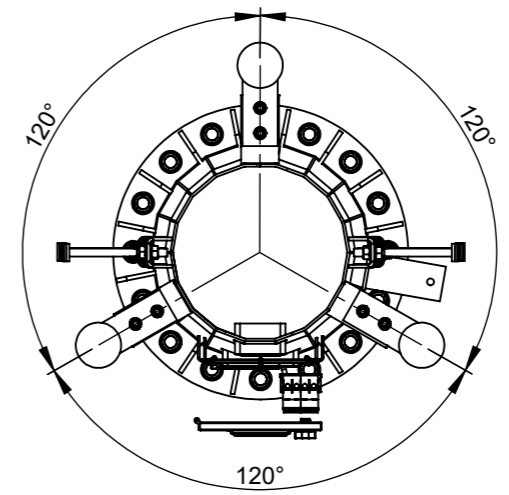
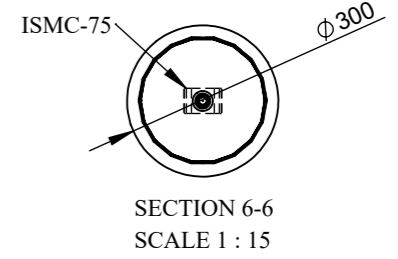
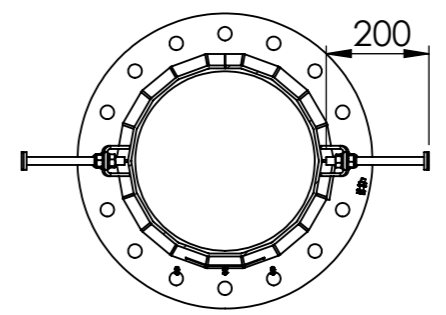
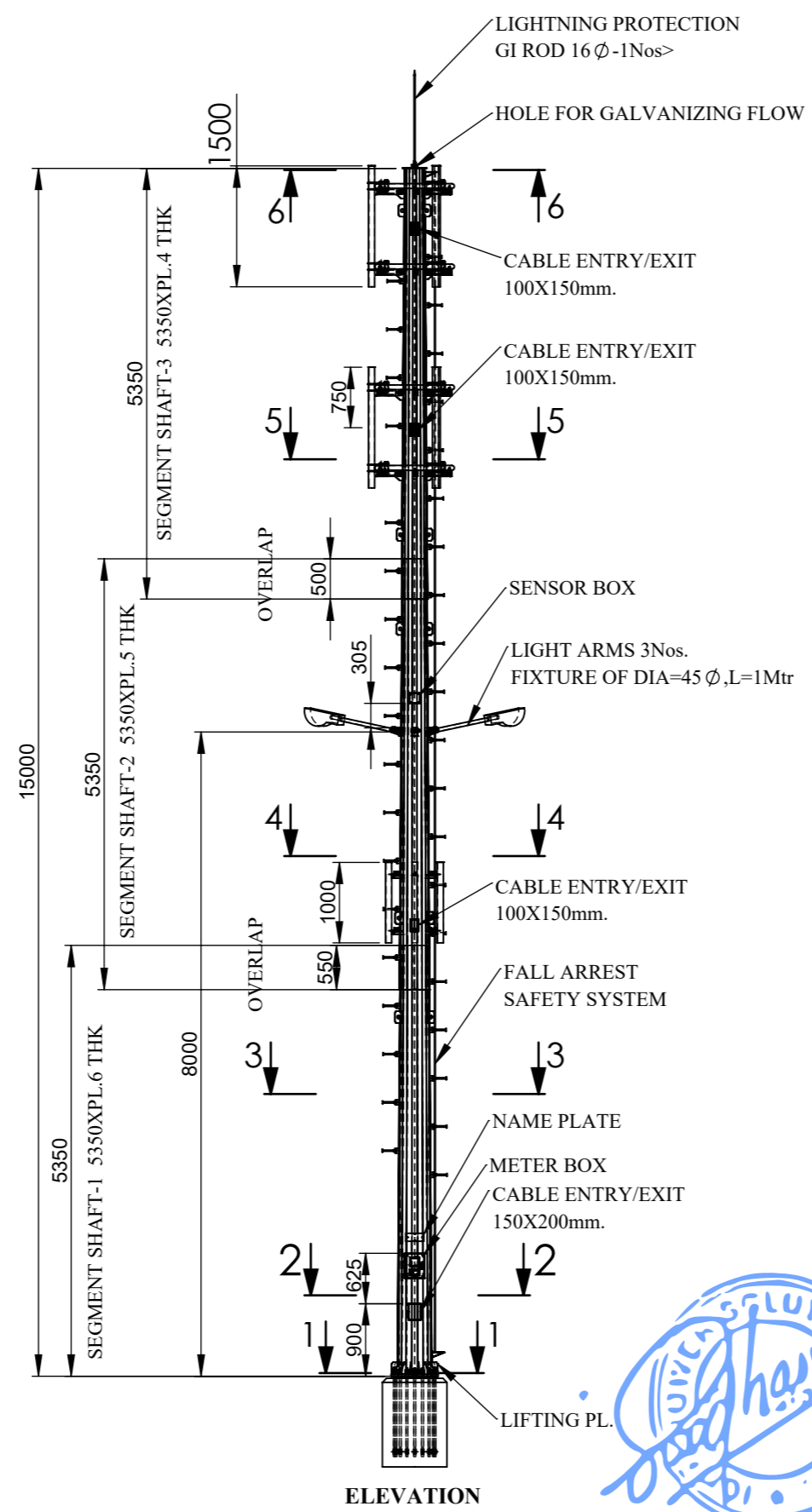
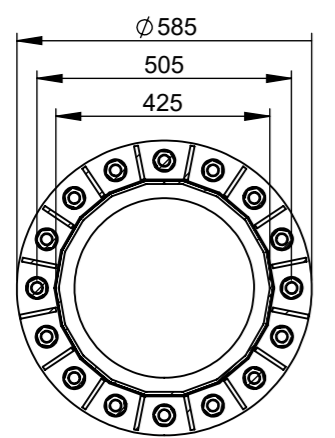
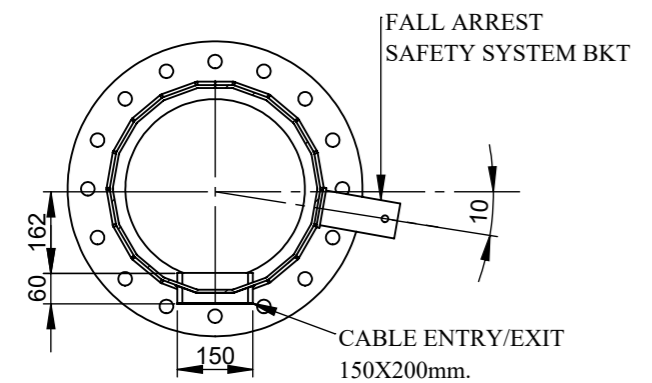
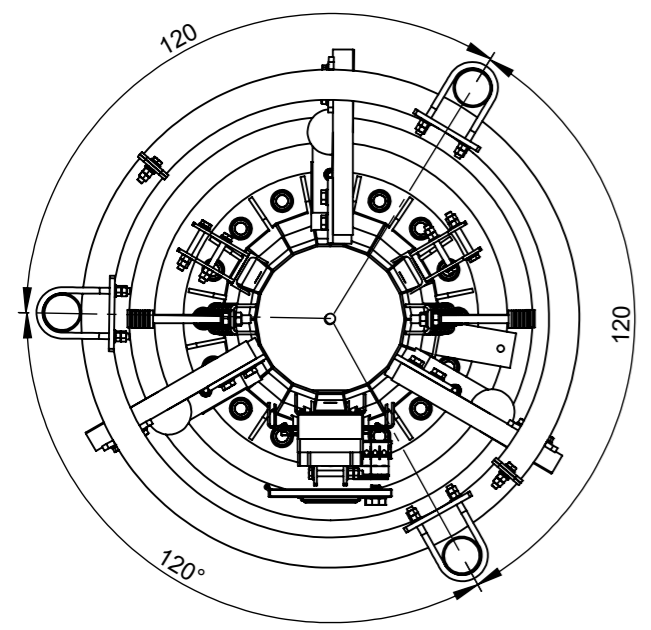


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15MTR SLIP JOINT MONOPOLE 2024 PROJECT



DESIGN NOTE		
1	All Dimension are in Millimetre, Expected otherwise shown.	
2	Antenna Configuration:	
	750 mm below top level (150 kg)	3 Nos GSM Antenna : 3 x 25 = 75 kg 3 Nos Radio : 3 x 25 = 75 kg
	3250 mm below top level (330 kg)	6 Nos GSM Antenna : 6 x 25 = 150 kg 6 Nos Radio : 6 x 25 = 150 kg 1 No Microwave Antenna : 1 x 30 = 30 kg
	9150 mm below top level (65 kg)	1 No BBU : 1 x 25 = 25 kg 1 No Battery : 1 x 30 = 30 kg 1 No Power Supply Unit : 1 x 10 = 10 kg
	Material:	
3	All Structure steel will be hot-dip galvanized confirming to IS standards grade of bolt as per code IS:4000-1992 Anchor bolts shall confirm as per 5.6 grade	
4	Fall Arrest safety system will be included along with all monopoles.	
5	Total Tower Weight : ≥1250 kg	

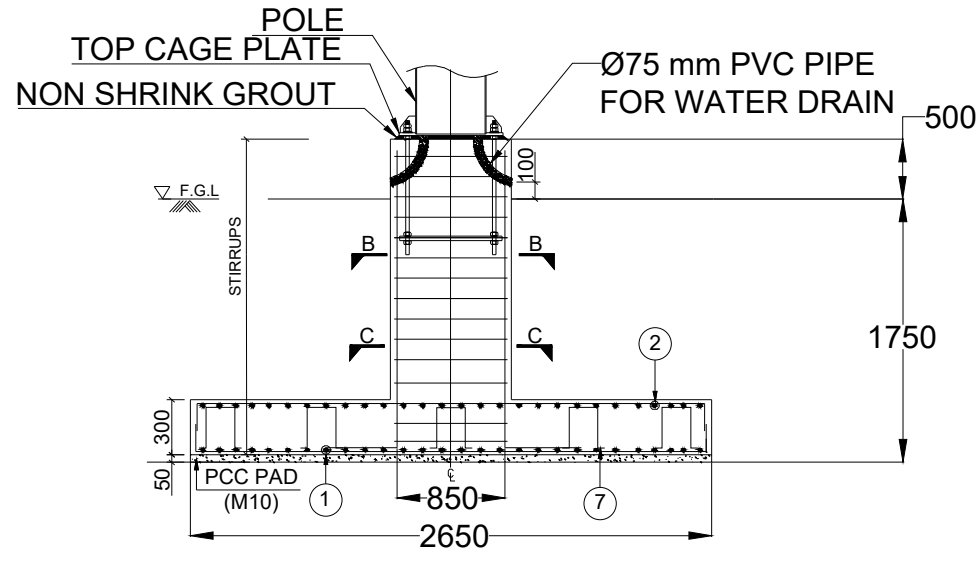
NAME	SIGNATURE	DATE	CHANGES	NAME	SIGNATURE	DATE	NO:	TOLERANCE:	SCALE:1:80	DRW. NO:
DRAWN BY: HEMANT	HEMANT	27-01-2024						ISO 2768-m		ICGA10616
DESIGNED BY: SUJITH	SUJITH	27-01-2024								REV: 0
CHECKED BY: SUJITH	SUJITH	27-01-2024								SHEET NO: 1 OF 1

DRW. NAME:	PROJECT NAME:
15Mtr SLIP JOINT MONOPOLE	BHUTAN TELECOM LTD. 2024

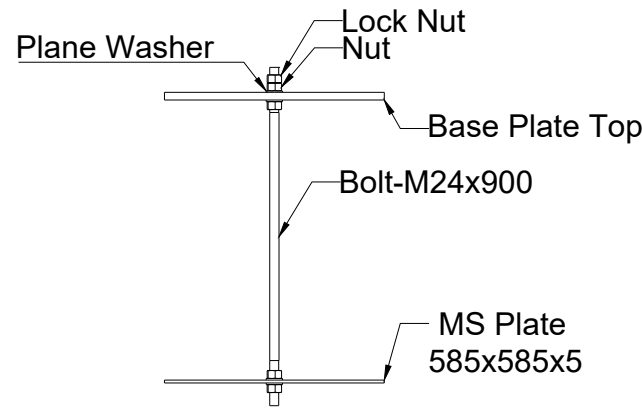
ICON POWER SOLUTIONS (P) LTD.
112-113, Sector-5, IMT Manesar,
Gurugram, Haryana, INDIA-122050
TEL : +91 124 4120600/01/02

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Civil Foundation Drawing For 15M Monopole

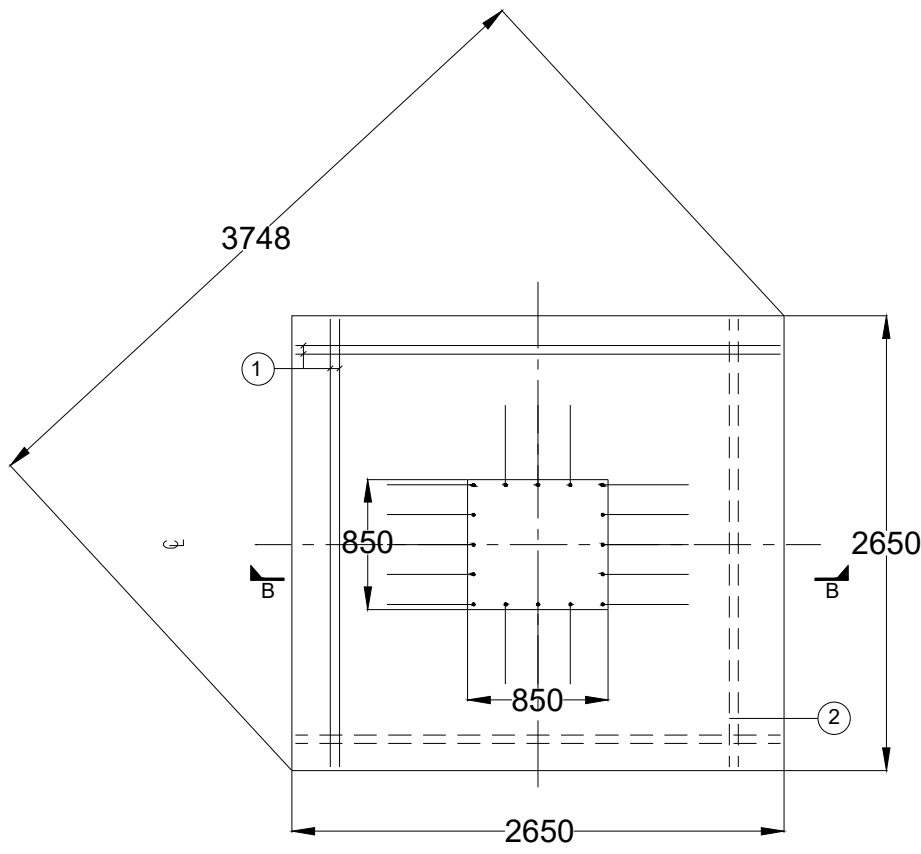


**Foundation DETAIL
(SECTION "A-A")**

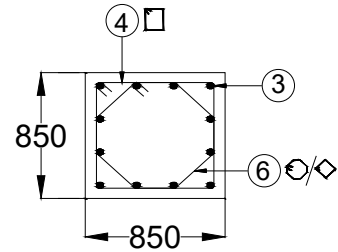


ANCHOR BOLT-16 Qty, Per Set

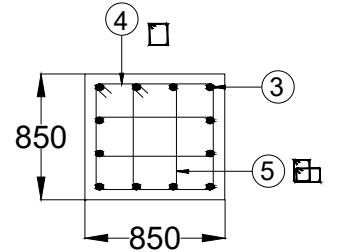
Foundation Quantiy		
Item	Pole	Units
Concrete	3.16	cum
PCC	0.4	cum
Steel	482.7	kg
Shuttering	9.3	sq.m
Excavstion	23.4	cum



**Foundation Plan
(Showing Bottom & Top Reinforcement details)**



SECTION "B-B"



SECTION "C-C"

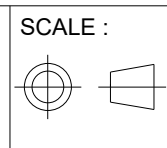
BAR BENDING SCHEDULE							
#	SHAPE OF BAR	LENGHT OF BAR (mm)	DIA. OF BAR (mm)	SPACING (mm)	NO. OF BARS	UNIT WEIGHT	TOTAL WEIGHT PER POLE
1		2800	16	130	42	1.58	185.8
2		2800	16	250	24	1.58	106.1
3		2800	25	-	12	3.86	130.0
4		3200	8	150	15	0.39	18.7
5		2250	8	150	18	0.39	15.8
6		2600	8	150	6	0.39	6.1
7		800	16	750	16	1.58	20.2
Weight of steel (kg)							482.7

NOTE:- ALL DIMENSIONS ARE IN MM



NAME	SIGNATURE	DATE	CHANGES	NAME	SIGNATURE	DATE	NO.
DRAWN BY: ABHINANDAN	ABHINANDAN	25/01/24					
DESIGNED BY: ABHINANDAN	ABHINANDAN	25/01/24					
CHECKED BY: SUJITH	SUJITH	25/01/24					

TOLERANCE:
X ±
X.X ±
X.XX ±
X.XXX ±
ANGLES ±



SCALE :
DRW. NO: ICAM10523
REV: PR-00 SHEET NO: 2 OF 2 SIZE: A3

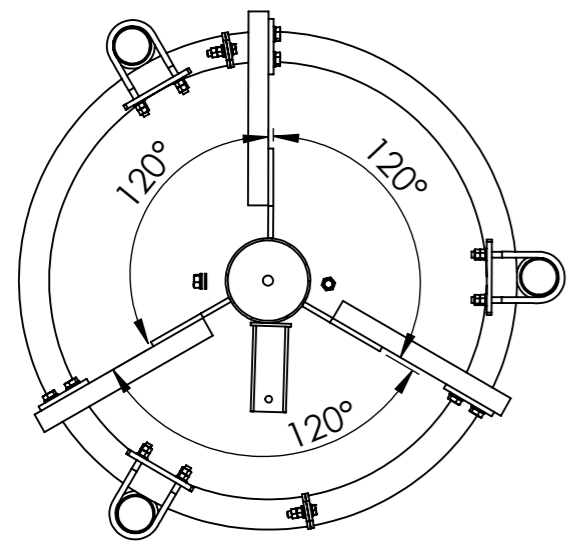
DRW. NAME: Civil Foundation Drawing
PROJECT NAME: Bhutan Telecom 2024



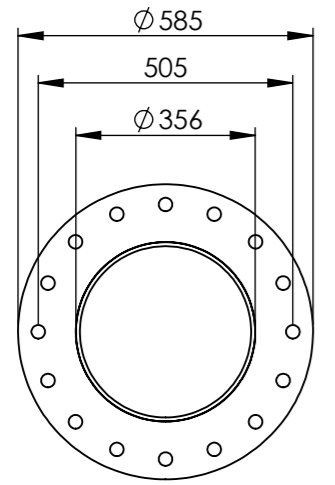
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112-113, Sector-5, IMT Manesar,
Gurugram, Haryana, INDIA-122050
TEL : +91 124 4120600/01/02

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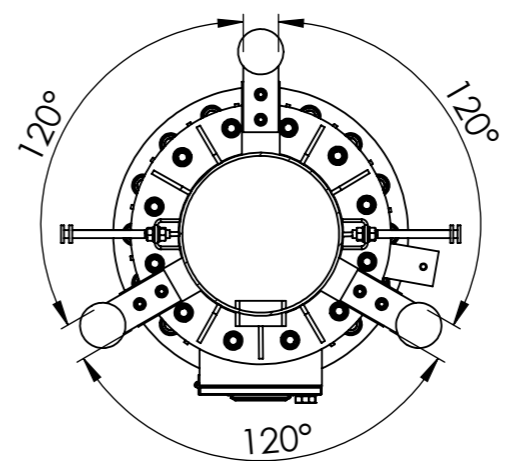
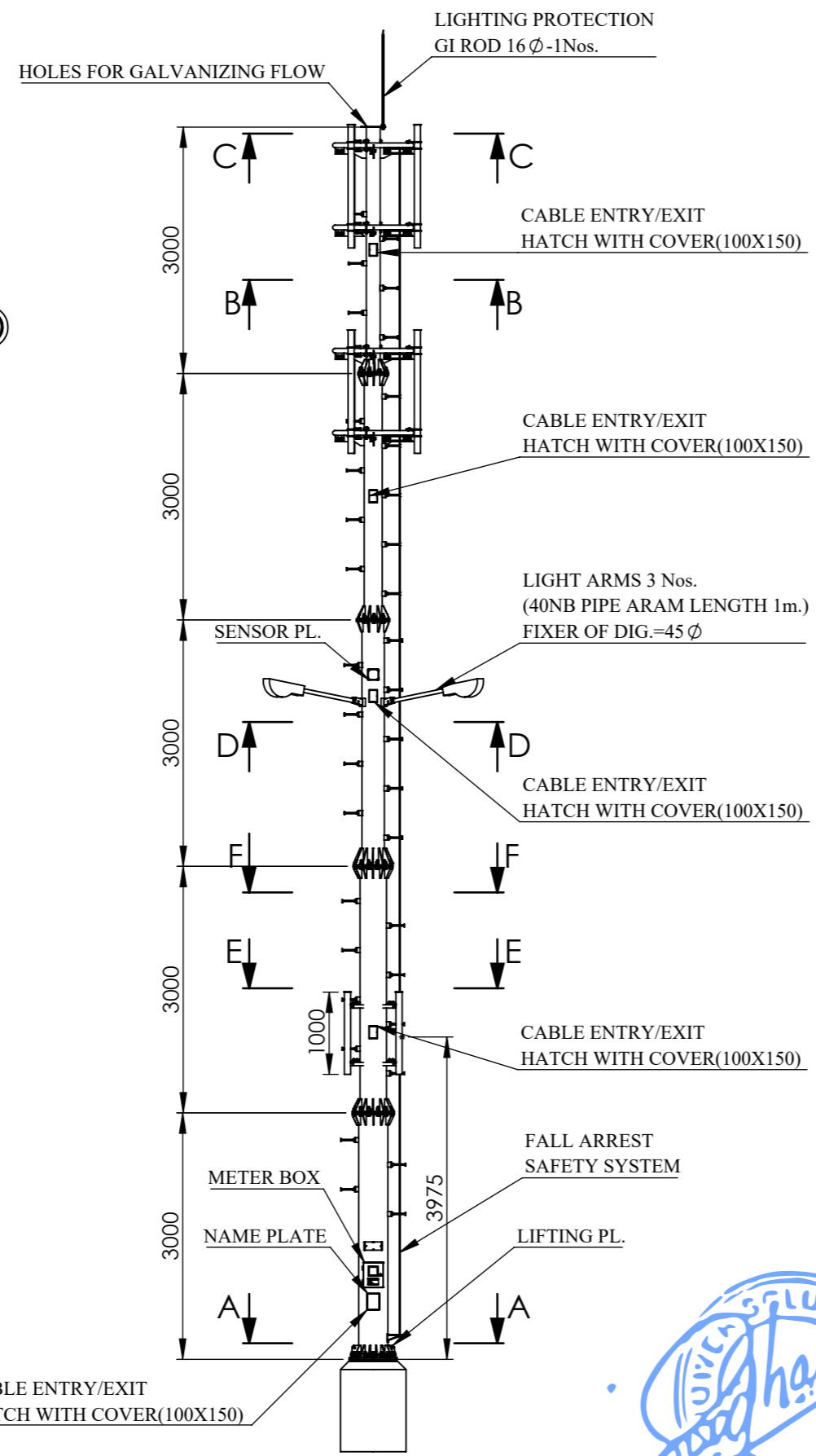
15MTR FLANGE MOUNT MONOPOLE 2024 PROJECT



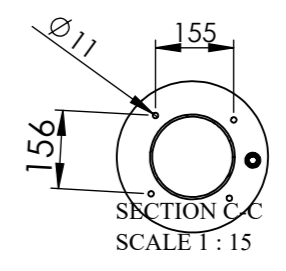
SECTION B-B
SCALE 1 : 15



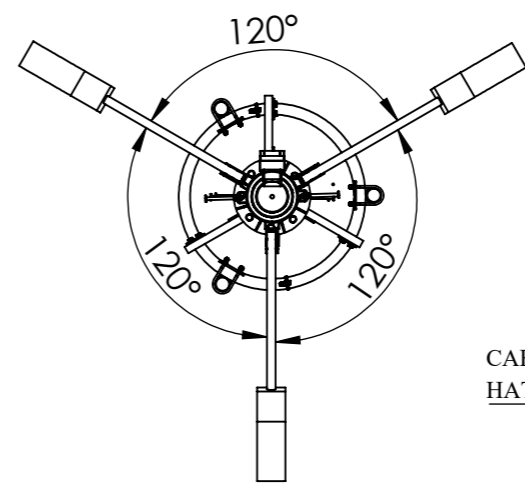
(16 NOS. M24 BOLT)
SCALE 1:15
SECTION A-A



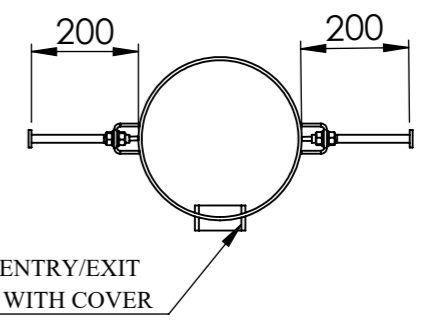
SECTION E-E
SCALE 1 : 15



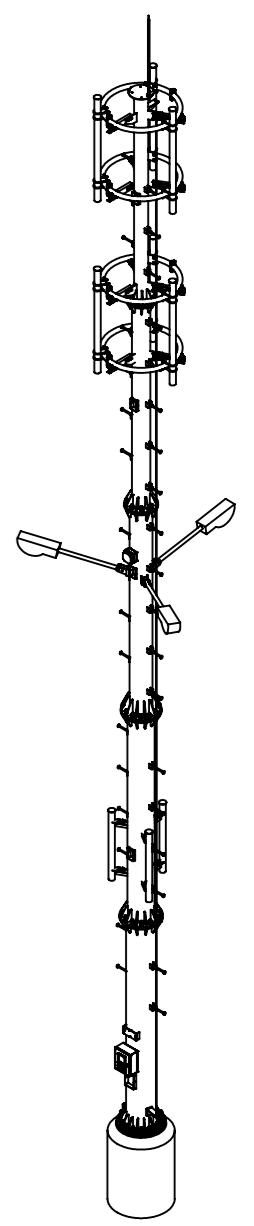
SECTION C-C
SCALE 1 : 15



SECTION D-D
SCALE 1 : 40



SECTION F-F
SCALE 1:15



DESIGN NOTE		
1	All Dimension are in Millimetre, Expected otherwise shown.	
2	Antenna Configuration:	
	750 mm below top level (150 kg)	3 Nos GSM Antenna : 3 x 25 = 75 kg 3 Nos Radio : 3 x 25 = 75 kg
	3250 mm below top level (330 kg)	6 Nos GSM Antenna : 6 x 25 = 150 kg 6 Nos Radio : 6 x 25 = 150 kg 1 No Microwave Antenna : 1 x 30 = 30 kg
	9150 mm below top level (65 kg)	1 No BBU : 1 x 25 = 25 kg 1 No Battery : 1 x 30 = 30 kg 1 No Power Supply Unit : 1 x 10 = 10 kg
	Material:	
3	All Structure steel will be hot-dip galvanized confirming to IS standards Anchor bolts shall confirm as per 5.6 grade	
4	Fall Arrest safety system will be included along with all monopoles.	
5	Total Tower Weight : ≥1350 kg	

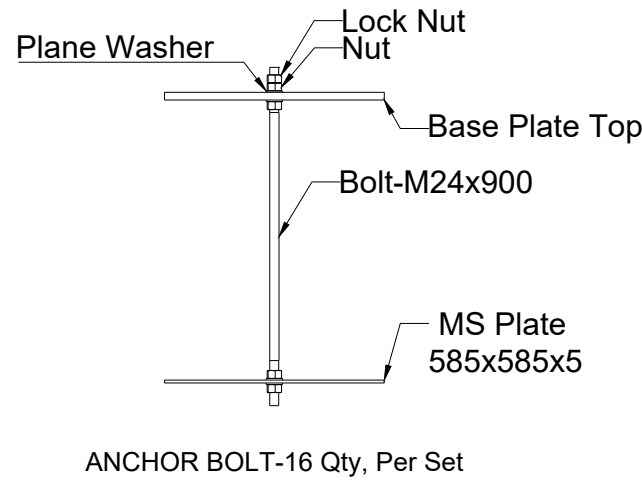
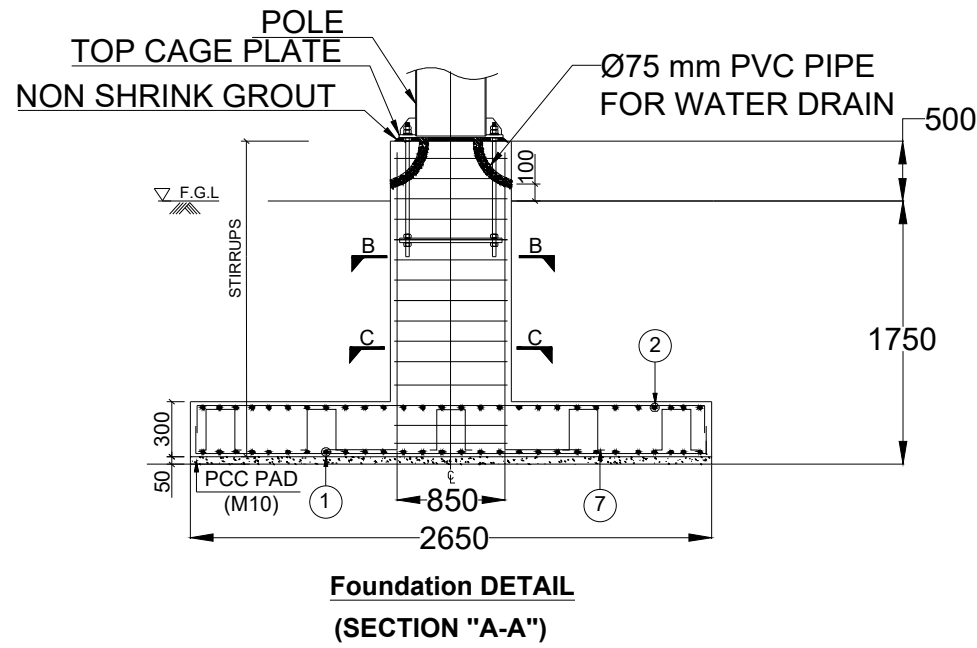


NAME	SIGNATURE	DATE	CHANGES	NAME	SIGNATURE	DATE	NO.	TOLERANCE:	SCALE:1:80	DRW. NO:	DRW. NAME:
DRAWN BY: HEMANT	HEMANT	27-01-2024						ISO 2768-m		ICGA10617	15M FLANGE MOUNT MONOPOLE
DESIGNED BY: SUJITH	SUJITH	27-01-2024								REV: 0	PROJECT NAME: BHUTAN TELECOM LTD. 2024
CHECKED BY: SUJITH	SUJITH	27-01-2024								SHEET NO: 1 OF 1	

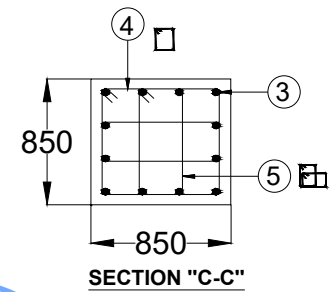
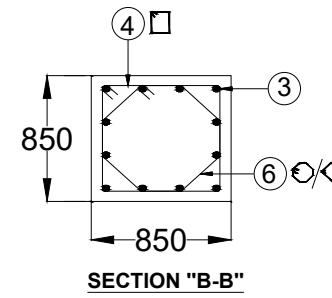
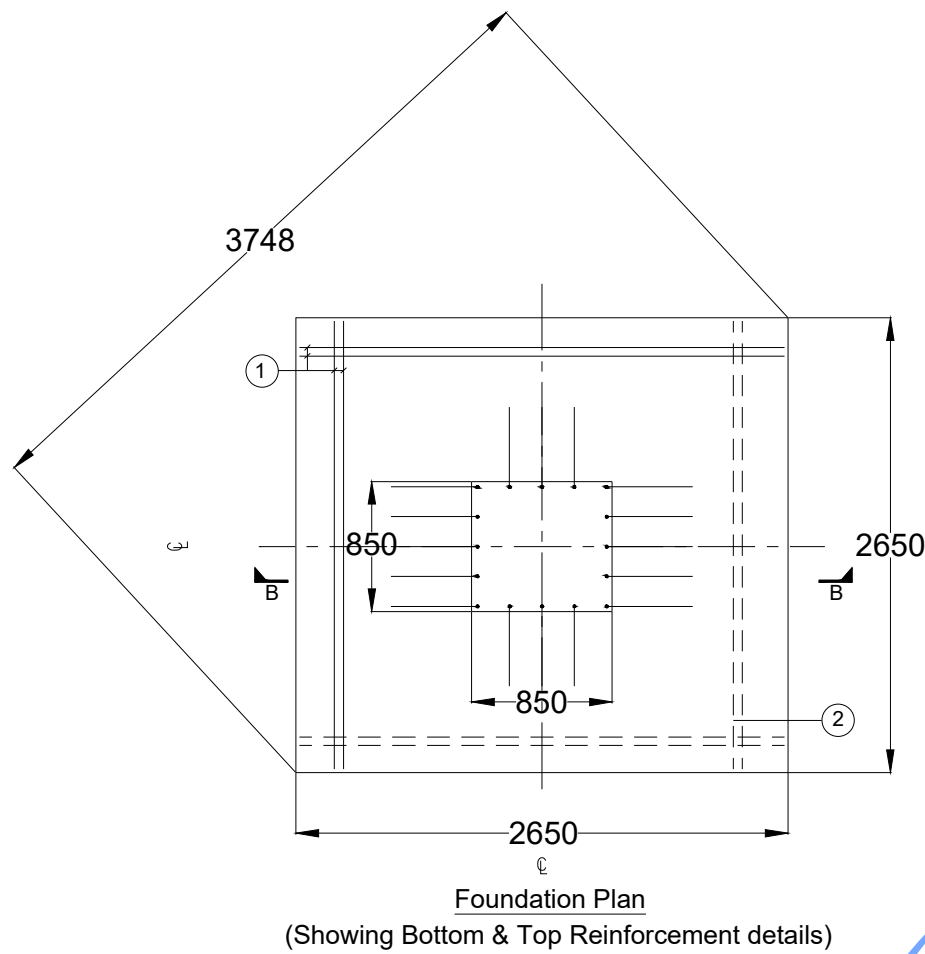
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112-113, Sector-5, IMT Manesar,
Gurugram, Haryana, INDIA-122050
TEL : +91 124 4120600/01/02

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Civil Foundation Drawing For 15M Monopole



Foundation Quantiy		
Item	Pole	Units
Concrete	3.16	cum
PCC	0.4	cum
Steel	482.7	kg
Shuttering	9.3	sq.m
Excavstion	23.4	cum



BAR BENDING SCHEDULE							
#	SHAPE OF BAR	LENGHT OF BAR (mm)	DIA. OF BAR (mm)	SPACING (mm)	NO. OF BARS	UNIT WEIGHT	TOTAL WEIGHT PER POLE
1		2800	16	130	42	1.58	185.8
2		2800	16	250	24	1.58	106.1
3		2800	25	-	12	3.86	130.0
4		3200	8	150	15	0.39	18.7
5		2250	8	150	18	0.39	15.8
6		2600	8	150	6	0.39	6.1
7		800	16	750	16	1.58	20.2
Weight of steel (kg)							482.7

NOTE:- ALL DIMENSIONS ARE IN MM



NAME	SIGNATURE	DATE	CHANGES	NAME	SIGNATURE	DATE	NO:
DRAWN BY: ABHINANDAN	ABHINANDAN	25/01/24					
DESIGNED BY: ABHINANDAN	ABHINANDAN	25/01/24					
CHECKED BY: SUJITH	SUJITH	25/01/24					

TOLERANCE:
 X ±
 X.X ±
 X.XX ±
 X.XXX ±
 ANGLES ±

SCALE :

DRW. NO: ICAM10523
 REV: PR-00 SHEET NO: 2 OF 2 SIZE: A3

DRW. NAME: Civil Foundation Drawing
 PROJECT NAME: Bhutan Telecom 2024

ICON POWER SOLUTIONS(P) LTD.
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 Gurugram, Haryana, INDIA-122050
 TEL : +91 124 4120600/01/02

KARAM[®]

FIXED LINE SYSTEMS



knowing your needs better



CATALOGUE
2018-19

Certifications

SGS

Certificate IN1414003

The management system of

PN International Trading as Karam

Unit - I, C-12, Amasai Industrial Area, Nadarganj, Lucknow - 226008, U.P., 226008, India

has been assessed and certified in accordance with the requirements of

Directive 89/686/EEC

Article 11B


For the following products

The scope of registration appears on page 2 of this certificate.

This certificate is valid from 07 September 2017 until 07 May 2020 and remains valid subject to satisfactory surveillance audits. No recertification audit due before 07 March 2020 Issue 1. Certified since 07 September 2017.


Multiple certificates have been issued for this scope. The main certificate is numbered IN1414003. This is a multi-site certification. Additional site details are listed on the subsequent page.

Authorized by



SGS United Kingdom Limited, Notified Body 0120
100, 200 North Street, Ipswich, Suffolk IP1 3BA, UK
T: +44 (0)1473 333777 F: +44 (0)1473 333777 www.sgs.com
ISSUE 020100166


Page 1 of 2



DOLOMITICERT

Italian Institute for the Certification of Personal Protective Equipment
S.C.A.R.L.
EU Notified Body n. 2008

Address: Villanova Zona Industriale, 7/A
32013 LONGARONE (BL) - ITALY
Tel: +39 0437 573487 Fax: +39 0437 573131
Web site: www.dolomitocert.it E-mail: info@dolomitocert.it




COMPLIANCE OF CONFORMITY
number 160295

This Compliance Certificate delete and replace Compliance Certificate number 160294 issued by Dolomitocert in date 1st of May 2016


Verifications for anchor devices according to the Standards EN 795:2012
"Personal fall protection equipment - Anchor devices"

Anchor device
Model:
PN 7000(21) & PN 7000(21)EC

Date: _____


Certification Body Manager
Luca Ramporin

Applicant:
P.N. INTERNATIONAL
C-12, Amasai Industrial Area - NADARGANJ - 226008 NADARGANJ LUCKNOW INDIA

sira 

Ex

1 TYPE EXAMINATION CERTIFICATE

2 Equipment intended for use in Potentially Explosive Atmospheres 2014/34/EU

3 Certificate Number: Sira 11ATEX6276X Issue: 2

4 Equipment: Horizontal life line system including:
Horizontal life line Ref. PN6000
Retractable fall arrester Ref. PFC5 series
Retractable fall arrester ALCS Series
Anti static full body harness Ref. PN22AS

5 Applicant: Karam Industries

6 Address: C12 Amasai Industrial Area
Nadarganj
Lucknow 226008
India

7 This equipment and any accessible variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 2 equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex 21 to European Union Directive 2014/34/EU of the European Parliament and of the Council, 26 February 2014.


9 The examination and test results are recorded in the confidential reports listed in Section 14.3.

10 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:
EN ISO 80079-36:2016 EN ISO 80079-37:2016

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

11 If the sign "Ex" is placed after the certificate number, it designates that the equipment is subject to Specific Conditions of Use specified in the schedule to this certificate.

12 This Type Examination Certificate relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.

13 The marking of the equipment shall include the following:
 II 2 G
Ex II 2 Gb

C. Ebbly
Deputy Certification Manager

Project Number 7013494

This certificate and its schedules may only be reproduced in its entirety and without charge.

Page 1 of 3

Form 9402 Issue 4

Sira Certification Service
Unit 6 Haverhill Industrial Park,
Haverhill, Cambridgeshire, United Kingdom
Tel: +44 (0)144 476000
Fax: +44 (0)144 4818100
Email: info@sira.com
www.sira.com


INTERNATIONAL CLIMBING AND MOUNTAINEERING FEDERATION
UNION INTERNATIONALE DES ASSOCIATIONS D'ALPINISME

UIAA


SAFETY LABEL

Climbing and mountaineering equipment tested to the UIAA's equipment standards is recommended by the UIAA for use by climbers and mountaineers.


Frits Vrijland, UIAA President UIAA Safety Commission President

The UIAA certifies that the product named below has been tested to meet the safety requirements of the UIAA's equipment standards:

Product name:	Stainless steel variant of AP 014
Product number:	AP014 SS
Safety Label Holder:	PN INTERNATIONAL
UIAA standard:	I27 Pulleys
Certificate No:	IND 17-0603
Date first issued:	26.06.2017
Date last issued:	26.06.2017

This certificate is valid until 31 Dec of the year of last issued date. It may be renewed within three months of the expiry date in accordance with UIAA regulations.

UIAA Office - Mobiliswegstrasse 01 Postfach 3000 Bern 21 SWITZERLAND
T: +41 31 370 18 28 F: +41 31 370 18 38 E: office@uiaa.ch www.theuiaa.org

Issued to: **Karam, PN International**
C-12 Amasai Industrial Area
Nadarganj
Lucknow 226008
India

Notified Body 0321

SATRA Client: P0122

SATRA
TECHNOLOGY

EC Type-Examination Certificate

Number 8756 Issue 5 Date first issued: 31/03/2017

This is to certify that the product group reference "PN 6000 & PN 7000" comprising the following products:

Product Reference	Description
PN 6000	Guided type fall arrester consisting of three diameter stainless steel cable, tensioner, mounting brackets PNF0000(1) and intermediates PNF2001(4) & PNF7000(4). A stainless steel rope grab referenced R002 with permanently attached karabiner and a small kinetic energy absorber provides connection to the user.
PN 6000 (PN 7000(1)EC)	PN 6000 with mounting bracket PN 7000(1)EC
PN 6000 (PN 7000(2)1)	PN 6000 with mounting bracket PN 7000(2)1
PN 6000 (PN 7000(2)1EC)	PN 6000 with mounting bracket PN 7000(2)1EC
PN 6000 (PN 7000(1)3)	PN 6000 with mounting bracket PN 7000(1)3
PN 6000 (PN 7000(1)3EC)	PN 6000 with mounting bracket PN 7000(1)3EC
PN 6000 (SA 12)	PN 6000 (SA 12)
PN 7000	Guided type fall arrester consisting of firm diameter stainless steel cable, stainless steel shock absorber, tensioner and mounting brackets PNF7000(1) and intermediates PNF2001(4) & PNF7000(4). A stainless steel rope grab referenced R012 with permanently attached karabiner provides connection to the user.
PN 7000 (PN 7000(1)3EC)	PN 7000 with mounting bracket PN 7000(1)3EC
PN 7000 (PN 7000(2)1)	PN 7000 with mounting bracket PN 7000(2)1
PN 7000 (PN 7000(2)1EC)	PN 7000 with mounting bracket PN 7000(2)1EC
PN 7000 (PN 7000(1)3)	PN 7000 with mounting bracket PN 7000(1)3
PN 7000 (PN 7000(1)3EC)	PN 7000 with mounting bracket PN 7000(1)3EC
PN 7000 (SA 12)	PN 7000 (SA 12)


Technical reports:
SATRA SPC020401014601 Issue 4, SPC0204011702 Issue 4, SPC02040174124, SPC02040311208

has been subject to an EC Type-examination in accordance with Article 10 of the PPE Directive (89/686/EEC) and has been shown to satisfy the relevant provisions of this Directive for the complex category through:

1. Testing to the following standard: EN 365:2014
2. Examination of the relevant technical documentation.

You are therefore deemed to meet the product's level shown in accordance with Article 13 of Directive (89/686/EEC) and any relevant amending Directives once you have drawn up an EC declaration of product conformity. Please note that:

1. Full details of the certification and product are contained in the manufacturer's technical file.
2. This certificate is issued subject to the conditions on the reverse side of this certificate.
3. CE Marking of production is also subject to current compliance with Directive 89/686/EEC Article 11.
4. Where a translation of this certificate exists, the English language version shall be considered as the authoritative text.

Signed:  (Geoff Graham) Date 11/12/2017

Signed: _____

On behalf of SATRA

SATRA Technology Centre Wytham Hill, Oxford OX1 2DE, Reading, RG1 1AA, UK or via Tel: +44 (0)1235 836100





Conforms : EN 353-1:2014



**VERTICAL ANCHORAGE LINE SYSTEM
ON RIGID CABLE LINE**

System Ref: VERTEX PN 6000

System Specifications

Conforming to the Norm EN 353-1:2014 this Vertical Fall Arrest System is an integrated solution to arrest the fall of a user who has to constantly climb up & down a ladder.

The Vertical Anchorage Line is made of Stainless Steel Wire Rope & is maintained in the rigid position by use of 2 mounting brackets-one at the top & other at the bottom.

A Stainless Steel Rope Grab moves up & down the anchorage line accompanying the user who is connected to it with the help of a small shock absorbing lanyard.

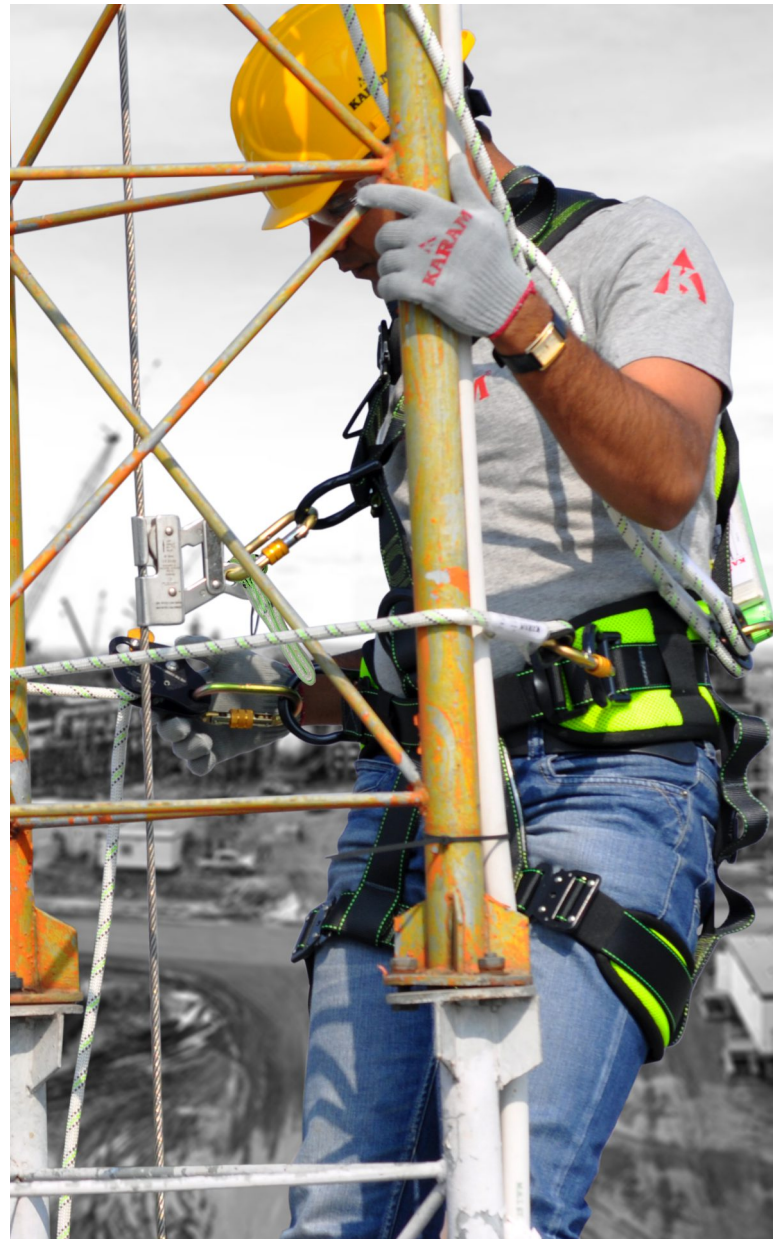
To maintain rigidity & tension in the anchorage line, a screw type mechanical tensioner is provided at the end of the anchorage line at the bottom, connecting it to the lower mounting bracket.

Intermediates are provided at regular intervals to prevent dislocation of the anchorage line from its mean position due to wind pressure or mechanical movement.

Options of wire rope terminations available : Swaging type, Swageless type and U bolt thimble termination. (U bolt thimble termination only to be used at the bottom side)

Significant Features are:

- It is simple and easy to install requiring minimum effort for installation.
- The Rope Grab comes with special anti-inversion mechanism which enables it to be fitted always in the correct position.



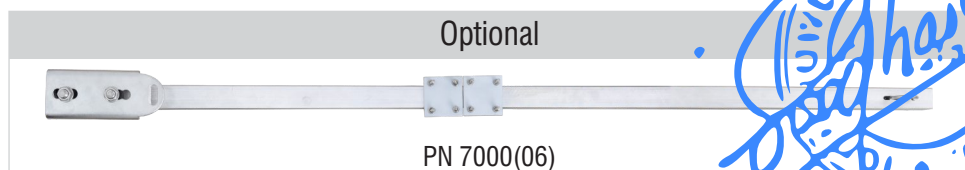
Mounting Bracket using Two Ladder

Mounting brackets using two ladder rungs for installing Vertical Life line Systems available in Stainless Steel and Hot dipped Galvanized Steel.



PN 7000(13) PN 7000(13)(EC)

Ref. No.	Material	Finish	Minimum Breaking Strength	Net Weight	Conforms to
PN 7000(13)	Stainless Steel	Electro Polished	23kN	1.11Kgs ± 0.005Kgs	EN 795:2012 Type A
PN 7000(13)(EC)	Alloy Steel	Hot Dip Galvanized	23kN	1.10Kgs ± 0.005Kgs	





**VERTICAL ANCHORAGE LINE SYSTEM
ON RIGID CABLE LINE**

REF: VERTEX PN 6000



Wire Rope (Cable Wire)

Ref. PN 9XXXSL (Where XXX is the Length of the wire rope in meters)

- Material: Stainless Steel 316
- Diameter: 8mm
- Construction: 7x19



Intermediate

Ref. PN 2001 (04)

- Material: Stainless Steel Grade 316
- Recommended Installation - Every 10 m



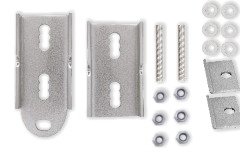
Wire Rope Cap

Ref. PN 7000 (12)

- Material : Aluminium Alloy

Inspection Plate

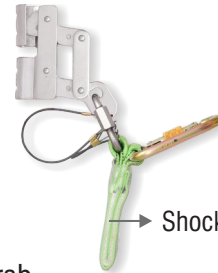
Ref. PN 6000(03)



Mounting Bracket

Ref. PN 7000 (01)

- Material: Stainless Steel 316
- Breaking Strength > 23 kN
- Complies with EN 795 Type A



Rope Grab

Ref. RG 02(PN 600(S))112

- Material of Rope Grab: Stainless Steel Grade 316
- Anti inversion mechanism
- Material of Karabiner: Alloy Steel



Set of 2 U-Bolts & 1 Thimble

Ref. PN 6000(01)

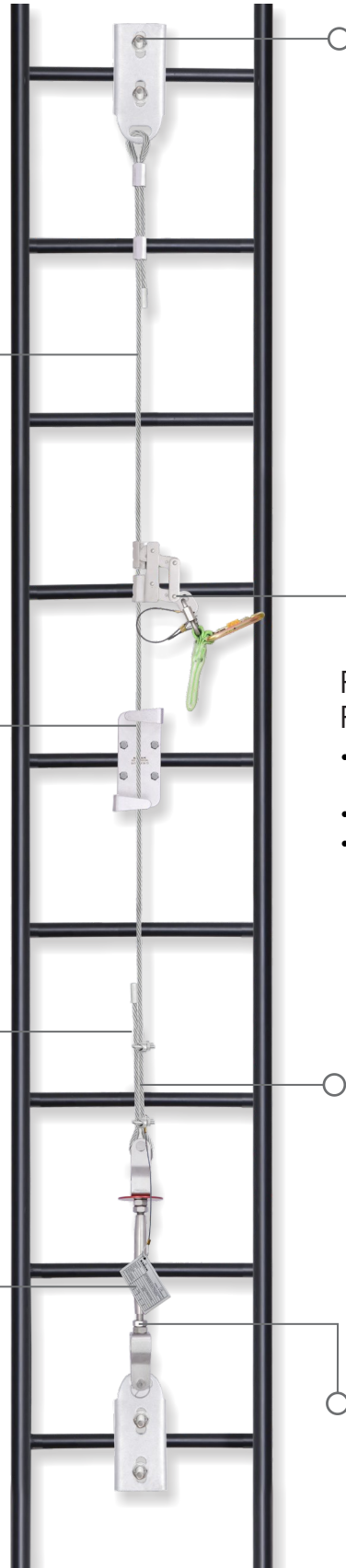
- U- Bolts : Qty- 2 nos.
Material : Stainless Steel 316
- Thimble : Qty- 1 no.
Material : Stainless Steel 316



Tensioner

Ref. PN 7000 (05)

- Regulates tensioning of the cable. Equipped with a Tension Indicator
- Material: Stainless Steel Grade 316.
- Quantity: 1 nos.



* Also supplied with hot dipped galvanized mounting bracket PN 7000 EC(01) for value engineering

BHUTAN TELECOM LTD.,

SITE NAME :

TOWER HEIGHT :

YEAR OF INST. :

INSTALLED BY:

ICON POWER SOLUTIONS PVT LTD,
GURGAON, INDIA

