BETAFENCE
a PRÆSIDIAD brand

BLOKAD ® Super 10 ® Fence Installation Manual

Document 01-V01
Date 20-03-2026

System Overview

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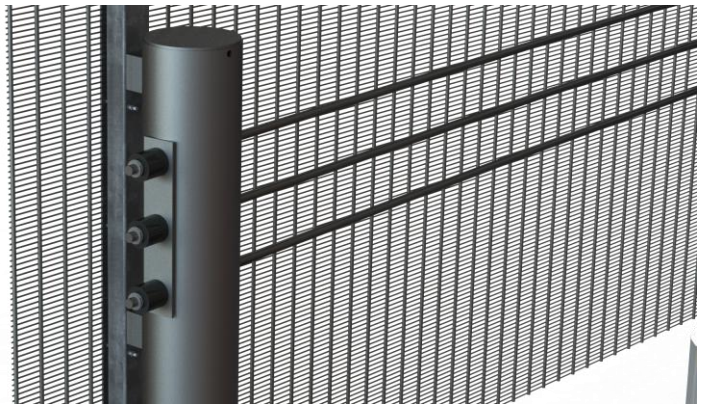


- LPS1175 B3 certified Securifor Fence Integrated with Embedded Crash Rated Fence Posts.

1. 4 Fence Heights Available:
    1. 2000mm
    2. 2400mm
    3. 3000mm
    4. 4000mm
2. 3 Types of Panel Top Finishes Available:
    1. Straight Panel
    2. Cranked
    3. Arced

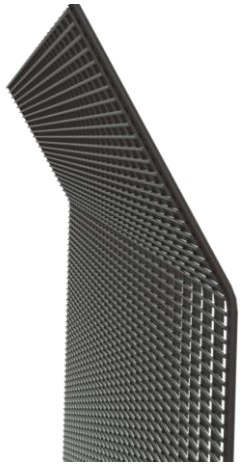
The Blokad system is integrated with Fence posts for a seamless design like a standard Securifor Fence system providing the following installation configurations:

1. End Panel – Post
2. Intermediate Panel - Posts
3. Stepped Panel – Posts
4. Inside and Outside Corner Configurations

In this installation manual we will highlight the suggested steps for the installation of the BLOKAD Securifor System. The installation manual is typical for all heights and applies to all types of Panel Finishes.

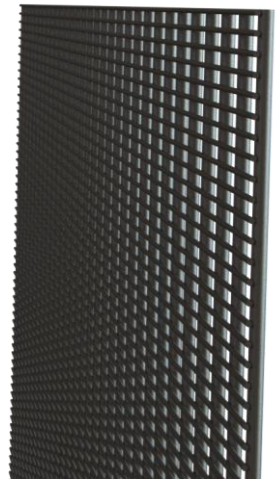
The suggested method for the fence installation is **'POST-POST-CABLE POSITIONING-CABLE TENSIONING-PANEL-PANEL'**.

Cranked Panel



Arced Panel

Straight Panel



System Overview

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- Tools Required for installation:

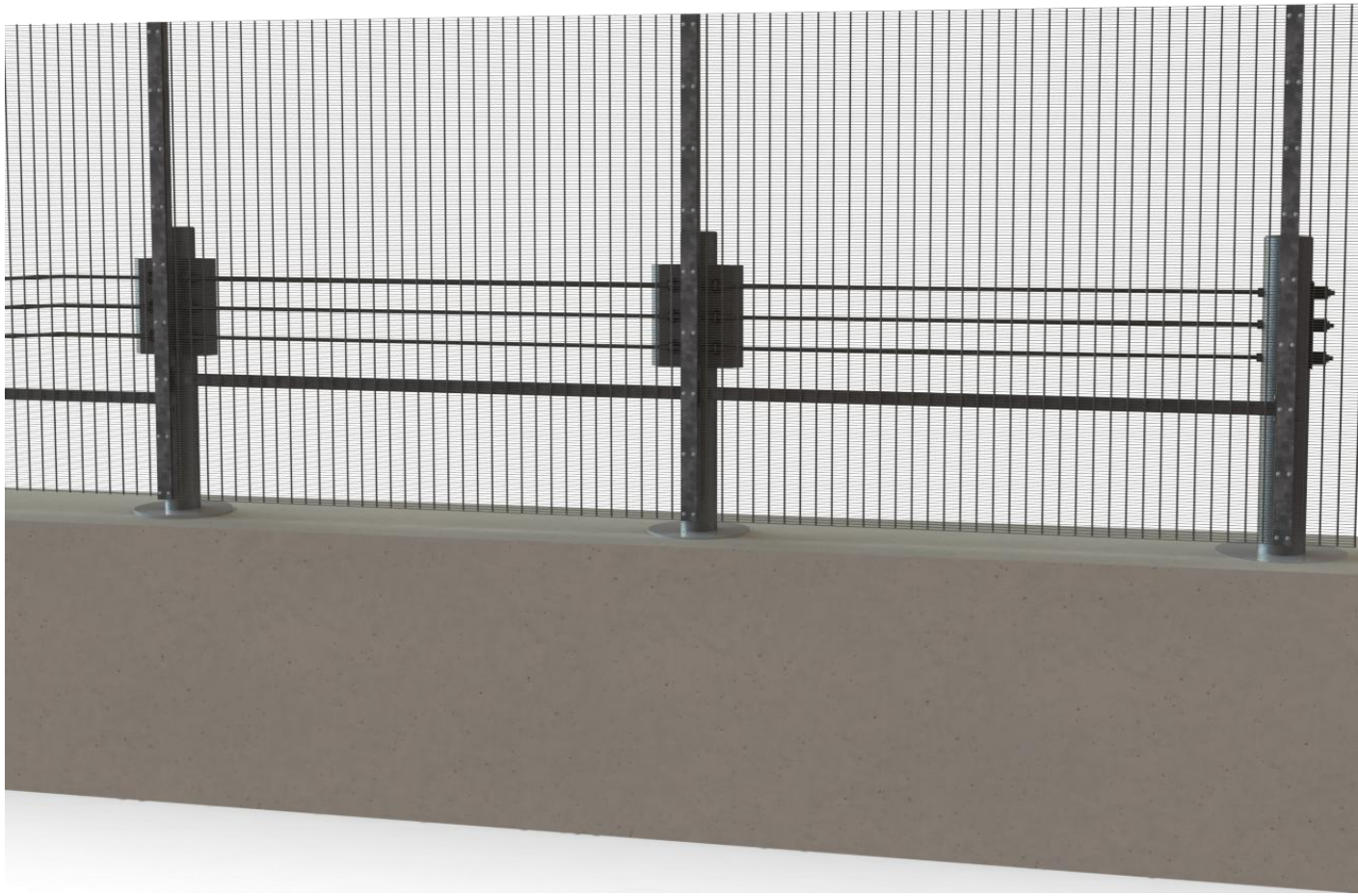
1. Spade/shovels
2. Picks
3. Plumbline/Fish Line
4. Dumpy Level (for set-out ground levels)
5. Set Levels
6. Socket Sets (M13 Sockets and Wrenches)
7. Spanner Sets (M13 Spanners)
8. Pegs
9. Tape Measures
10. Chalk Line
11. Wheelbarrows
12. Torque Wrench (M18 Socket)
13. Angle Grinder (Cutting Disc)
14. Tensioning Device MS22-50* **(Provided By Betafence)**

- Materials Required for installation:

1. Clean water
2. Concrete Mix
3. 19mm Stone
4. Dampcourse
5. Wooden or Steel Stay Supports
6. Shuttering (If necessary)

- Equipment Required for installation:

1. Compactor
2. Vibrating Poker
3. Ladder (For 3m System)
4. Generator (If necessary)
5. Blow-Out Pump for drilled holes (for Base plate system)



Installation Guide: Foundations and Post Set-out

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Step 1:

Mark and Excavate the ground for round foundations at **Ø500X1050mm Deep** for **Line Post Foundations** and **Ø600X1300mm Deep** for **Terminal End Post Foundations**, every 2884mm Center to Center. (Fig. 1)

Terminal Post Foundations are to be offset from the Line Post Foundations by 45.30mm, to ensure correct alignment between the panel fixation face of both posts. (Fig. 2)

Second Tip – If Post offset dimension is not achievable, ensure that the faces of the fence post fixing points are aligned and set true. This will ensure that the panels will be installed correctly.

*Necessary ground preparation steps such as clearing of debris/vegetation, compaction, base layers, building formwork etc. is to take place according to the site conditions.

Soil conditions may vary. Contact your local Civil Engineer to specify requirements to suit conditions.

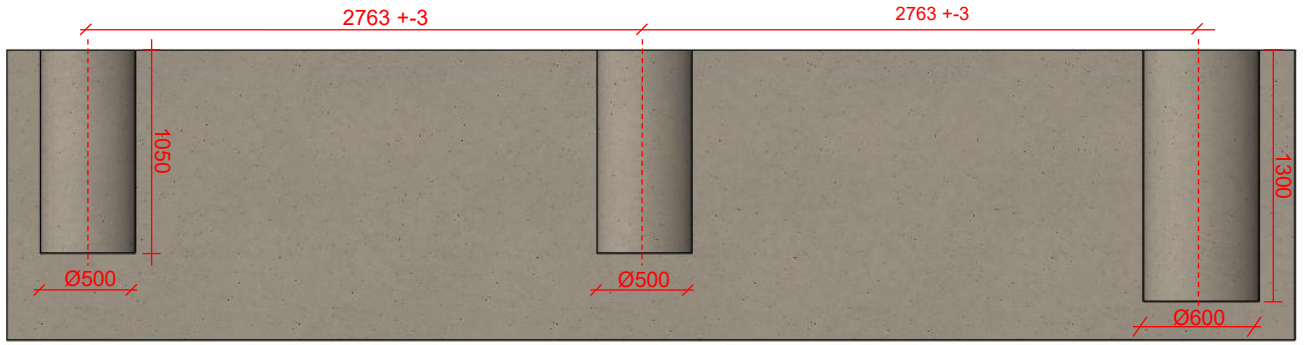

Figure 1

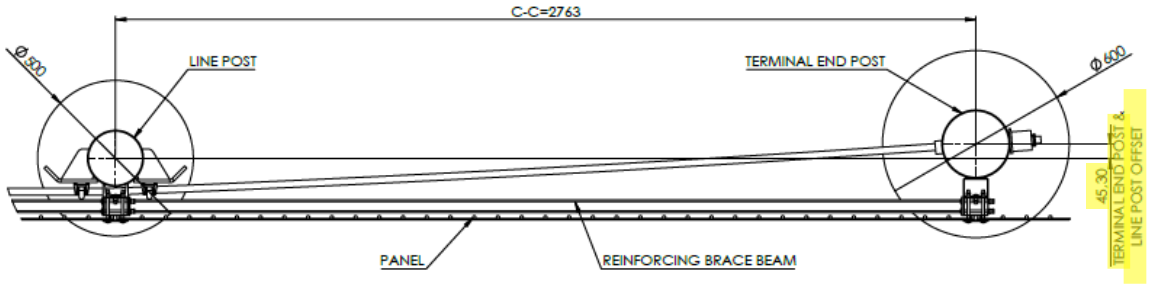

Figure 2

FOUNDATION DRAWING/DETAIL DISCLAIMER:

THE DIMENSIONS OF THE FOUNDATIONS AND THE CONCRETE STRENGTH DEPICTED ARE PURELY INDICITIVE. THE SUPPLY OF SUCH INFORMATION SHOULD IN NO WAY BE CONSTRUED AS A SUBMISSION BY BETAFENCE THAT THE DIMENSIONS OF THE FOUNDATIONS AND CONCRETE STRENGTH WOULD BE FIT FOR PURPOSE OR THAT BETAFENCE HAS ASSUMED ANY DESIGN LIABILITY FOR SUCH INFORMATION.

IT IS THE RESPONSIBILITY OF OTHERS TO CONFIRM THE SOIL/GROUND CONDITIONS.

Installation Guide: Foundations and Post Set-out (Gradients – Max. 10 Degrees)

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Step 1:

The CRF System can be installed on a slope with a maximum gradient of 10 Degrees.

The Following steps & Calculation are to be applied to Calculate the Correct Center – Center Distance on a slope

Mark the calculated C-C positions of the foundation along the slope, by using a plumb-line or Fish Line, from the last “Flat Pitch” foundation.

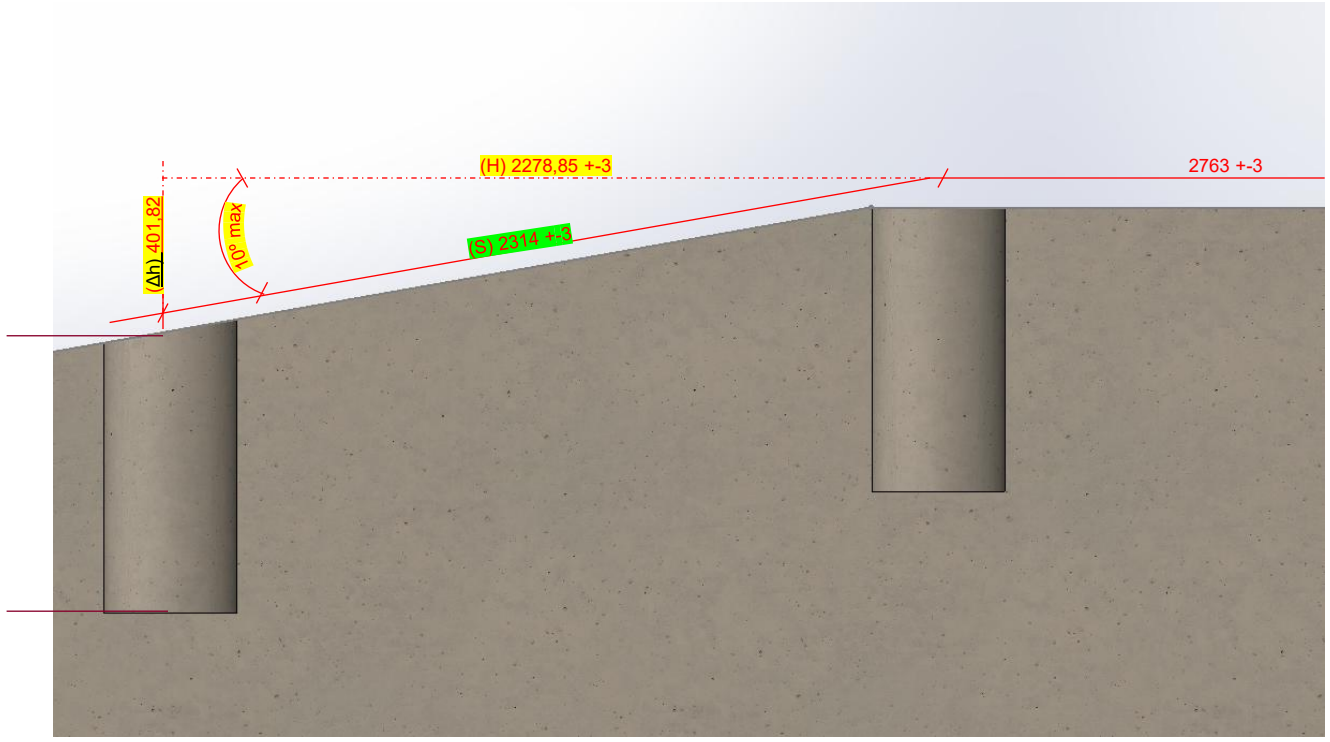
Ensure that the correct calculations are followed to prevent mis-alignment during the installation of the posts and panels.

Repeat Step 1 (Fig. 1), according to the type of foundation needed.

*For ease of installation, we have provided a table with predefined Gradients and their respective center-center dimensions.

*Necessary ground preparation steps such as clearing of debris/vegetation, compaction, base layers, building formwork etc. is to take place according to the site conditions.

Soil conditions may vary. Contact your local Civil Engineer to specify requirements to suit conditions.



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PREDEFINED SLOPE & CENTER-CENTER DIMENSIONS	Gradient (°)										
	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
Horizontal C/C - H (mm)	2314	2313,65	2312,59	2310,83	2308,36	2305,19	2301,32	2296,75	2291,48	2285,51	2278,85
On slope C/C - S (mm)	2314	2314	2314	2314	2314	2314	2314	2314	2314	2314	2314
Height Difference per Bay - Δh (mm)	0	40,38	80,76	121,11	161,42	201,68	241,88	282,01	322,05	361,99	401,82

Installation Guide: Foundations and Post Set-out

Step 2:

Insert Reinforcing Cages into the excavated foundation holes. (Fig. 3)

Step 3:

Set Posts, Vertically into the foundations at every mm center to center, with a height of 1456mm above Concrete Level for 2.0m and 2.4m High Systems, and 2156mm above concrete level for 3.0m and 4.0m High Systems.(Fig. 4)

- Temporarily Support posts by use of Stays/braces (Steel RHS Tubes) and support bricks below the post if necessary. (Fig. 5)
- **Level and align posts in the foundation, ensuring they are plumb and set true in the ground.**
- **TIP – Install M18 U-Bolts to all Intermediate Line Post Plates. Keep Loose – DO NOT TIGHTEN**

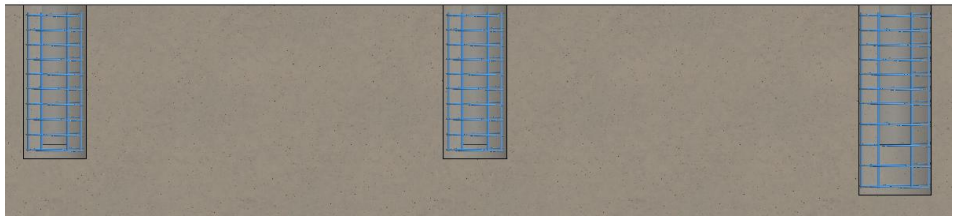


Figure 3

Figure 5

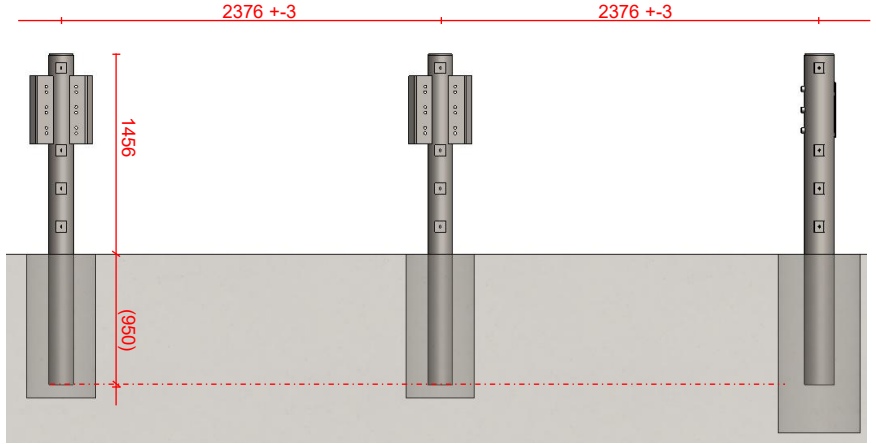
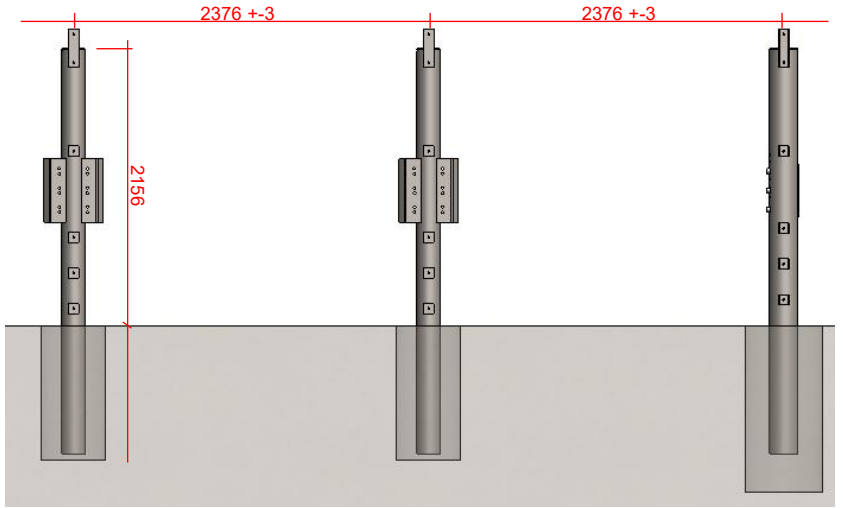


Figure 4



Installation Guide: Foundations and Post Set-out

Although soil conditions may vary from site to site, we have designed standard Reinforcing Cages for the different post foundations which can be used in ‘normal’ ground conditions.

A project Civil Engineer still needs to be contacted to confirm local soil conditions and confirm that the foundation design specified is adequate for your site.

Reference drawings:

Terminal Post Foundation Reinforcing Cage – PAL09P400002 (Fig 23)

Line Post Foundation Reinforcing Cage – PAL09P400003 (Fig. 24)

Drawings for these cages can be requested from your local Betafence sales division or technical team.

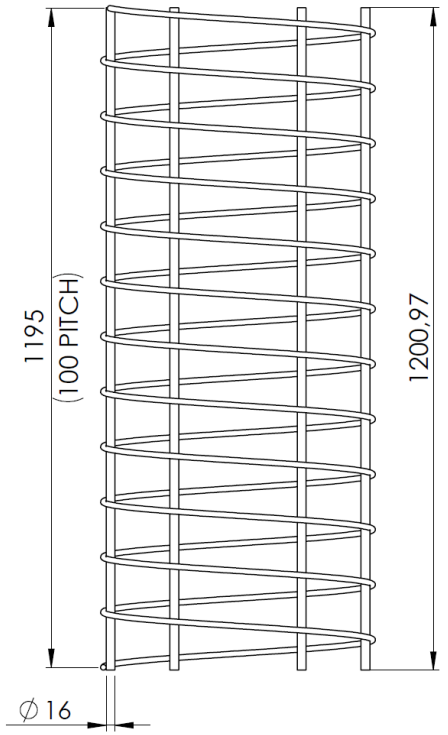


Figure 23

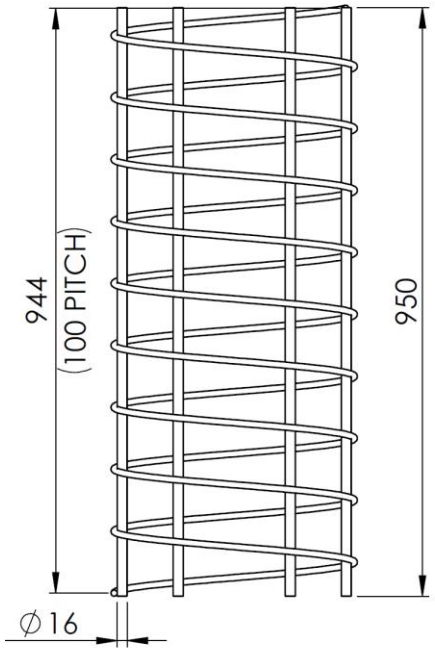


Figure 24

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Installation Guide: Fence Posts & Reinforcing Rails

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Step 4:

Install the Fence Posts (80x60 Rectangular Tubes) & Horizontal Reinforcing Rail (60x40 Rectangular Tube) to assist in maintaining the center-to-center set-out between each post. (Fig. 6)

Starting from either end of the fence system (Terminal Post side or Line Post Side) start positioning and installing the Fence Posts to each Crash post.

Using M8x25 Mushroom Head Bolts (Neck inserted from inside of the Post support – Fig 7), and Pre-vailing nuts from the front of the Fence Post (Fig. 8) loosely secure the Fence Post to the Crash post through each foreseen hole.

Tighten the nut, enough to secure the Post tube but loose enough to allow for the height adjustment/setting across the system.

Step 5:

Repeat the above procedure for the following Fence Posts to Crash Posts but subsequently install the Horizontal Reinforcing Rail between each Fence post. (Fig. 9) This will allow additional bracing support between each crash post aiding to the positioning of the Center-to-center set-out.

- Start by positioning one end of the Rail against the first fence post.
- Using a M8x100 Mushroom head bolts, insert the bolt through the end plate and fence post.
- Repeat the above step on the opposite side (on the next Rail-to-Fence Post) to secure (let 'hang') the Rail in between the two Fence Posts. (Fig. 10)
- Proceed to insert the balance of the M8x100 Bolts, through the Rail End plate and fence post on the first side. Secure using M8 Washers and Self-breaking nuts.
- On the Opposite side, do not insert nuts and washers until the next Rail is positioned in place. (Fig. 11)

The sequence for this installation should be **Fence Post – Fence Post – Rail - Rail**

Once two rails are installed/positioned in between two posts, proceed to secure the rails using the M8 Washers and Self-breaking nuts.

- Tighten the nuts, enough to secure the Rails in place. Do not shear-off the nut until all height levels have been checked/verified.

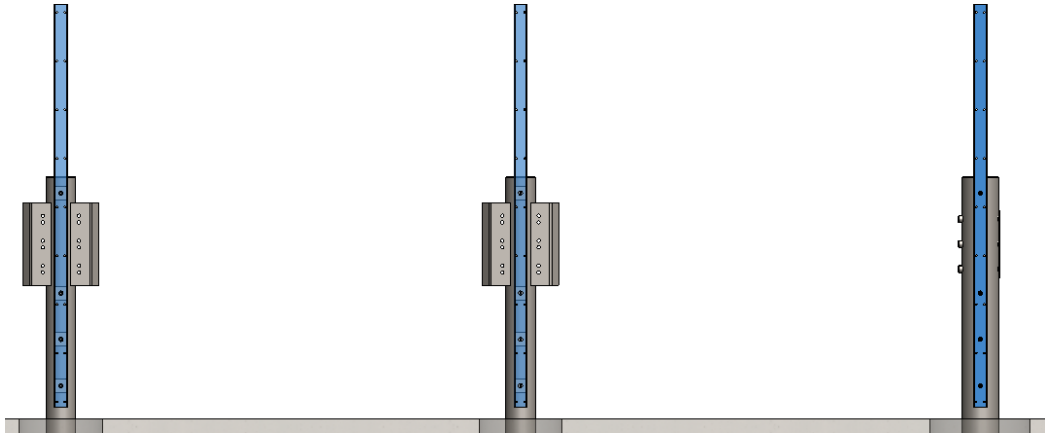

Figure 6

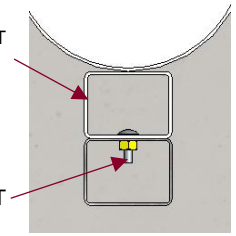

Figure 7

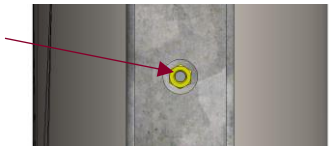

Figure 8

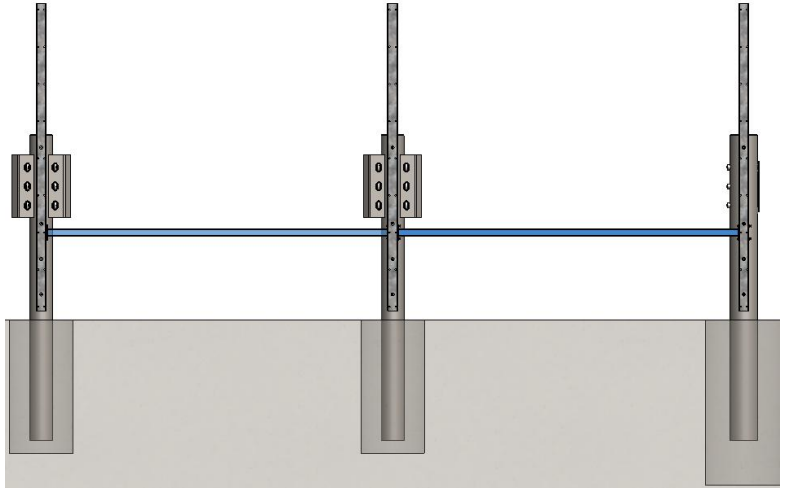

Figure 9

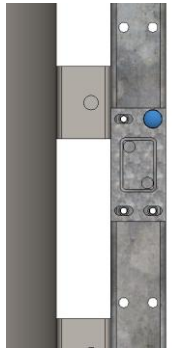

Figure 10

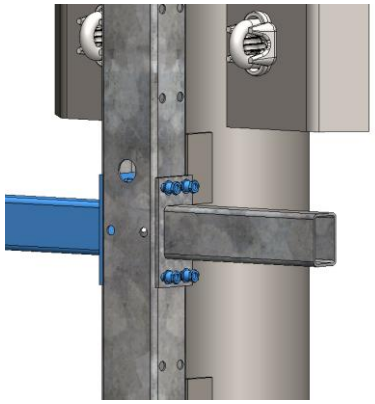

Figure 11

Installation Guide: Fence Posts & Reinforcing Rails

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All fence posts are foreseen with positioning through-holes according to 101.3mm Stepping

It is preferable to use the middle hole set (Fig. 12) on a flat gradient and adjust the positioning according to the systems step in increments of 101.3mm

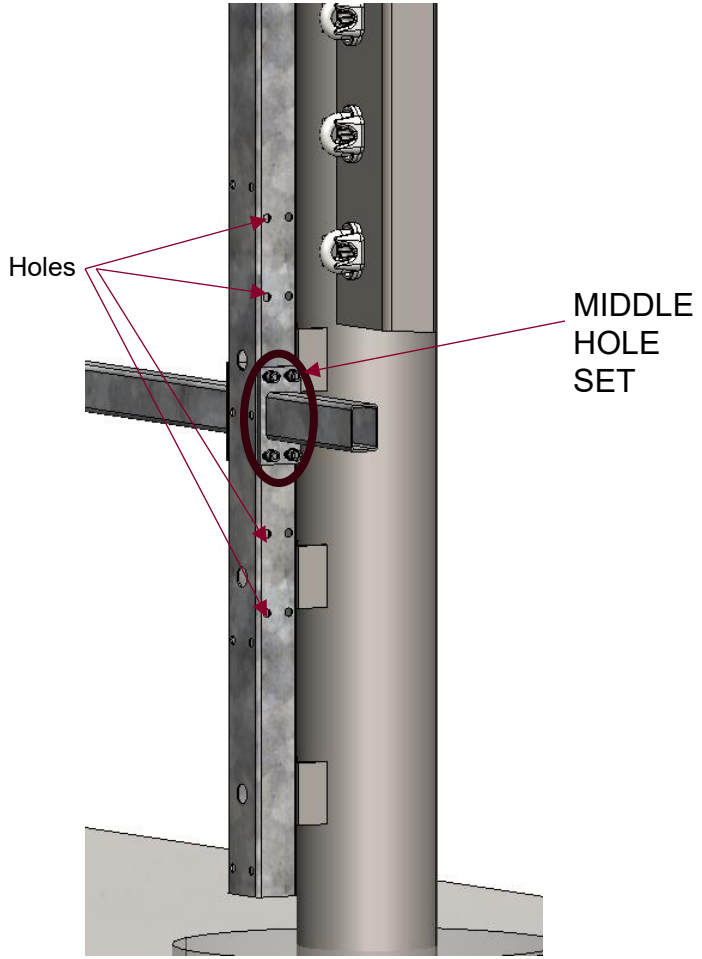

Figure 12

Installation Guide: Concrete

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Step 6:

Verify all dimensional set-outs ie. Crash Post Positioning, Fence Post heights, rail positioning.

Once all dimensions have been verified, tighten all nuts to secure components in place.

Do not Shear self-breaking nuts.

Step 7:

Pour Concrete into the foundation holes. (Fig. 13)

- Ensure the final level and alignment adjustments are made to the posts whilst the concrete is still wet.
- Add additional support stays/braces, as necessary.

Allow a minimum of 3 days for the concrete to set/cure before moving forward with the installation.

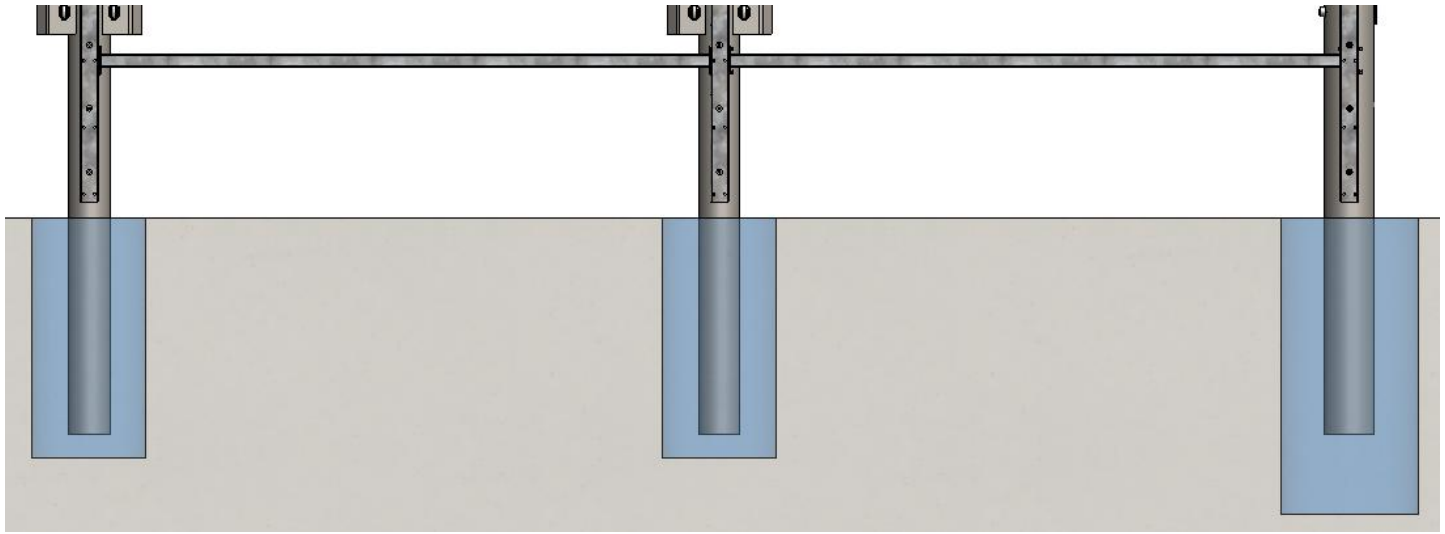

Figure 13

Technical Information:

Concrete Grade: Minimum C35

Important Note*

Concrete Grade is subject to Local Conditions. Consider contacting your local Civil Engineer to clarify/specify the Grade in accordance with the ground conditions.

Installation Guide: Installation Positioning of Cables, Grip Bolts & Anchor Tool

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Step 8:

Place cables in position on each Intermediate Line Post, Starting for the Last Line Post, and Loosely Clamp with M18 U-Bolts. Do Not Tighten Bolts.

Once all cables are mounted onto each line post, thread the free end (opposite end of the cable closest to the Terminal End Post) into the Terminal End Post and Manually Pre-Stress the cable ends onto the Post using the KM22-1860 Anchorage Tool.

Allow at least 500mm overhang of the cable beyond the Terminal End Post for Cable Tensioning later.

(Fig. 14)

*For M18 U-Bolt - Tighten the nut, enough to secure the cable to the Line Post but loose enough to allow for the cable to be pulled/pushed along the fence line.

***IMPORTANT NOTE: MAXIMUM CABLE LENGTHS PROVIDED ARE EITHER 450M OR 600M (DEPENDING ON ORDER)**

AT EVERY CABLE ROLL TERMINATION POINT, A MID-TERMINAL POST IS TO BE USED TO END AND START A NEW CABLE ROLL.

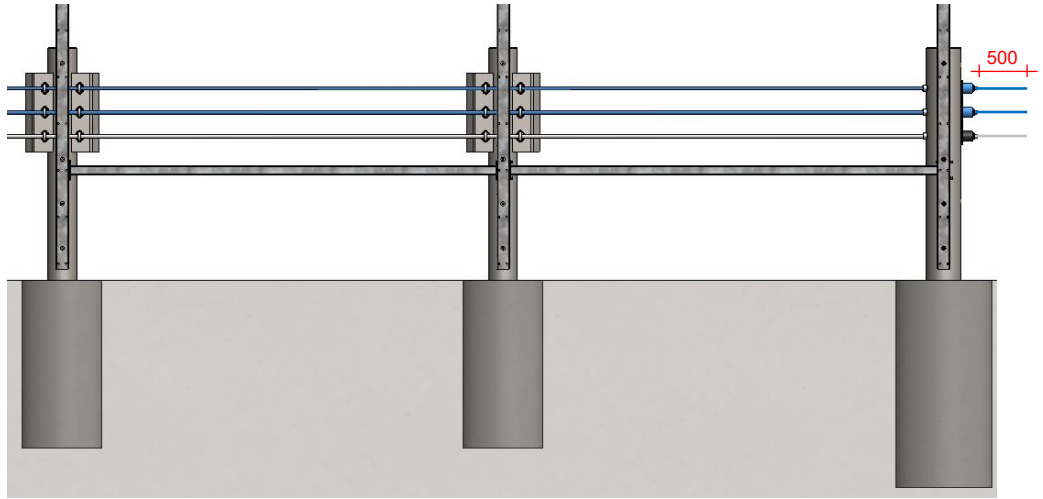

Figure 14

Installation Guide: Mid-Terminal Post, Anchorage Tool Fixation and Mounting

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Mid-Terminal Posts

Mid-Terminal Posts allows the systems Crash Cable to be continued (acting as a splice point for cables) along a fence line that is greater than 450 meters.

Mid-Terminal Posts are required at every Cable Roll ‘Ending’ which is approximately every 450 meters or 600 meters depending on the selected roll length chosen for your project, or according to your site plan.

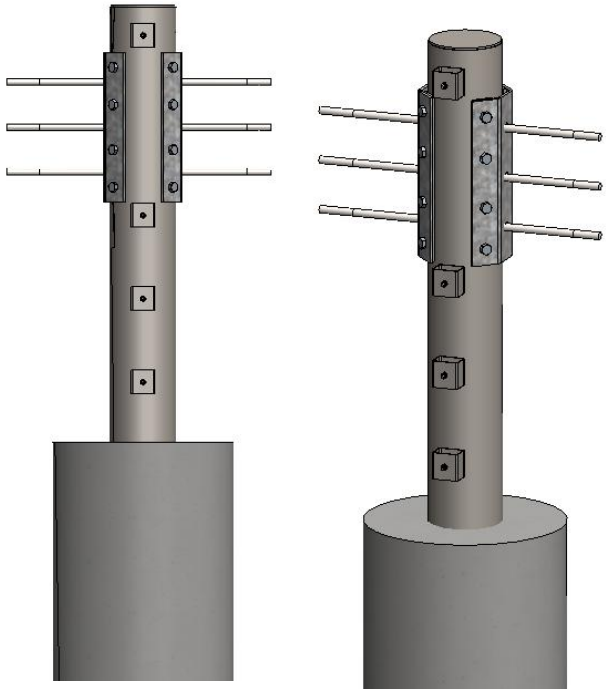
Should your site require a Mid-terminal post, it will be advisable to start your cable anchorage point from the Mid-Terminal Post and Tension from the End Terminal Post.

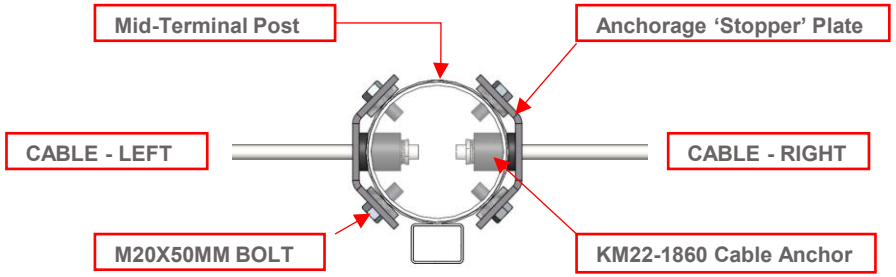
Post Installation steps shall be like the installation steps for the End Terminal posts and Line Posts (Step 2 & 3) with the addition of the following steps:

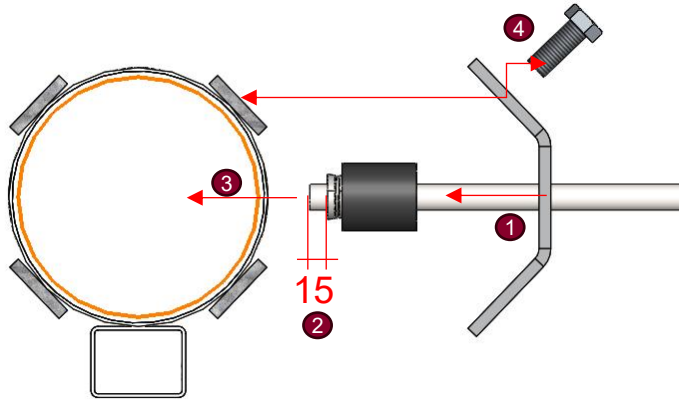
1. Thread the cables through the KM22-1860 Anchorage “stopper” plate.
2. Fix the KM22-1860 Anchor by ‘Pre-stressing’ to the end of the cable, ensuring that a maximum of 15mm of the Cable is exposed beyond the Anchor tool.
3. Temporarily insert the Anchor and Cable in the foreseen holes on the post, while keeping the anchor and cable hanging loosely against the ‘stopper’ plate
4. Mount the Anchorage Stopper Plate against the Mid-Terminal Post fixing points, aligning the holes and fix the plate with M20x50mm Bolts.
5. Proceed with the installation steps as per Steps 8 & 9.

TIPS –

1. **Planning and Understanding where the Approximate locations of your Mid-Terminal Posts and End Terminal Post would make it easier to plan your cable installation ‘start’ and ‘end’ points.**
2. **Cables can only be tensioned from the Left & Right End Terminal Posts, relative to the Mid-Terminal Posts.**
3. **The holes on the Post and Load Plate (welded on Post) have a M20 internal thread for easy fixation of the M20 Bolts.**







Installation Guide: Installation Positioning of Cables, Grip Bolts & Anchor Tool

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Step 9:

Cable Tensioning –

- **First Secure the cables on the last Terminal Post (Left or Right side) on the Fence System with KM22-1860 Anchorage Tool.**
- **Proceed to tension the Cables from the opposite Terminal End Post using the KM22-1860 Anchorage Tool and the Tensioning Device MS22-50*.**
  - **Ensure the cable tension force is in accordance with the Tension/Temperature chart (Table 1)**
- **Once the Tension has been achieved, Torque all M18 U-Bolts on each Line Post to hold the Cable in Tension.**
- **The Torque specification for M18 U-Bolts is 240~270 Nm.**
- **Cut Off Cable Ends with Min. 15mm Excess after each anchorage tool on the Terminal End Post. Use an Angle Grinder to Trim Cable Ends (Fig. 15)**

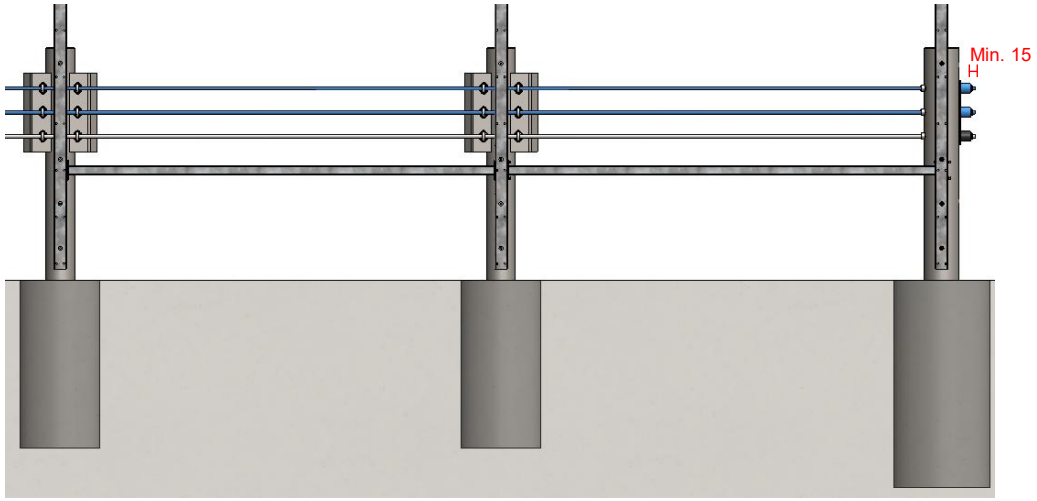

Figure 15

Table 1

Tension/ Temperature Chart

Ensure the cable is tensioned at the correct Force according to the Temperature at the time of installation

Degrees Celsius	Tension (N)	Tension (MPa)
-23	22241	3,3
-18	21129	3,2
-12	20017	3,0
-7	18905	2,8
-1	17793	2,7
4	16681	2,5
10	15569	2,3
16	14457	2,2
21	13345	2,0
27	12233	1,8
32	11121	1,7
38	10009	1,5
43	8896	1,3

Installation Guide: Panel and Cover plate installation

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Step 10:

Panel Installation –

- Once the cable system has been tensioned, you can proceed to install the panels and cover plates to complete the installation of the fence system.

1. Start by placing panels left & right of each fence posts. (Fig. 16)
2. While holding the 1st and 2nd panel in place, mount and fixate the cover plate using the top two fixation holes on the fence post. Insert 2x M8x100 Cup-Square Bolts.(Fig 17)
3. Subsequently, install the second post cover plate and the following panel. Insert the 2x M8x100 Cup-Square Bolts. (Fig 18)
4. Repeat the above steps for the following Panel to Post Installations.

*Inserting the top two M8 Cup-square bolts will allow the panels to hang from the posts, which allow you to inset the balance of the fixtures on the post and cover plate.

*Insert the washers and self-breaking nuts. Tighten enough to allow height and level adjustments. (Fig 19)

*Do not shear the nut.

Tip – You can use stay braces (wood or steel) to help hold the panel in place.

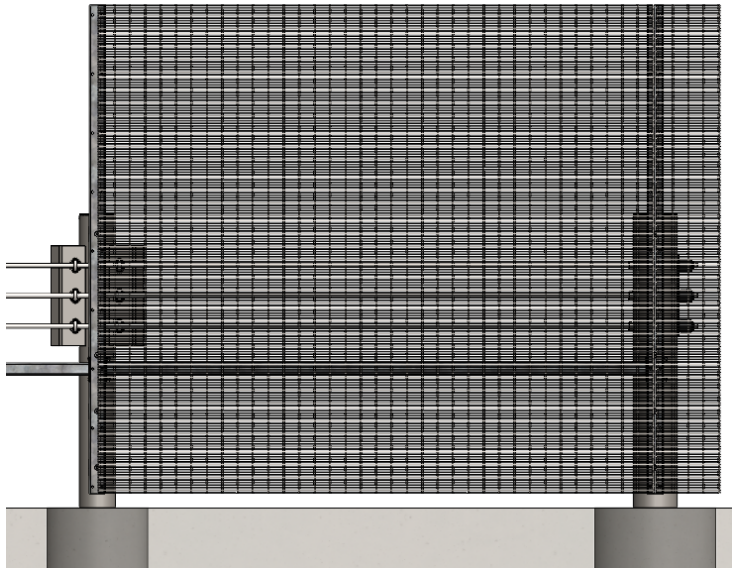

Figure 16

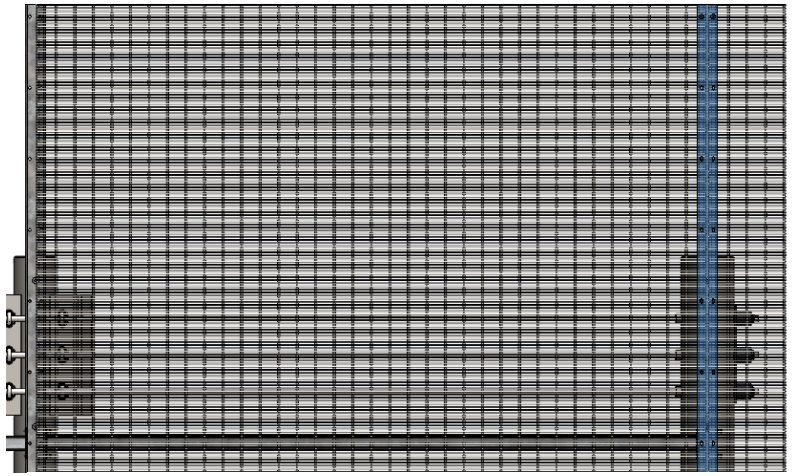

Figure 17

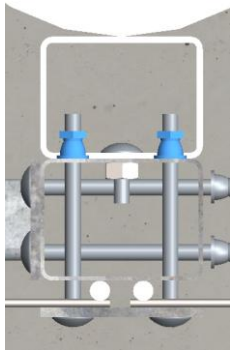

Figure 19

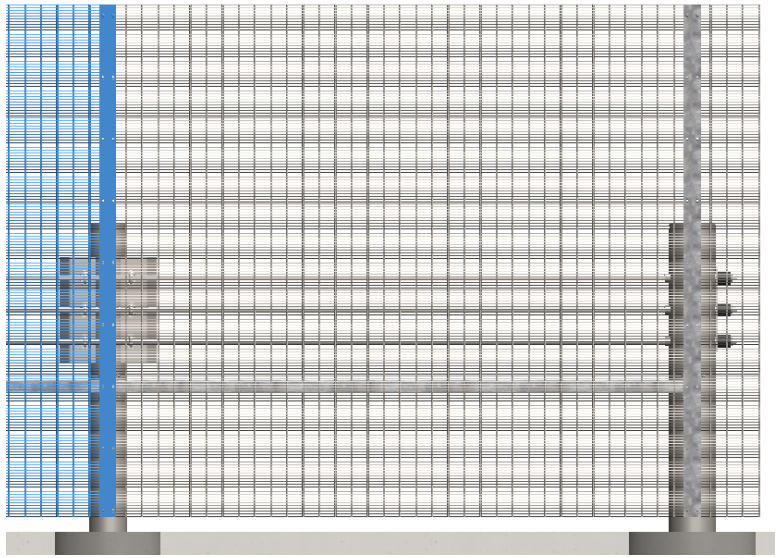

Figure 18

Installation Guide: Final Verification and Shearing

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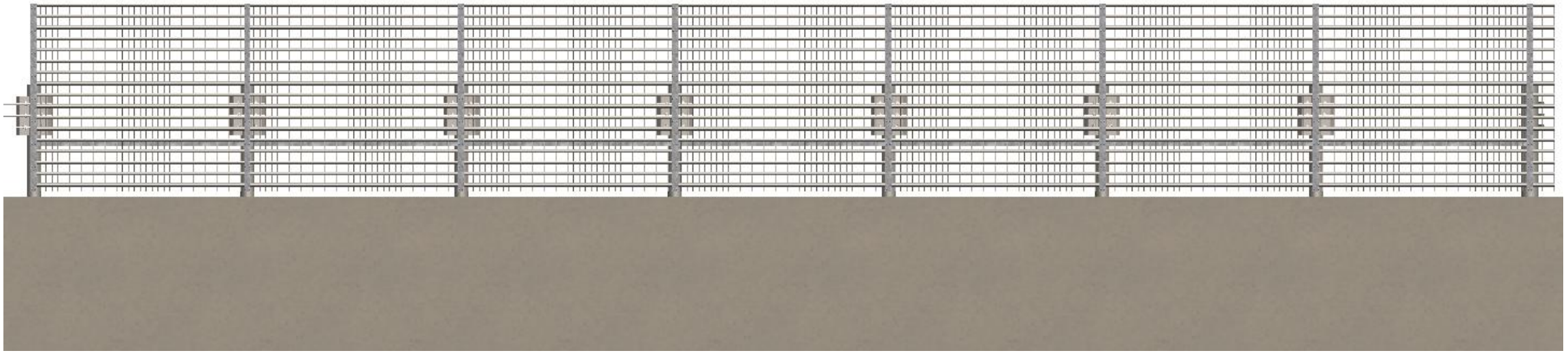

Step 11:

- Ensure all Reinforcing Rails, Panels and Posts are levelled and aligned.
- Ensure all Bolts are secured with Washers and Self-Breaking nuts.
- **Torque and Shear-off all Nuts**.

Ancillary Parts/Fixture Details

Line Post Cable Fixation:

Cables are fixated to Line Posts using M18 U-Bolts. (Fig. 22, 23)

Terminal Post Cable Fixation:

Cables are tensioned to Terminal End Posts using a special anchorage tool (KM22-1860) (Fig. 20, 21)

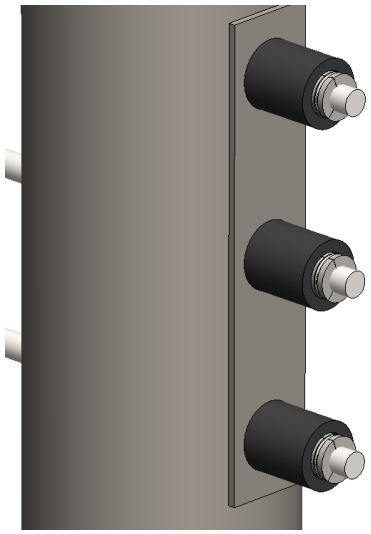

Figure 20

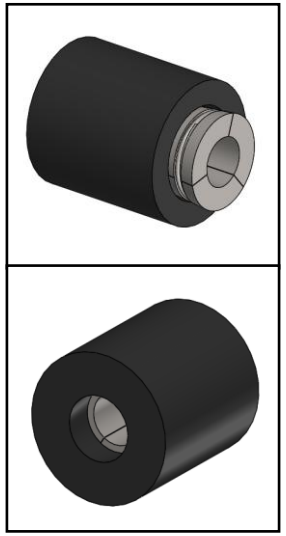

Figure 21

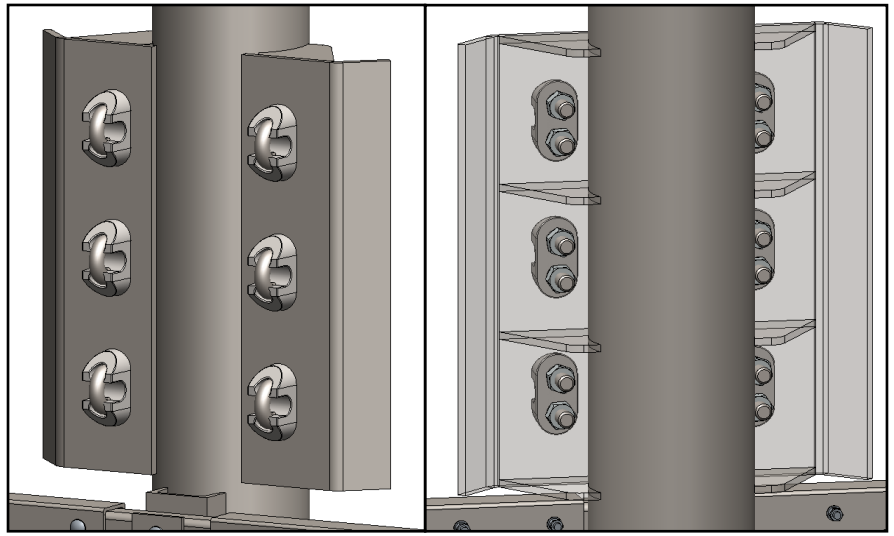

Figure 22

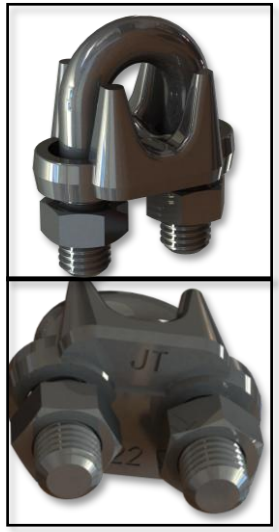

Figure 23

Ancillary Parts/Fixture Details – Corner Details

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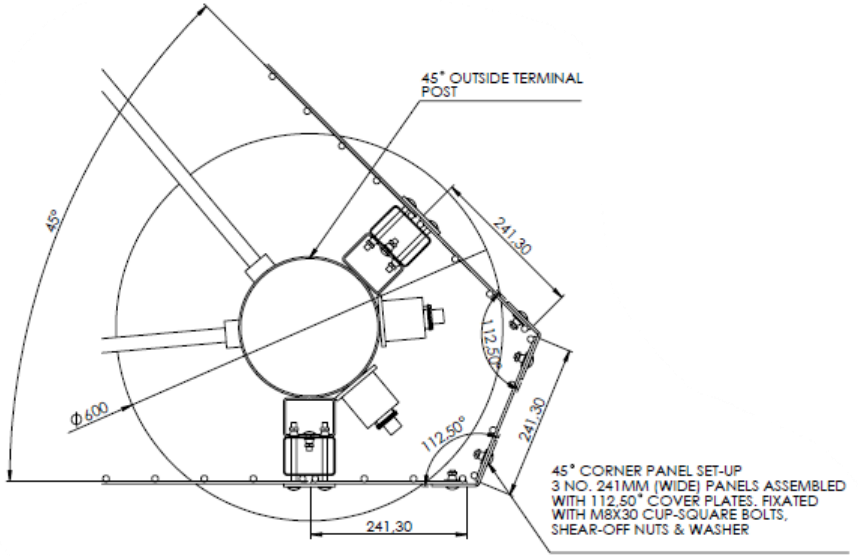
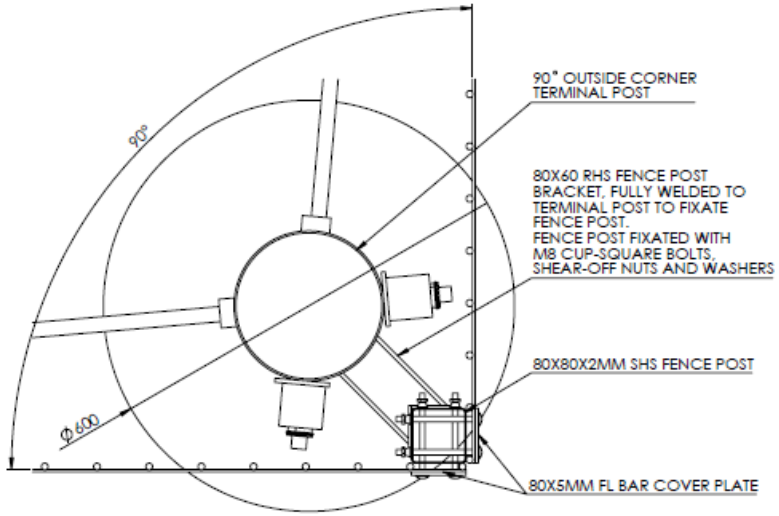
For corner configurations, a combination of the End Panels and Custom Angled Cover Plates can be used to achieve Corner Post Installation for:

- 90° Inside and Outside Corners
- 135° Inside and Outside Corners
- 45° Inside and Outside Corners
- 162° Inside Corners

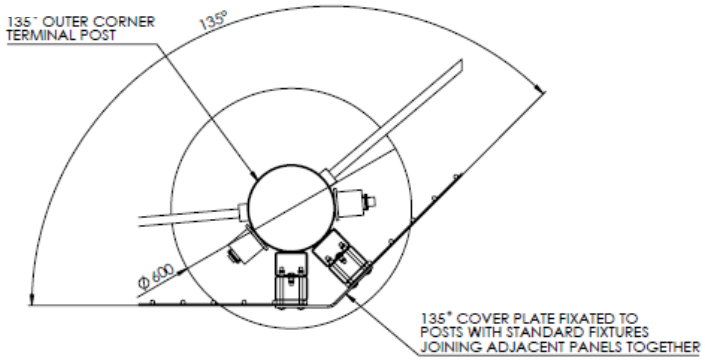
*Custom Angled Corner Splice Connectors can be designed to suit your needs. Please speak to your local salesperson and provide the necessary corner dimensions.



TYPICAL CORNER DETAIL
45° OUTSIDE CORNER CONFIGURATION
(RIGHT AND LEFT)



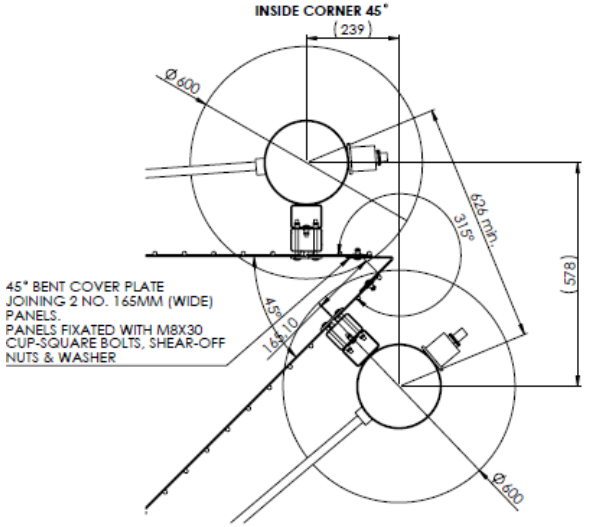
TYPICAL CORNER DETAIL
90° OUTSIDE CORNER CONFIGURATION
(RIGHT AND LEFT)

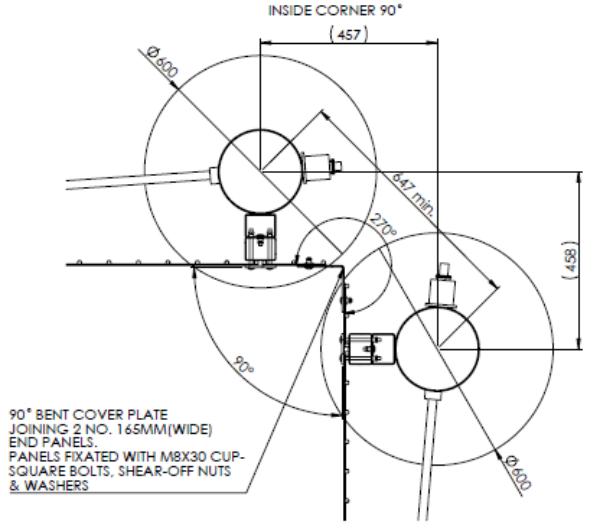


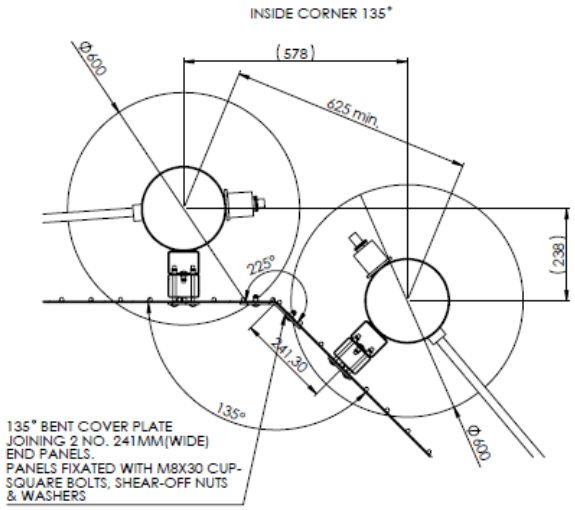
TYPICAL CORNER DETAIL
135° OUTSIDE CORNER CONFIGURATION
(RIGHT AND LEFT)

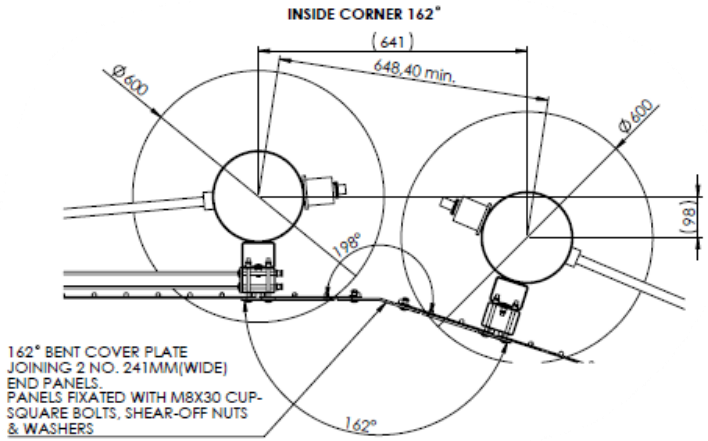
Ancillary Parts/Fixture Details – Corner Details

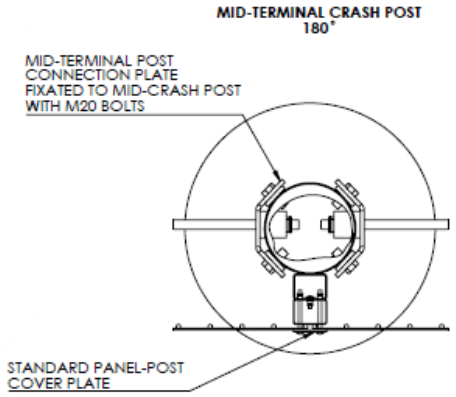
BETAFENCE











General Notes

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Notes:

1. Concrete Cube Test – 7, 14 & 28 day concrete cube test is required. Ensure that all records are kept on file.

2. Cable Tensioning – All cable tensioning are to be recorded and filed. The temperature/pressure values for each cable is to be recorded.

3. M18 U-Bolt Grip Torque records to be filed.

4. FOUNDATION DRAWING/DETAIL DISCLAIMER:

THE DIMENSIONS OF THE FOUNDATIONS AND THE CONCRETE STRENGTH DEPICTED ARE PURELY INDICITIVE. THE SUPPLY OF SUCH INFORMATION SHOULD IN NO WAY BE CONSTRUED AS A SUBMISSION BY BETAFENCE THAT THE DIMENSIONS OF THE FOUNDATIONS AND CONCRETE STRENGTH WOULD BE FIT FOR PURPOSE OR THAT BETAFENCE HAS ASSUMED ANY DESIGN LIABILITY FOR SUCH INFORMATION. IT IS THE RESPONSIBILITY OF OTHERS TO CONFIRM THE SOIL/GROUND CONDITIONS.

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