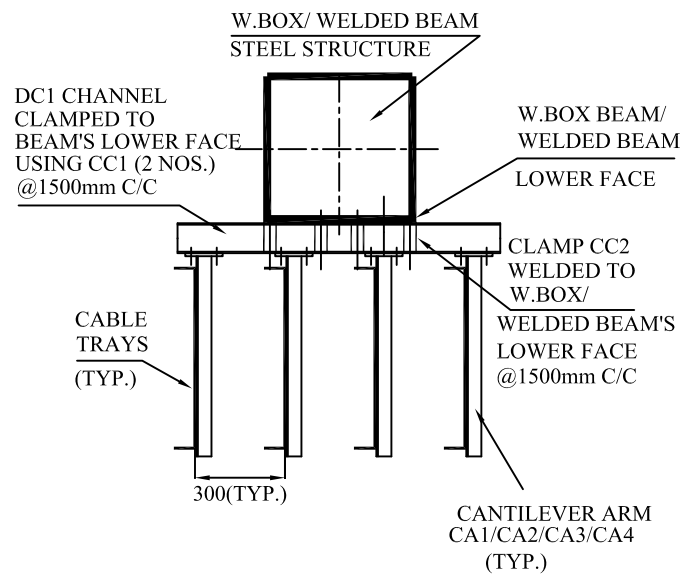
INSTALLATION DETAIL TYPE BB1:
(A)-CABLE TRAYS BELOW I-BEAMS
(UPTO & INCLUDING THREE TRAYS)



INSTALLATION DETAIL TYPE BB2:
(B)-CABLE TRAYS BELOW I-BEAMS
(MORE THAN THREE TRAYS)



INSTALLATION DETAIL TYPE BB3:
(C)-CABLE TRAYS BELOW W. BOX/
WELDED BEAM'S (APPLICABLE FOR
UPTO & INCLUDING THREE TRAYS)



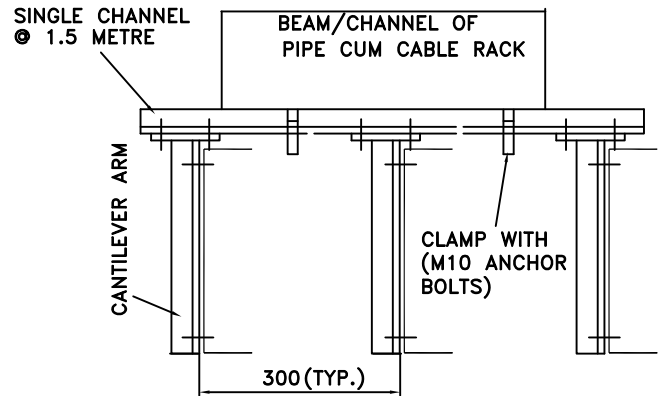
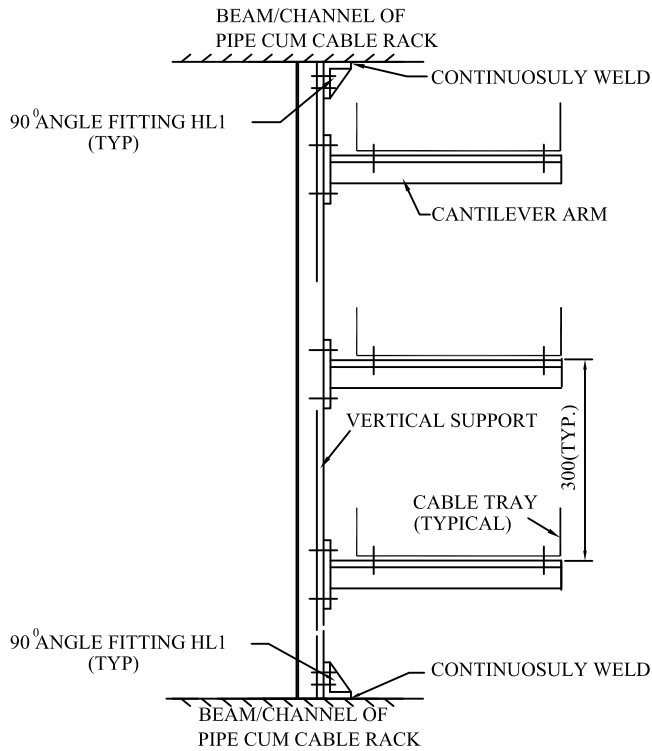
INSTALLATION DETAIL TYPE BB4:
(D)-CABLE TRAYS BELOW W. BOX/
WELDED BEAM'S (APPLICABLE FOR
MORE THAN THREE TRAYS)

CABLE TRAYS SUPPORTING ARRANGEMENT AROUND BOILER PLATFORMS

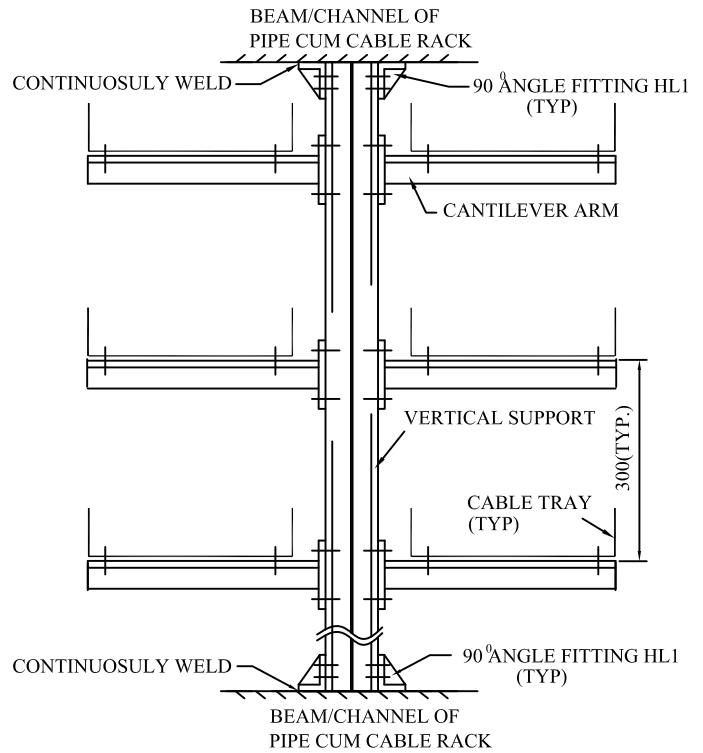
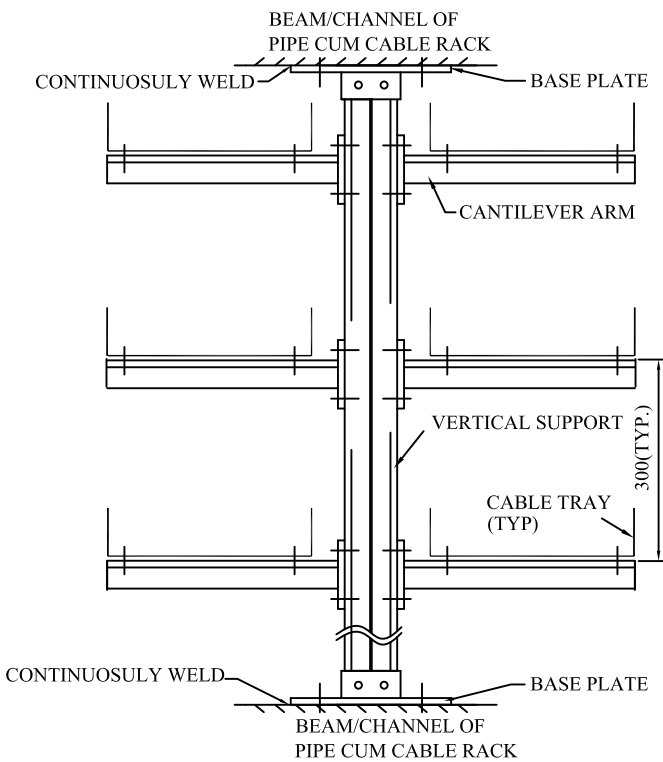


TITLE:
INSTALLATION DETAILS FOR
CABLE TRAYS SUPPORT SYSTEM

BHEL DRAWING NO.
PE-DG-412-507-E006



SUPPORT ARRANGEMENT FROM BUILDING COLUMN



TYPICAL CABLE TRAY ARRANGEMENT OF PIPE/CABLE RACK IN THE BOILER GRADE LEVEL AREA

REV 02

SEE GENERAL NOTES IN SHEET 15.

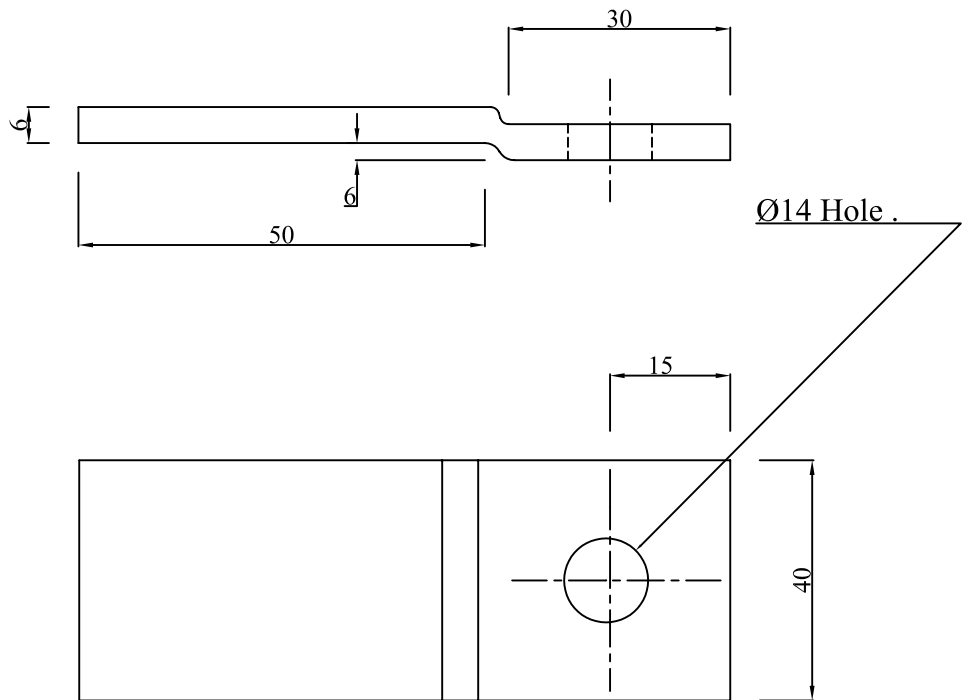
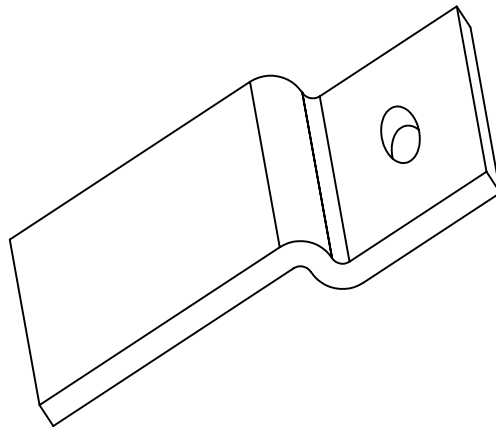


TITLE: INSTALLATION DETAILS FOR CABLE TRAYS SUPPORT SYSTEM

BHEL DRAWING NO.

PE-DG-412-507-E006

SH 19 OF 19



Z CLAMP FOR FIXING OF EARTH FLAT

NOTES:

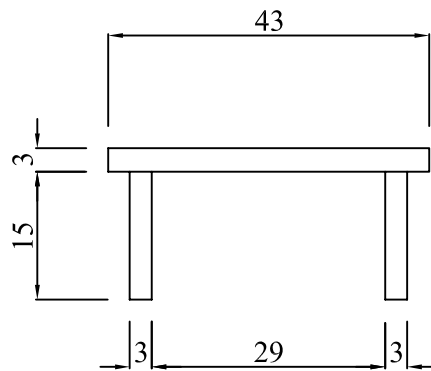
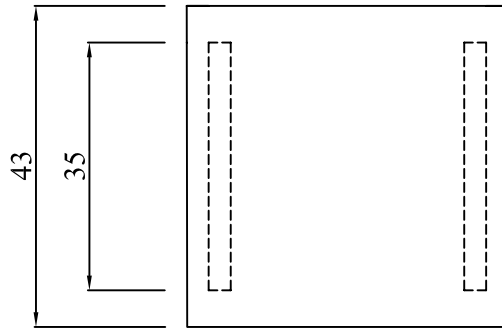
- 1.ALL DIMENSIONS ARE IN MM.
- 2.PROFILE TOLERANCE $\pm 0.5\text{mm}$
- 3.MATERIAL - 6mm THK. MILD STEEL AS PER IS-2062
- 4.FINISH - HOT DIP GALVANISED AS PER IS:2629/2633
- 5.TOLERANCES AS PER IS:1852
- 6.ZINC COATING-86 MICRONS(610 gm/sq.m) AS PER IS:4759
- 7.MAKE SHALL BE AS PER NTPC QA APPROVAL

TITLE : Z-CLAMP FOR FIXING OF EARTH FLAT

NTPC DRG NO: 0350-215-PVE-B-001

SHEET NO. 18 OF 21

REV. 00



PVC END CAP

NOTES:

- 1.ALL DIMENSIONS ARE IN MM.
- 2.PROFILE TOLERANCE $\pm 0.5\text{mm}$
- 3.MATERIAL - PVC
- 4.MAKE SHALL BE AS PER NTPC QA APPROVAL

TITLE : PVC END CAP

NTPC DRG NO: 0350-215-PVE-B-001

SHEET NO. 20 OF 21

REV. 00