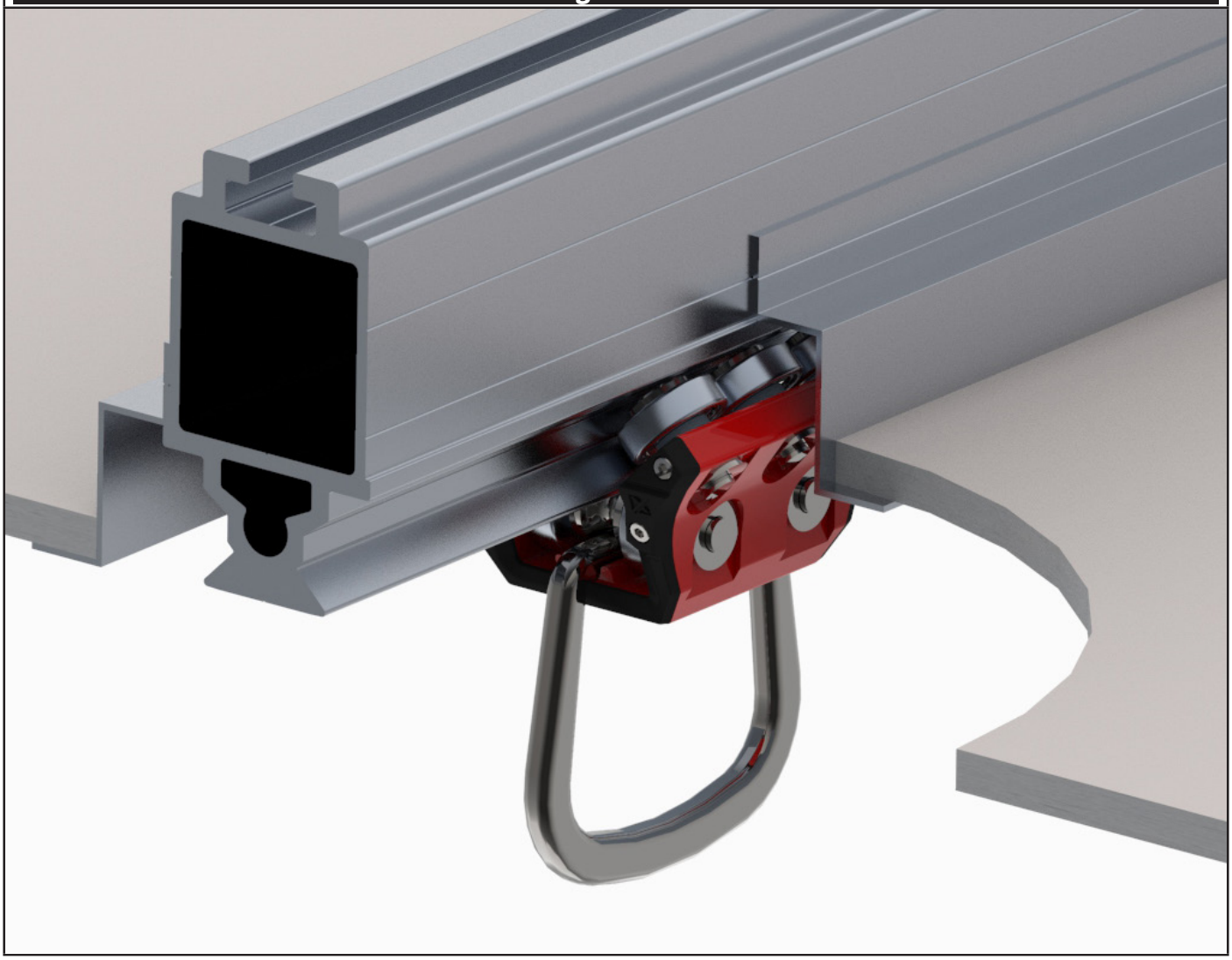
SAFETYLINK
A DELTA PLUS GROUP COMPANY

X-Rail ULTRA

Horizontal Rail System

Installation and Use

Figure 1



CONTENTS

1 Warning

⚠ ***Improper Use, Installation or Maintenance may result in serious injury or death.***

⚠ ***The structure or anchorage to which SafetyLink products are to be installed shall be assessed by a professional engineer to ensure it has adequate strength to support the product.***

⚠ ***SafetyLink products shall be installed, used and maintained in accordance with the applicable SafetyLink installation and use manual.***

⚠ ***SafetyLink's product shall be used in accordance with the current working at height standards, codes of practice, regulation or legislation in the region of use.***

⚠ ***During installation, use and maintenance, personnel shall not be exposed to a fall hazard.***

⚠ ***Installation is to be carried out by, or under the supervision of, a competent person.***

⚠ ***The installer shall complete the applicable SafetyLink online training modules before installing this product.***

⚠ ***Connection systems used with SafetyLink Anchor, Lifelines and Rigid Rail Systems shall contain a personal energy absorber.***

⚠ ***Do not carry out any modifications to this product without written permission from SafetyLink.***

2 Specification

2.1 Description

The X-Rail Ultra is a Horizontal Rail System suitable for use as part of a personal fall protection system. The system is comprised of a permanently installed horizontal rail profile with a number of shuttles for users to attach. The shuttles are free to traverse the length of the rail.

2.2 Standard

The X-Rail Ultra Horizontal Rail System is compliant with AS/NZS 1891.2, EN795 and CEN/TS16415.

2.3 User Rating

The X-Rail Ultra is rated for up to 4 users with a maximum weight of 150kg.

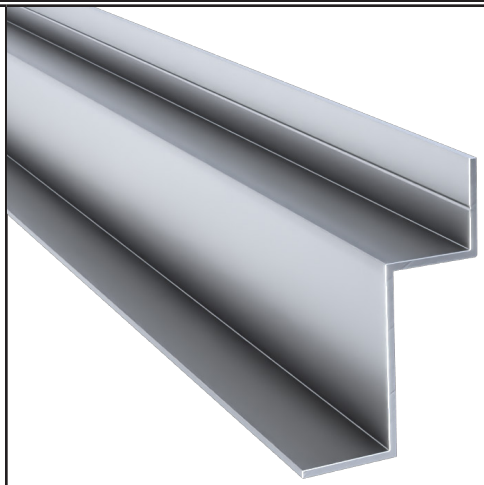
⚠ ***Never connect more than one user to each shuttle.***

2.4 Material Specification and Components

Figure 2

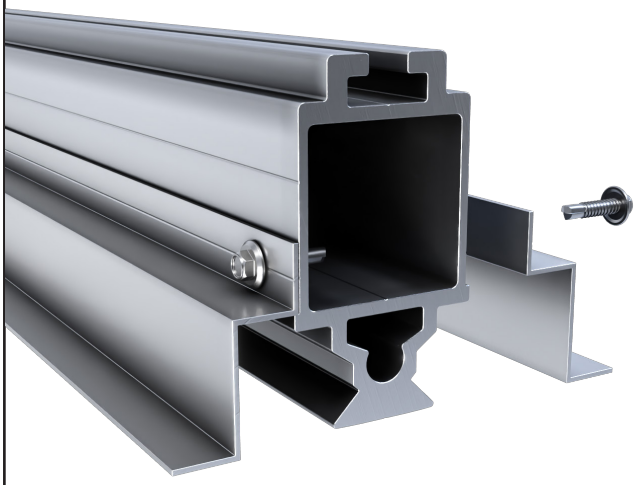
RAIL PROFILE

XRAIL-U-PRO-6M.T6



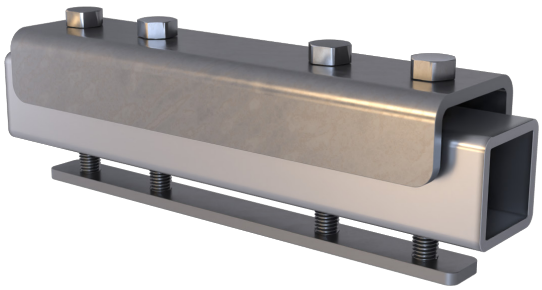
CONCEAL PROFILE

XRAIL-U-CON-6M.T5



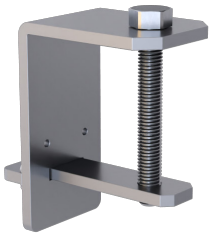
RAIL PRO PLUS CONCEAL PRO

XRAIL-U-101-6M.KIT



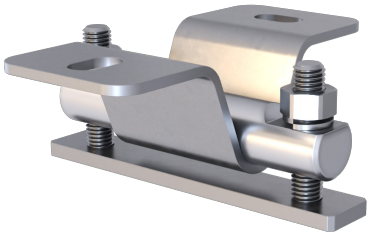
RAIL JOIN

XRAIL-U-JOIN



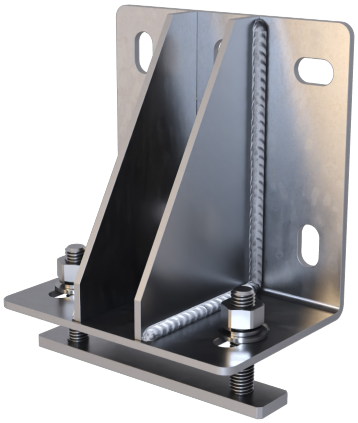
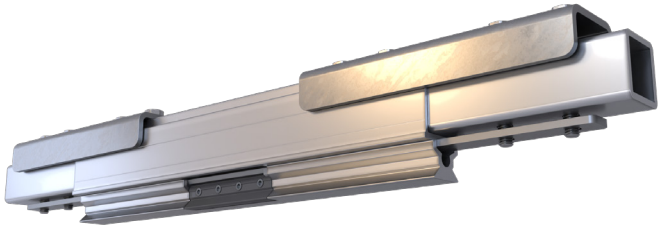
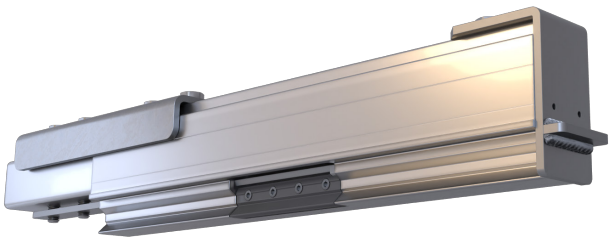
RAIL END

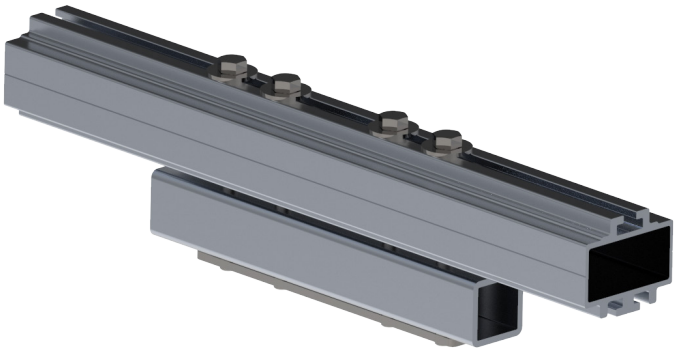
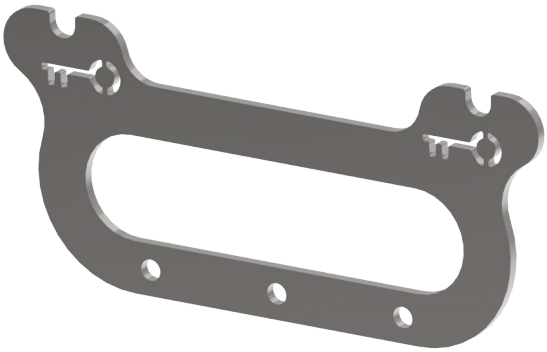
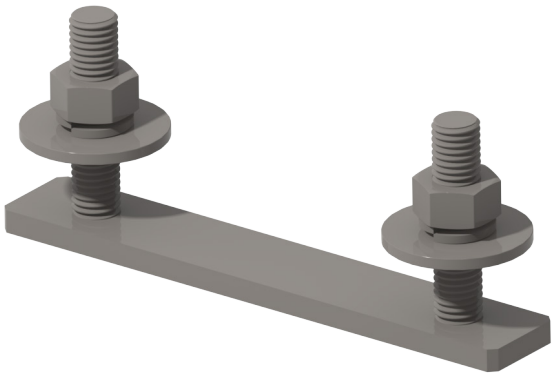
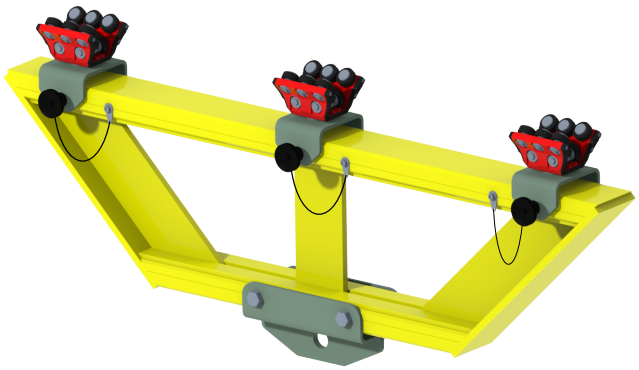
XRAIL-U-END

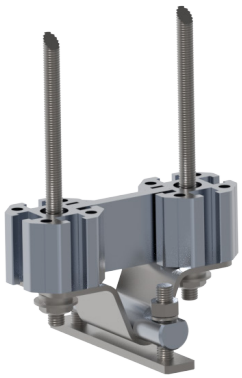
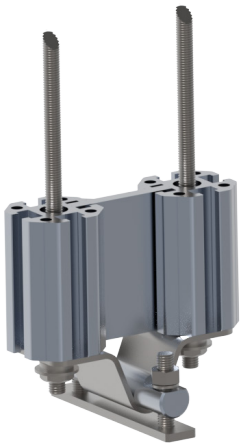
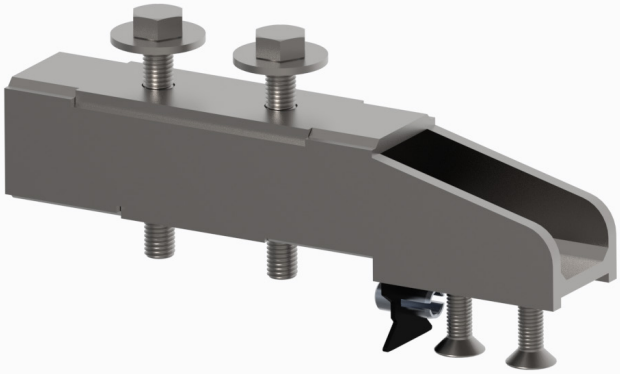


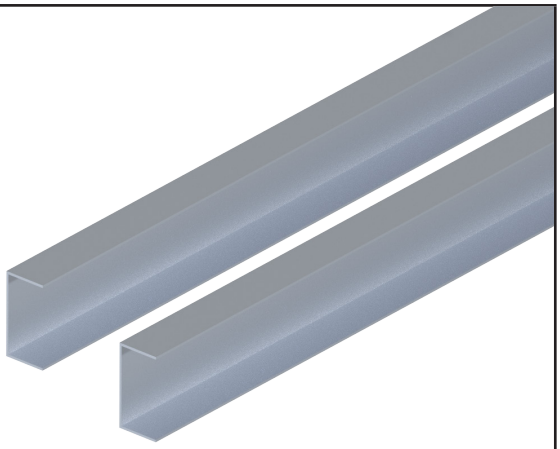
OVER HEAD MOUNTING BRACKET

XRAIL-U-OH-BRACKET

	
WALL MOUNTING BRACKET	**500MM SUSPENDED BRACKET**
XRAIL-U-WL-BRACKET	XRAIL-U-SUSP.500
	
1000MM SUSPENDED BRACKET	**MID RAIL GATE**
XRAIL-U-SUSP.1000	XRAIL-U-GATE_MID
	
END RAIL GATE	**CAST IN SOCKET**
XRAIL-U-GATE_END	XRAIL-U-CAST

	
LONG SPAN RAIL JOIN	**RAIL DRILL FIXTURE**
XRAIL-U-JOIN.L	XRAIL-U-DRILL.FIX
	
GATE KEY	**CONCRETE STUD**
XRAIL-U-GATE.KEY	CON-M12x160-XDONUT
	
SUPPLIED STRUCTURE BRACKET	**MATERIALS HANDLING BAR**
XRAIL-U-SS-BRACKET	XRAIL-U-MH.BAR

	
SPACER KIT, 50mm, OVERHEAD BRACKET	**SPACER KIT, 100mm, OVERHEAD BRACKET**
XRAIL-U-SUSP.50.K	XRAIL-U-SUSP.100.K
	
SPACER KIT, 150mm, OVERHEAD BRACKET	**SPACER KIT, 200mm, OVERHEAD BRACKET**
XRAIL-U-SUSP.150.K	XRAIL-U-SUSP.200.K
	
SPACER KIT, 250mm, OVERHEAD BRACKET	**JOIN, XRAIL TO XRAIL ULTRA**
XRAIL-U-SUSP.250.K	XRAIL-U-XTX

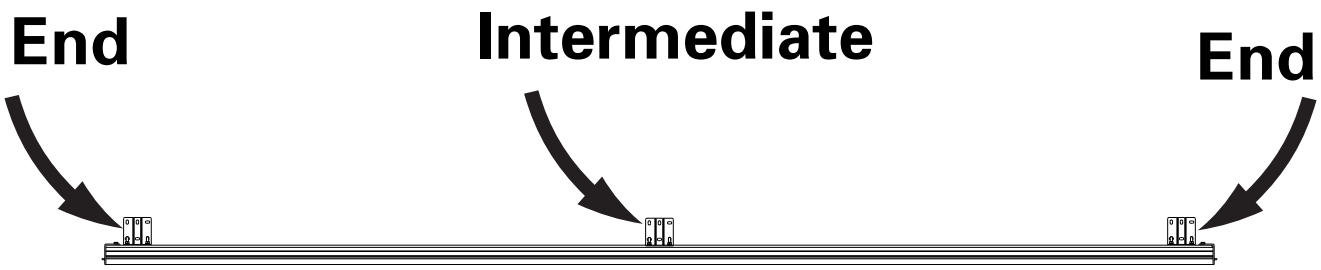
	
PURLIN FIXING KIT	**PURLIN BRACING KIT**
XRAIL-U-FIX.P	XRAIL-U-PUR.XXXX

3 Layout and Selection

3.1 System Design

Systems designed to support the weight of the user shall contain at least three support brackets (two ends and an intermediate).

Figure 3

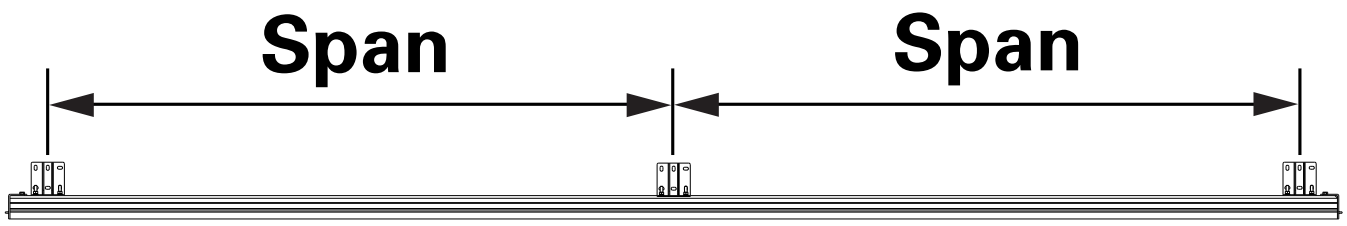


3.2 Spans

The below Figure 4 shows the allowable spans for the different support bracket configurations.

⚠ ***Joins in spans over 4m shall be made with the long span rail join (XRAIL-U-JOIN.L) see Section 4.8.***

Figure 4

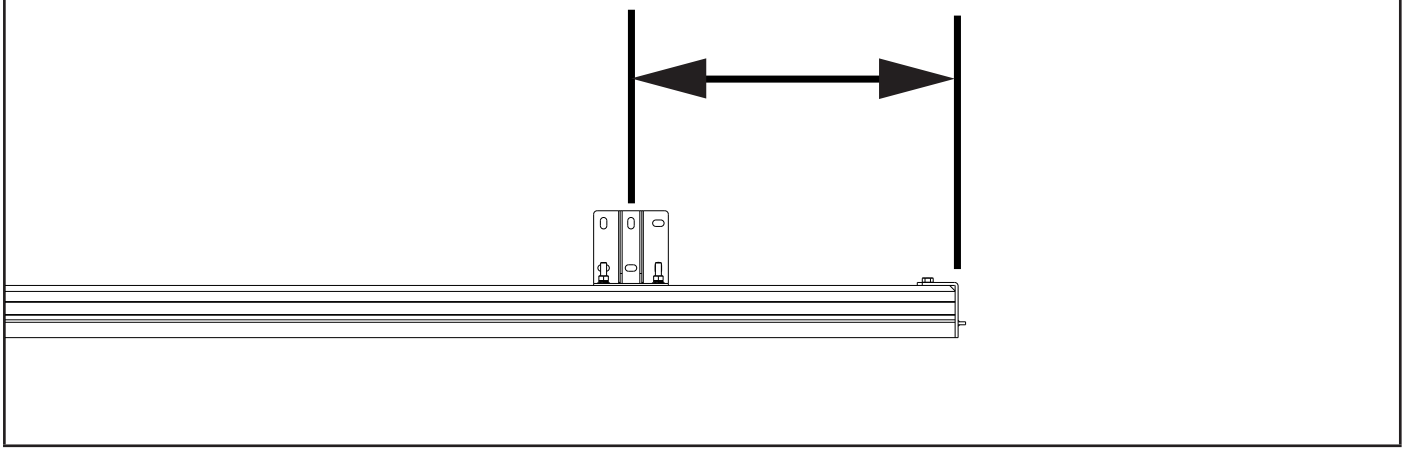


ABSEIL SPANS			
BRACKETS	**2 USERS**	**3 USERS**	**4 USERS**
Overhead	4m	4m	3m
Wall Mounted	4m	4m	3m
Suspended Profiles	4m	3m	2m
Purlin	2.4m	2.4m	2.4m
FALL ARREST SPANS			
Overhead	10m	10m	10m
Wall Mounted	10m	10m	10m
Suspended Profiles	4m	4m	4m
Purlin	2.4m	2.4m	2.4m

3.3 Over Hang

The end of the rail may over hang the end support bracket by 600mm.

Figure 5



3.4 Joins

I Joins may be placed anywhere within a span but not on an over hang.

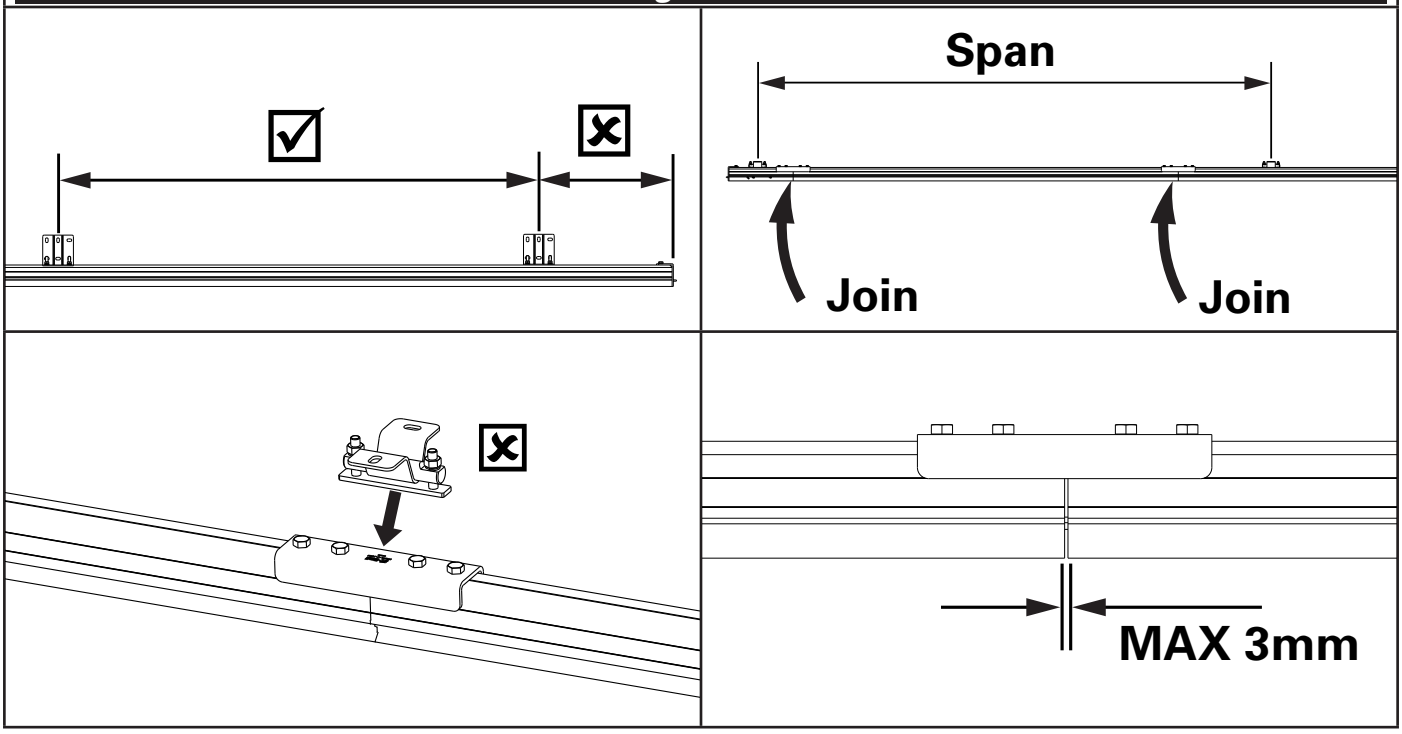
II There shall be no more than two joins within any one span. This includes gate joins, see sections 4.10 (2x joins) and 4.11 (1x join).

III Joins cannot be installed directly below an intermediate bracket.

IV There shall not be a gap greater than 3mm between the rail section at a join.

V Any join in a span over 4m shall be the long span rail join (XRAIL-U-JOIN.L). See Section 4.8.

Figure 6



3.5 Suspended Profiles

Suspended profile may be used to install the rail at a distance from the structure.

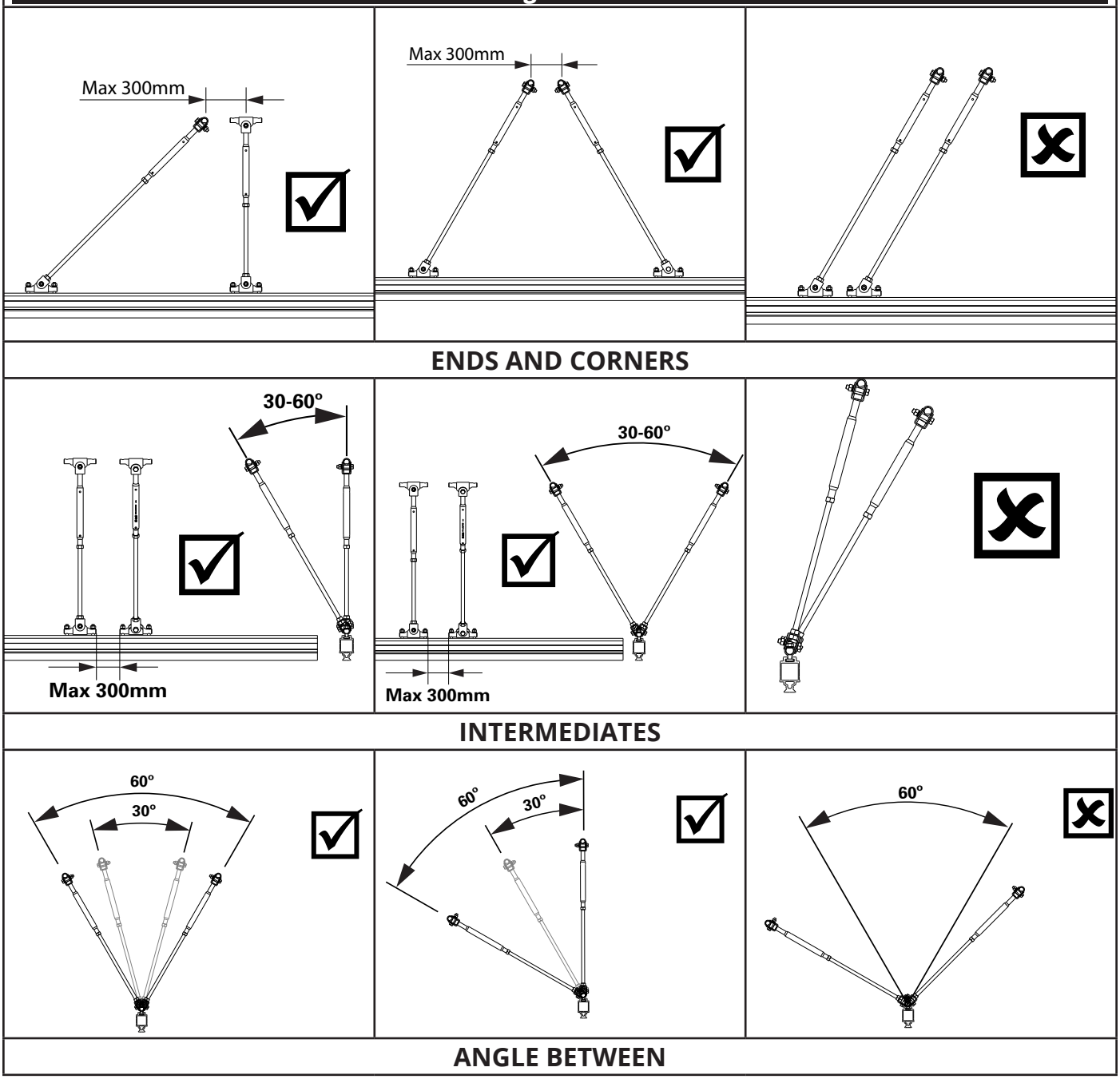
I End support brackets shall be formed with two suspended profiles installed in the plane of the rail.

II Corner support brackets shall be formed with two suspended profiles installed in the plane of the rail.

III Intermediate support brackets shall be formed with two suspended profiles installed in a plane perpendicular to the rail. The two suspended profiles shall either be anchored on opposite sides of the rail or one directly above the rail and the other off to one side. The distance between the two bracket where they connect to the rail shall be no greater than 300mm when measured inline with the rail.

IV For any of the above configurations, the angle between the two suspended profiles shall not be greater than 60° or less than 30°.

Figure 7



3.6 Purlin Suspended Profiles

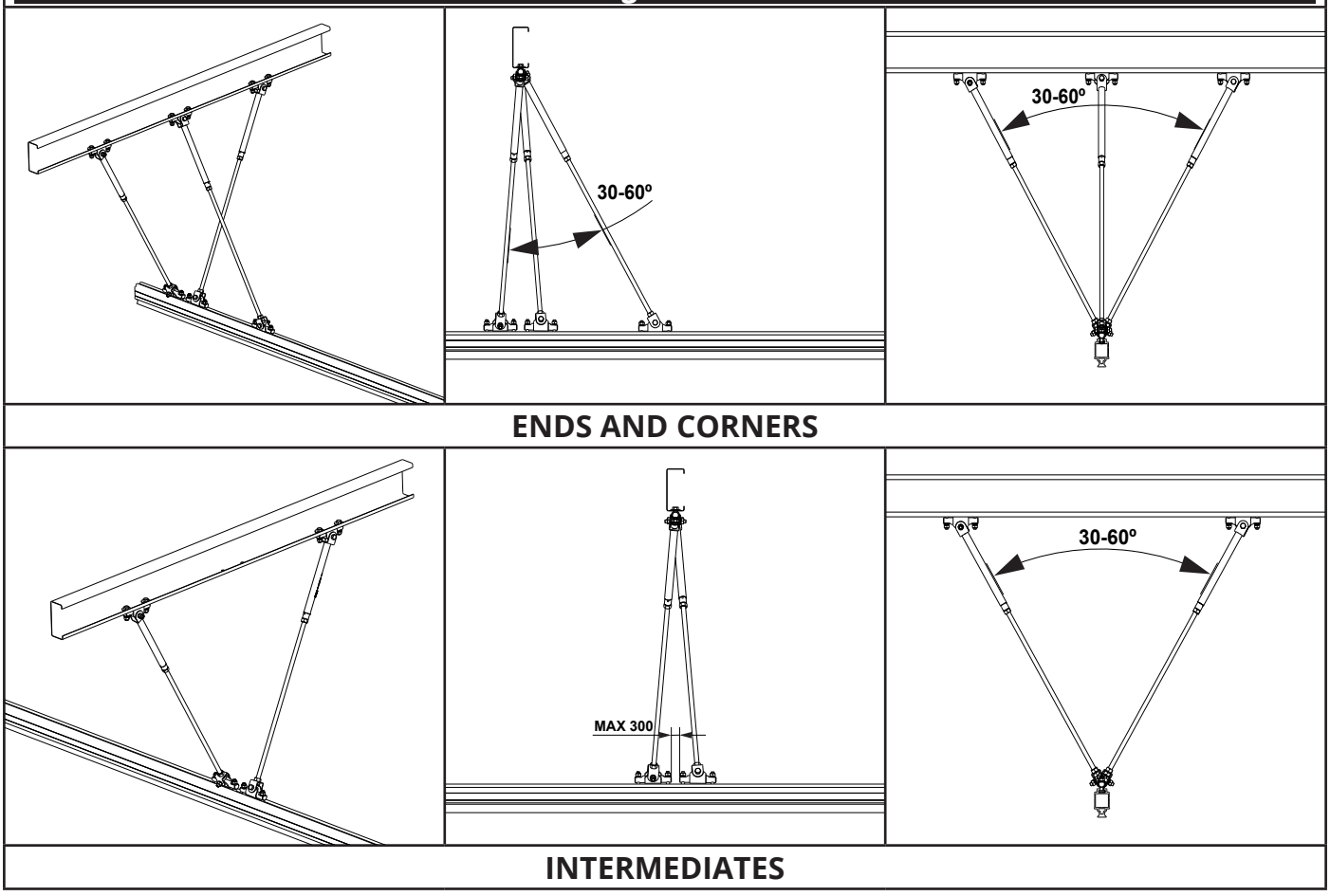
I End support and corners shall be formed with three suspended profiles. Two installed in a plane perpendicular to the rail. The two suspended profiles shall be anchored on opposite sides of the rail at least 15°off vertical. The third shall be installed inline with the rail.

II Intermediate support brackets shall be formed with two suspended profiles installed in a plane perpendicular to the rail. The two suspended profiles shall be anchored on opposite sides of the rail at least 15°off vertical. The distance between the two bracket where they connect to the rail shall be no greater than 300mm when measured inline with the rail.

III For any of the above configurations, the angle between the two suspended profiles shall not be greater than 60° or less than 30°.

☑ *These requires shall be follow when fixing to either a purlin or the purlin bracing channel.*

Figure 8



3.7 Angle of Use

The system shall be used within a 30° angle. See Figure 9.

3.8 Overhead Spacer

The X-Rail Ultra Overhead Spacer can be used to level a system installed on an uneven substrate or install a system at a distance from a substrate. The Spacer shall be no longer than 250mm resulting in a rail surface no greater then 400mm from the substrate. See Figure 10.

⚠ ***Spans cannot exceed 4m when using the Overhead Spacers.***

Figure 9

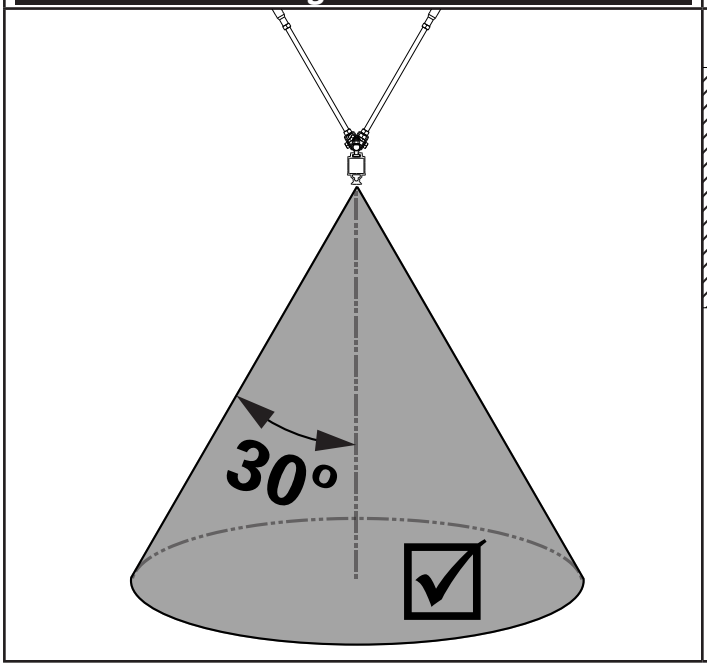
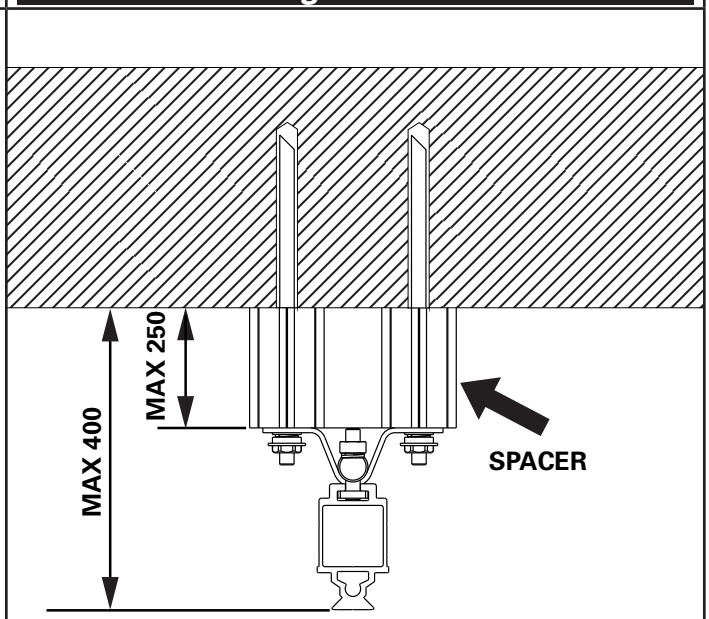


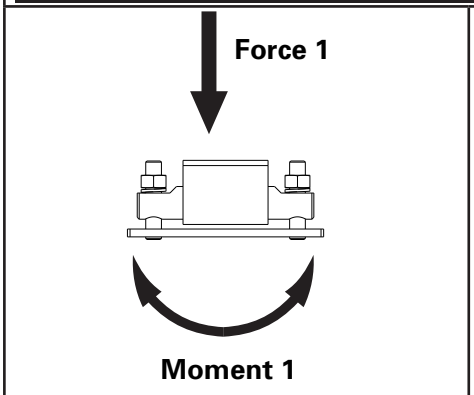
Figure 10



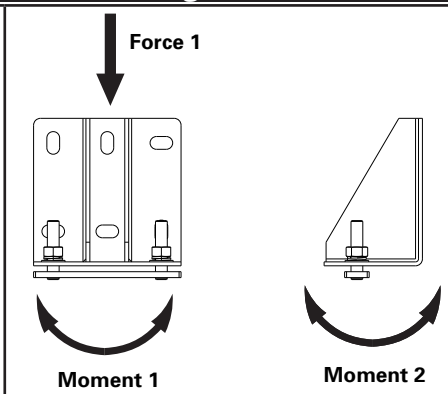
3.9 Reaction Loads

The loads exerted on a structure by this system can be found using the X-Rail Ultra load calculator on the SafetyLink Safety Centre.

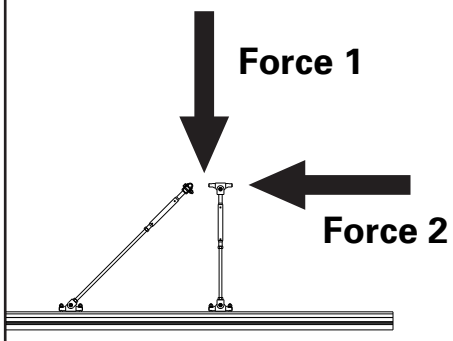
Figure 11



OVERHEAD AND SUPPLIED STRUCTURE



WALL



SUSPENDED

⚠ ***All load cases shall be considered by a trained engineer.***

⚠ ***The above cases represent the standard installation configurations, specific installations may require additional load case investigation.***

3.10 Angle of Installation

The rail shall be installed level to within 5° of horizontal.

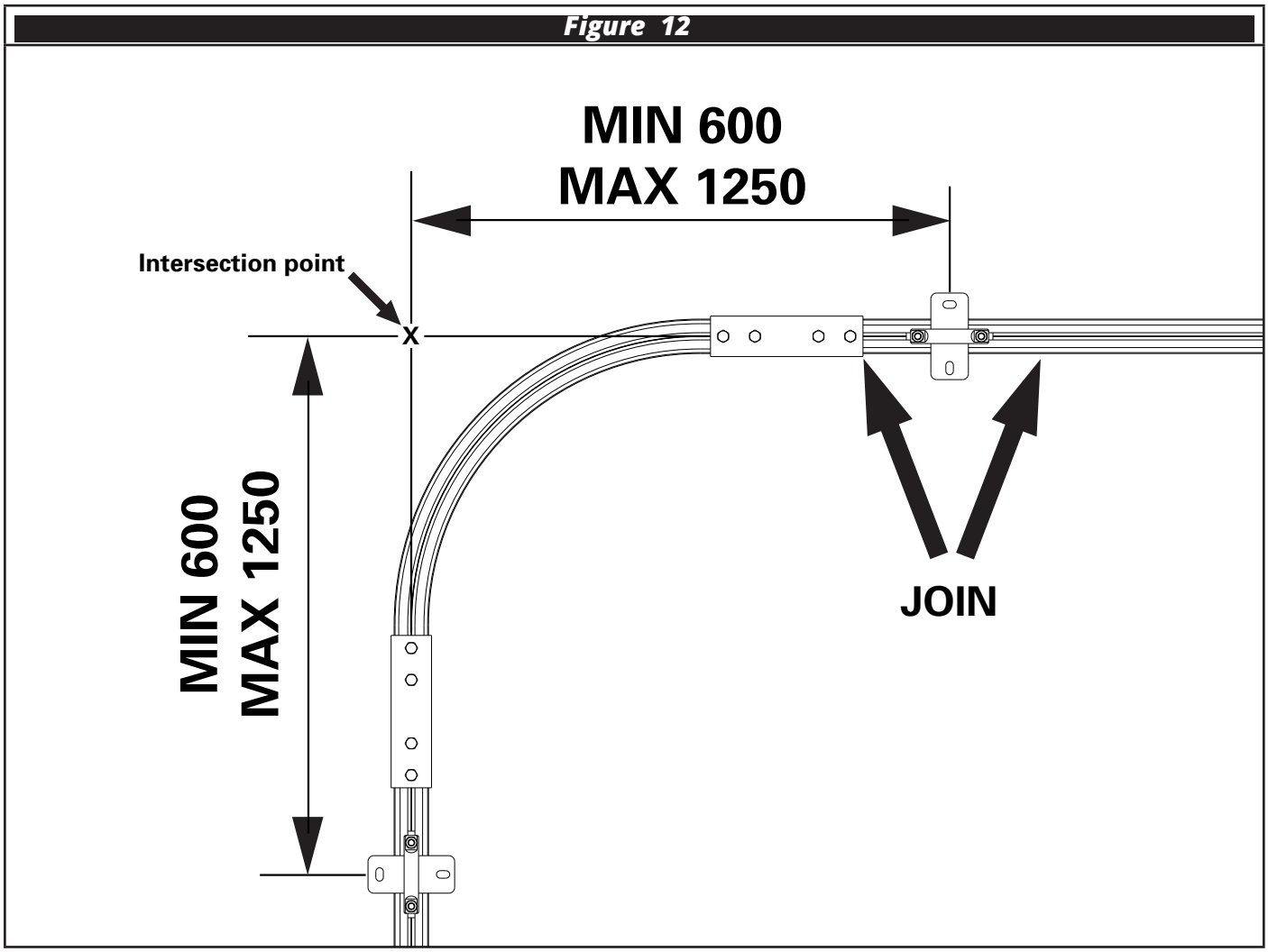
3.11 Corner

The minimum corner radius available is 500mm.

Corners shall be supported on both sides by an intermediate bracket within 1250mm of the intersection point of the rails. The intermediate bracket will not fit closer than 600mm to the intersection point.

The join may be placed on either side of the intermediate bracket.

Figure 12



3.12 Span Deflection

The below represents the maximum expected deflection of a span during a fall arrest event.

Figure 13

Span (m)	Deflection (mm)	Span (m)	Deflection (mm)
1	25	6	300
2	50	7	375
3	100	8	450
4	150	9	525
5	225	10	600

4 Installation

4.1 Fixings

4.1.1 General

All fixings used to attach the X-Rail Ultra system to the substrate that were not supplied by SafetyLink shall be M12 (1/2") in diameter. Fixing shall be stainless steel grade 316 or 304 or hot dip galvanised or zinc plated steel grades 8.8 or 8. Fixing shall be installed with spring washers, lock nuts or thread lock adhesive to prevent loosening.

⚠ ***SafetyLink does not recommend the use of zinc plated fasteners in a corrosive or outdoor environment.***

4.1.2 Steel

For installation on a steel structure, SafetyLink recommends the use of appropriate hex head screws or bolts meeting the requirements of section 4.1.1. Fixing shall be tightened to 70Nm and once tight, a minimum of 2 threads shall extend past the end of the nut.

4.1.3 Purlin Bolt

For installation on a steel structure, SafetyLink recommends the use of appropriate hex head screws or bolts meeting the requirements of section 4.1.1. Fixing shall be tightened to 70Nm and once tight, a minimum of 2 threads shall extend past the end of the nut. In the purlin, a OD37mm mudguard washer shall be used.

4.1.4 Concrete - DonutLink

SafetyLink's DonutLink M12 Concrete Stud CON-M12x160-XDONUT are to be installed with chemical adhesive CON-CHEM-FISV.300.

⚠ ***The minimum allowable slab thickness is 150mm.***

⚠ ***The minimum edge distance is 200mm.***

⚠ ***Ensure the specific requirements are met for the bracket being installed.***

1 Mark the location for the hole and drill an Ø14mm hole to 110mm. The depth of the hole must be into structural concrete.

2 Clean the hole, ensuring it is free of moisture and dust and inject the adhesive into the hole as per the manufacturer's instruction.

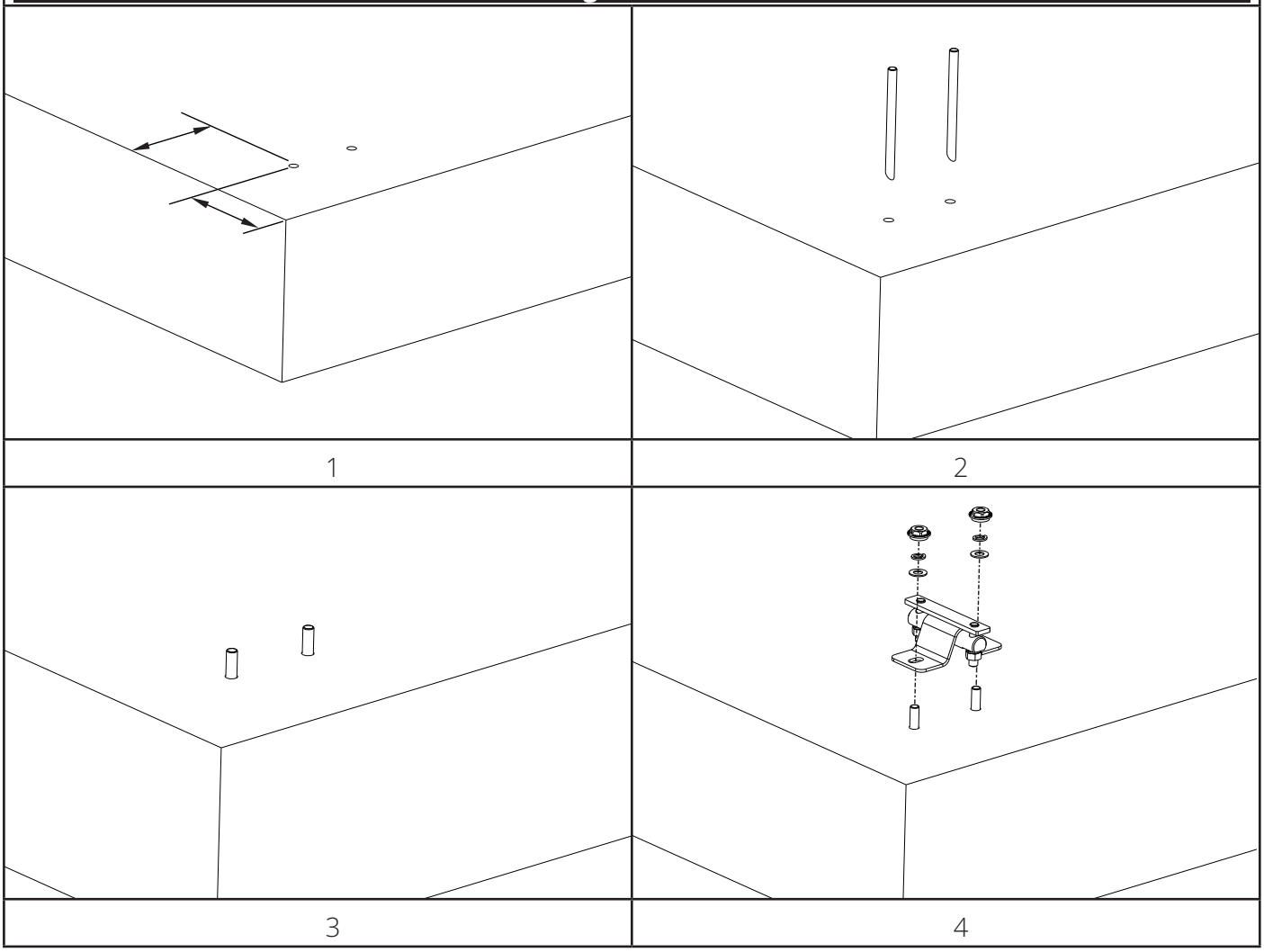
3 Insert the stud to full depth. Wipe away any adhesive expelled from the hole.

⚠ ***Ensure enough adhesive was used, the adhesive should finish flush with the concrete.***

4 Once the adhesive is cured, install the spring washer and tighten the Donut to 50Nm. The top of the stud may be cut down to leave a minimum of 2 threads exposed.

The DonutLink can be proof loaded with the Pull Test Adaptor (DONUTLINK-ADP) and a Hydrajaws portable tension tester.

Figure 14



4.1.5 Concrete for Overhead Spacer

1 Install two M12 Concrete Studs as per Section 4.1.4.

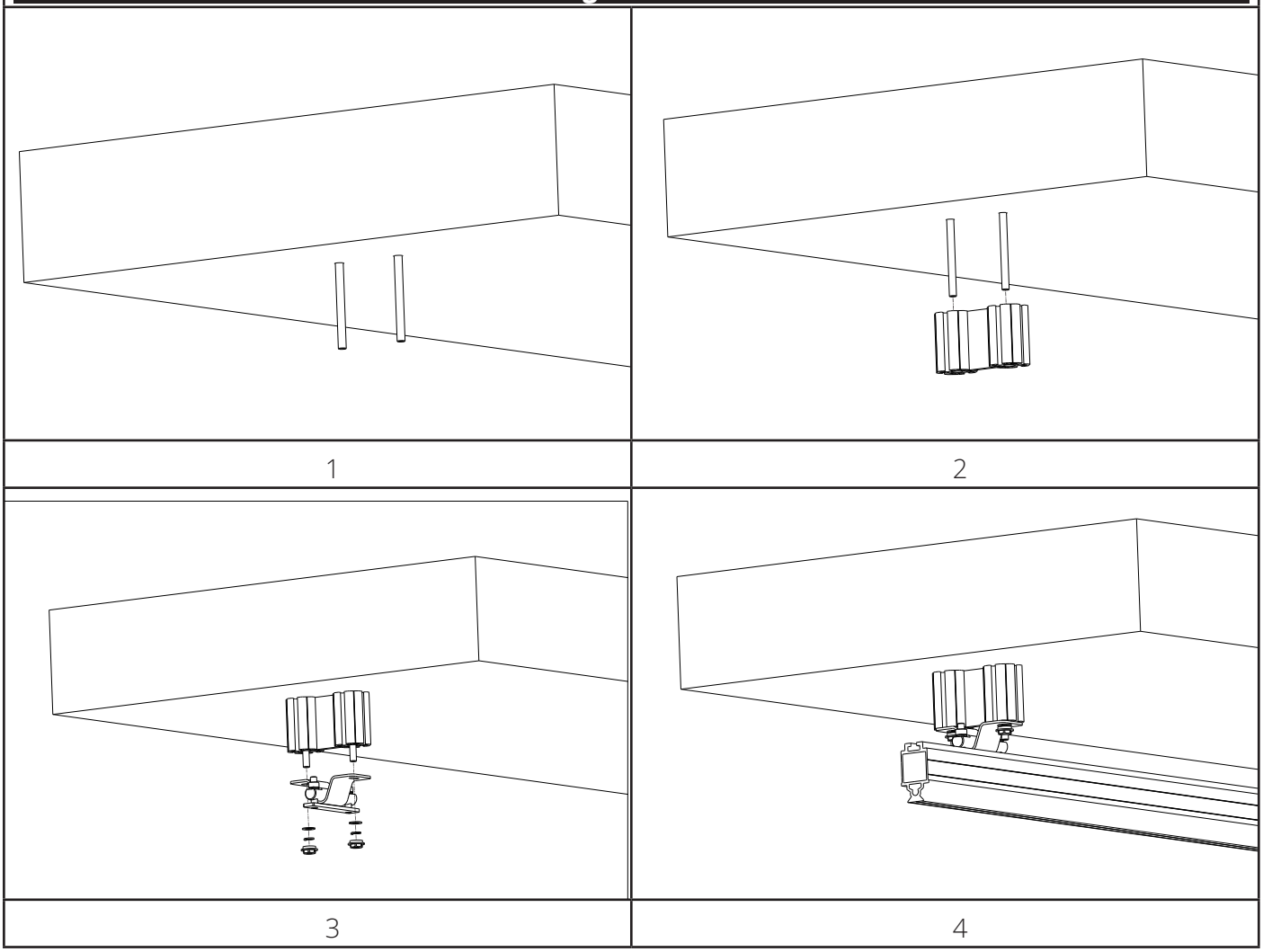
⚠ ***There must be sufficient thread left beyond the slab to install the spacer and bracket with 2 threads past the nut.***

2 Cut the spacer to length and install over the studs.

3 Install the bracket as per Section 4.1.4.

4 Install the rail in the bracket as per Section 4.4.

Figure 15



1 2 3 4

4.1.6 Cast In Socket

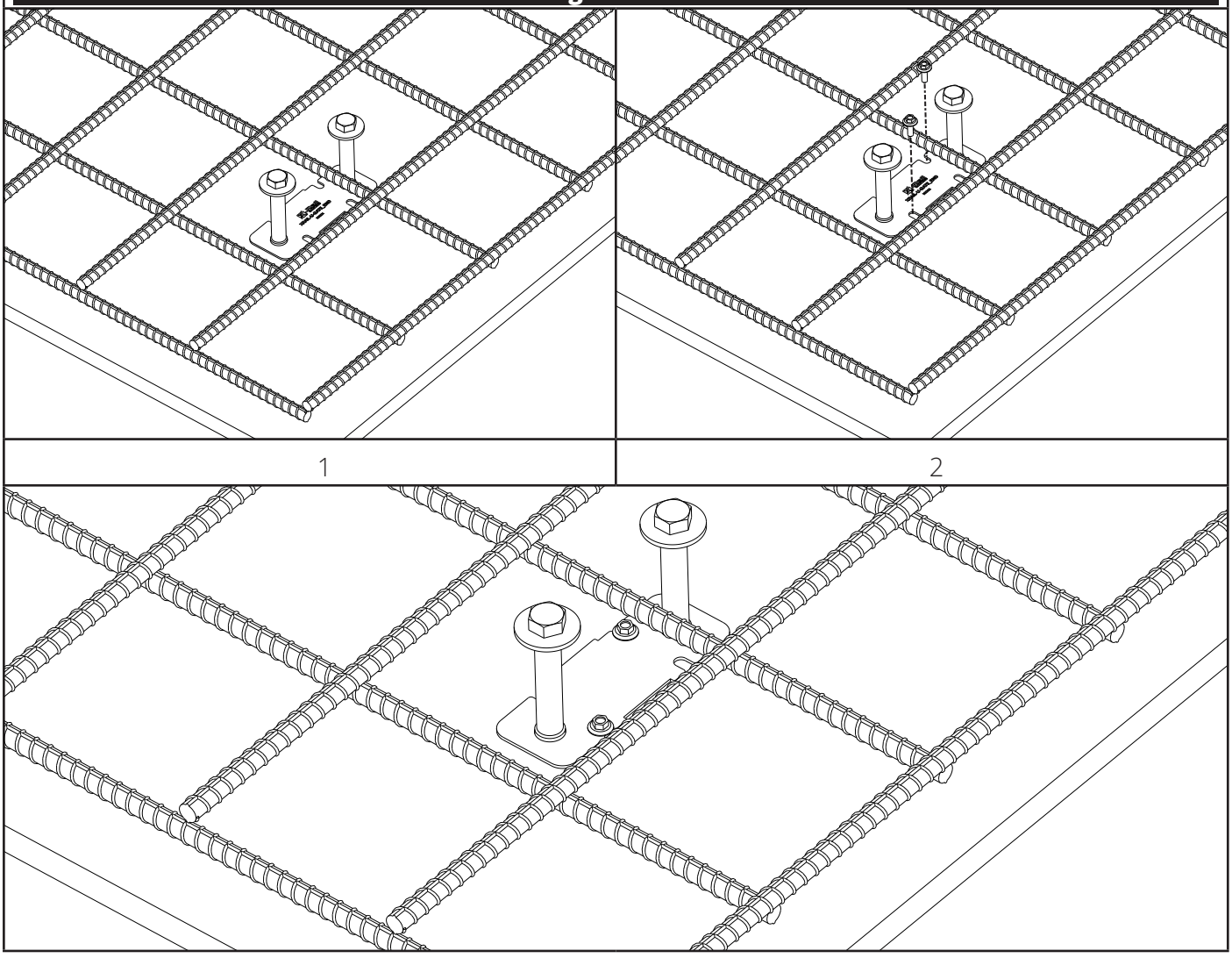
To avoid ongoing proof loading, all support brackets can be installed with a cast in socket.

⚠ ***The minimum allowable slab thickness is 150mm.***

1 Place the cast in socket on the base of the form work with a minimum edge distance of 75mm. The socket does not need to be tied to the reinforcement steel.

2 Screw the socket to the form work with two to four screws in the details provided.

Figure 16



4.2 Proof Loading

Each bolt shall be axial loaded to 7.5kN and held for 30 seconds.

⚠ ***Proof loading is only required for chemical and mechanical fixed bases as per AS/NZS1891.4.***

4.3 Fasteners

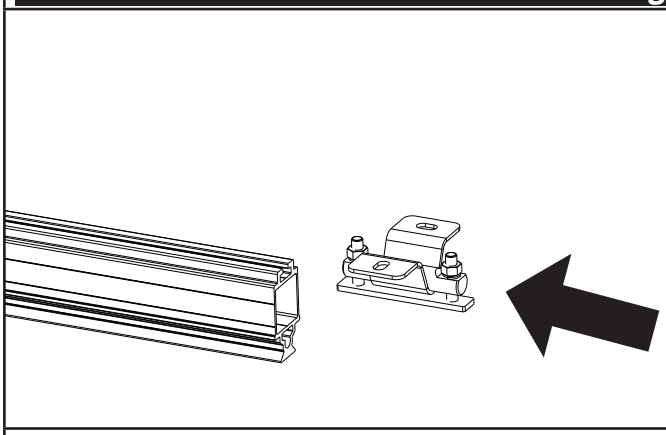
Fasteners are M12 hex head screws. All fasteners shall be tightened to 50Nm with a 19mm spanner.

4.4 Support Bracket Installation - Ends and Intermediates

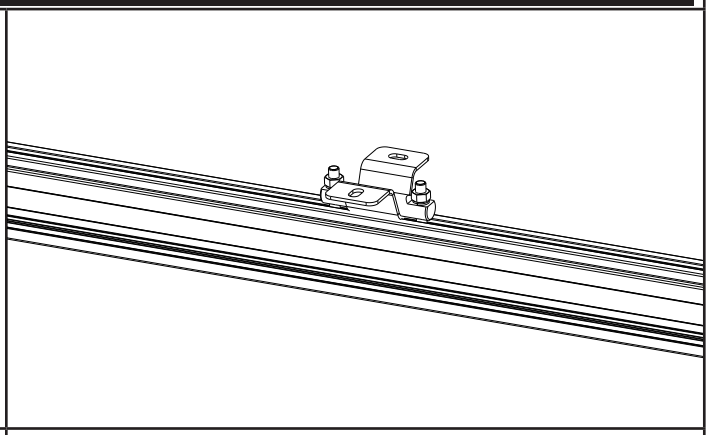
1 Slide the bracket in from the end of the rail to the desired location.

2 Install with the required bolts and tighten all fasteners to lock the rail in place.

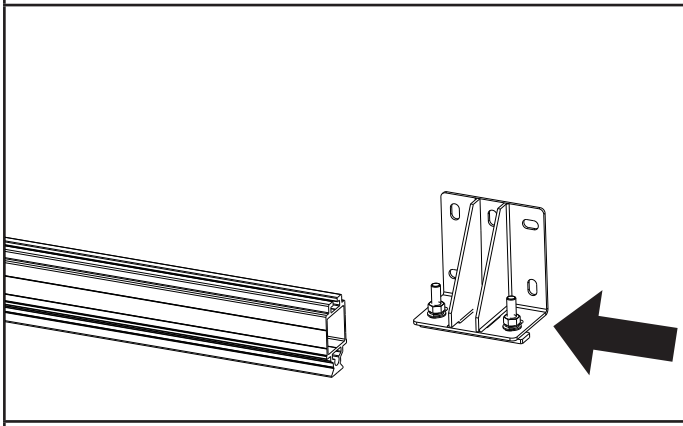
Figure 17



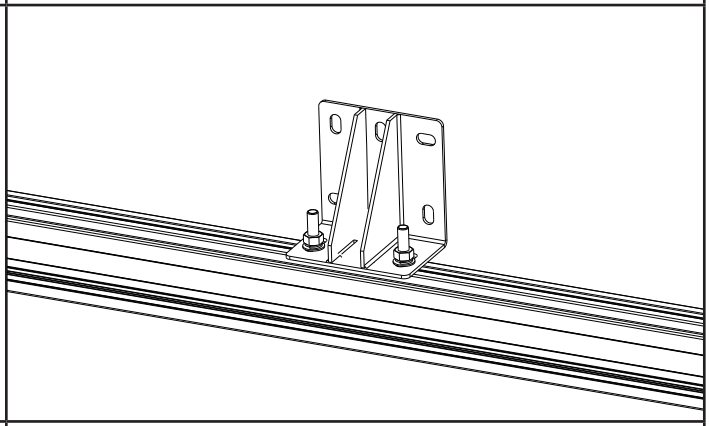
Overhead 1



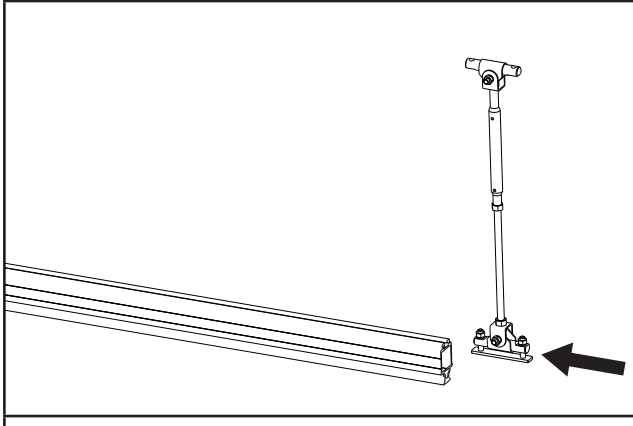
Overhead 2



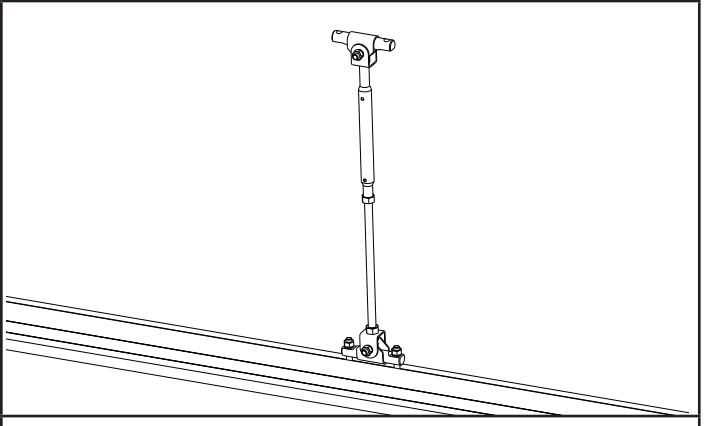
Wall Mounted 1



Wall Mounted 2



Suspended 1

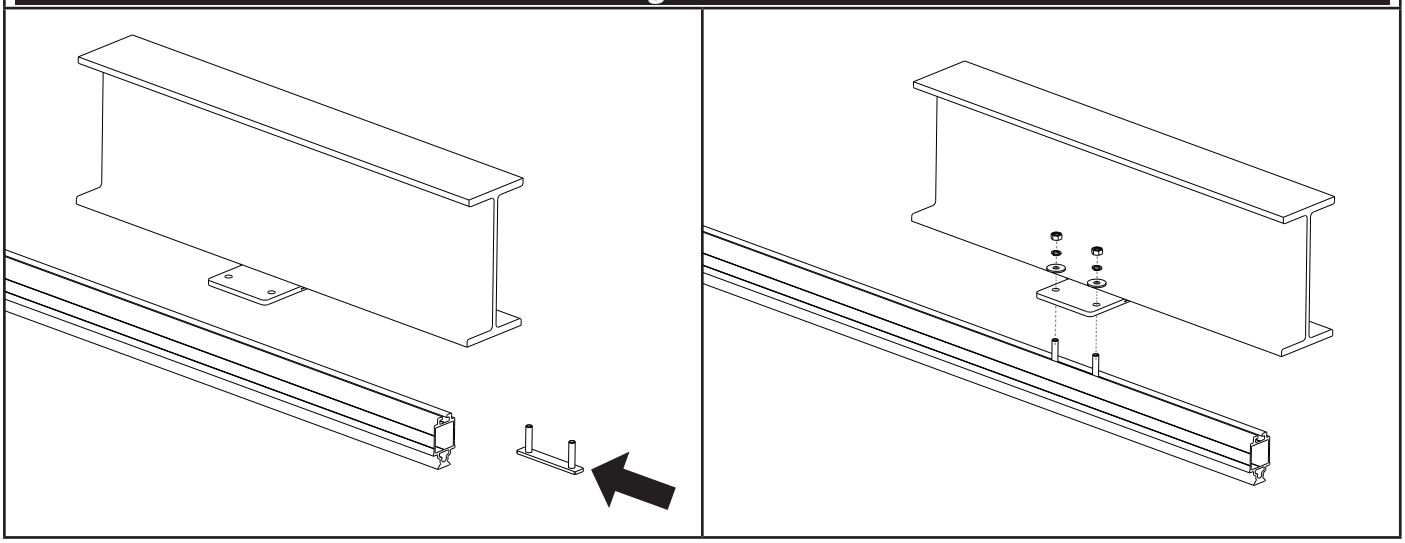


Suspended 2

4.5 Support Bracket Installation - Supplied Structure

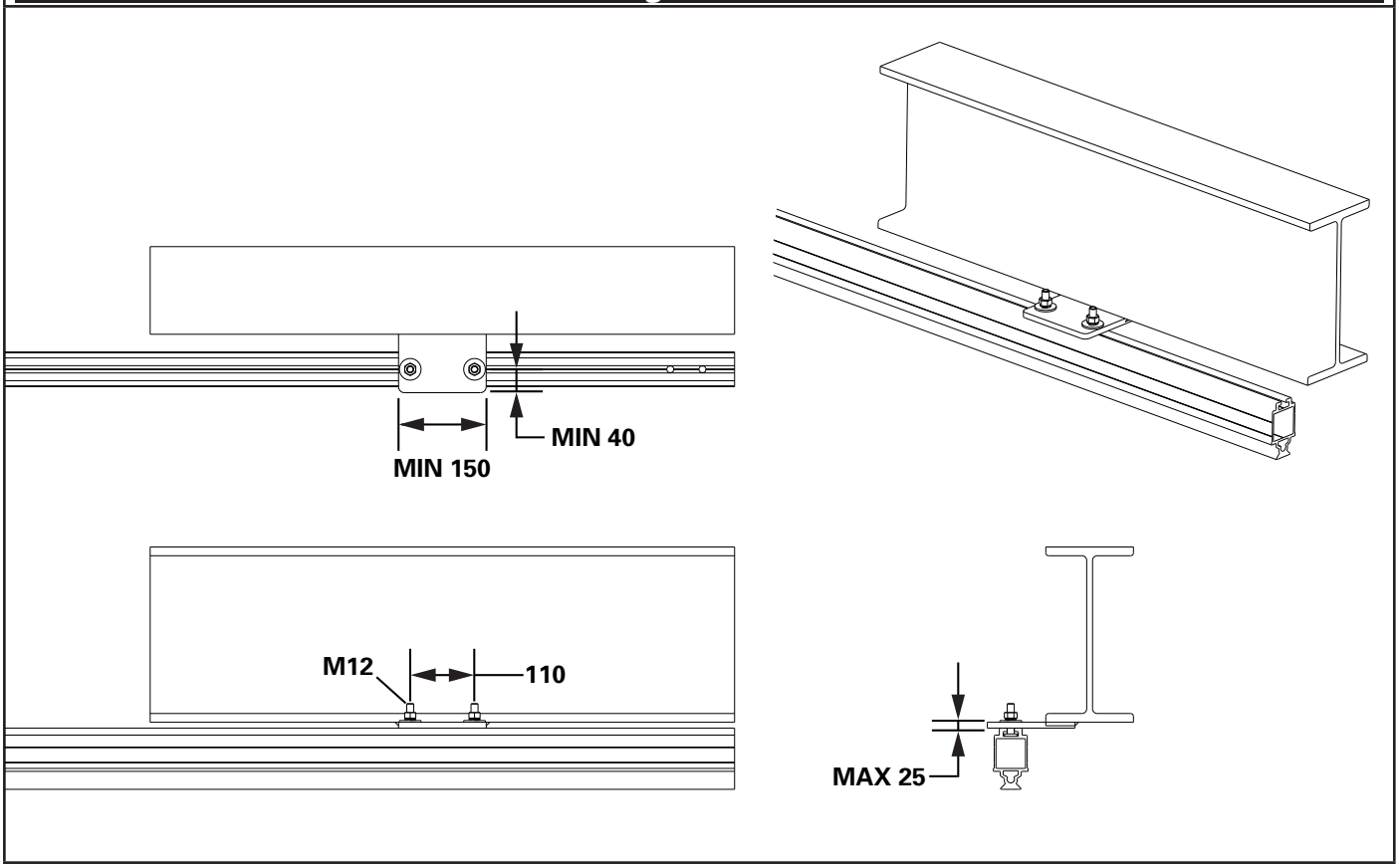
The supplied structure brackets allow the system to be fixed to a structure with the rail studs.

Figure 18



The structure must be prepare with the following dimension to ensure the bracket will fit.

Figure 19



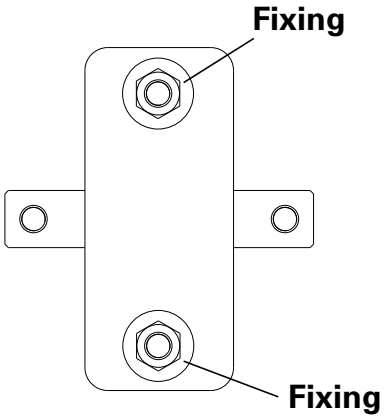
⚠ ***The designer of the structure shall ensure it is capable of supporting the load provided in Section 3.9.***

4.6 Support Brackets - Fixing Detail

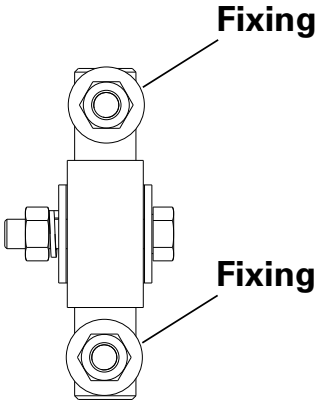
Each bracket shall be installed with the below fixings.

4.6.1 Steel (Ends and Intermediates)

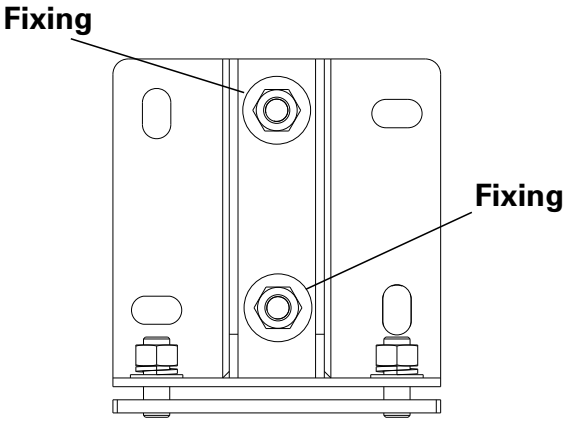
Figure 20



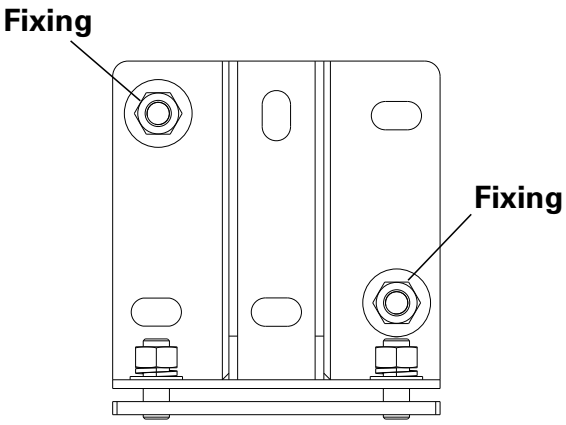
Overhead Fixing



Suspended Profile Fixing (Fixing detail shown is for one suspended profile only)



Wall Fixing Vertical Option

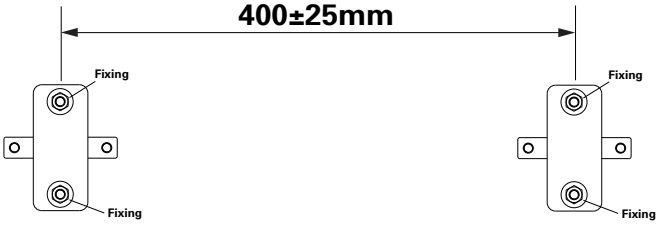


Wall Fixing Diagonal Option

4.6.2 Concrete Ends

The below are suitable fixing configurations for concrete fixings as per section 4.1.4 with spans up to 4m and no rail over hang. In some of the below configurations two end brackets are shown as two brackets are required to sustain the loads in section 3.9. For different configurations, the load cases shall be assessed as per section 3.9 against the selected concrete fasteners.

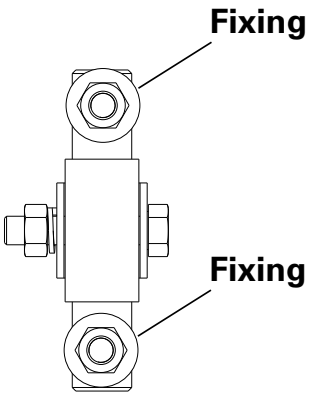
Figure 21



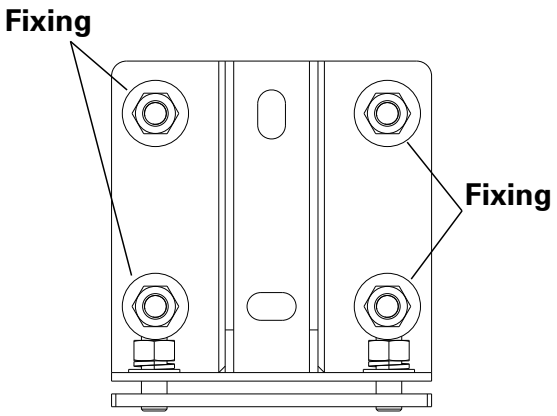
Overhead Fixing

Wall Fixing Diagonal

Wall Fixing Vertical



Suspended Profile Fixing (Fixing detail shown is for one suspended profile only)

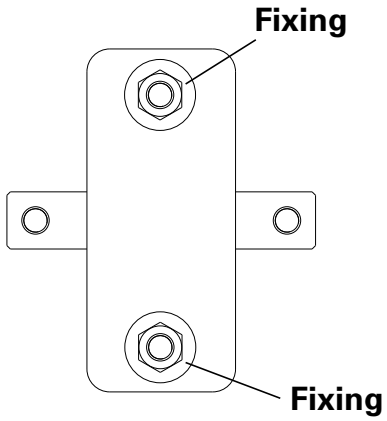


Wall Fixing 4 Fasteners

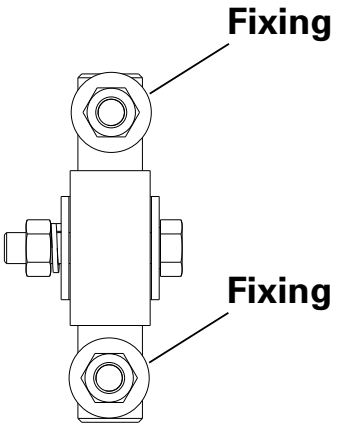
4.6.3 Concrete Intermediates

The below are suitable fixing configurations for concrete fixings as per section 4.1.4. For different configurations, the load cases shall be assessed as per section 3.9.

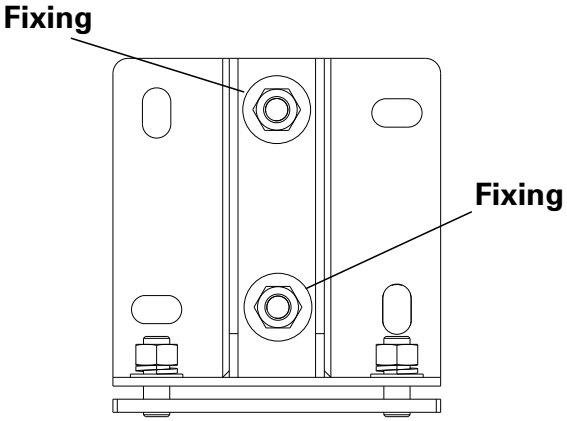
Figure 22



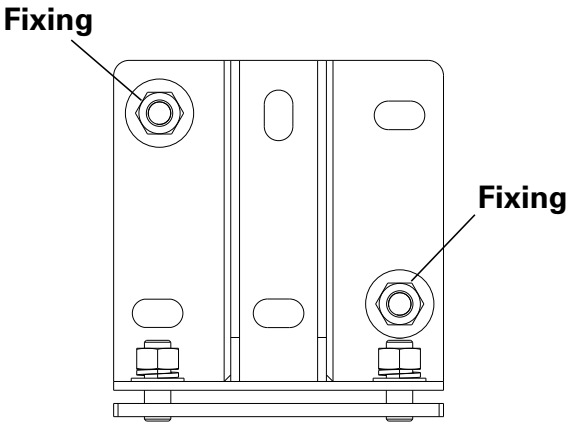
Overhead Fixing



Suspended Profile Fixing (Fixing detail shown is for one suspended profile only)



Wall Fixing Vertical Option



Wall Fixing Diagonal Option

4.6.4 Purling Installation (Perpendicular)

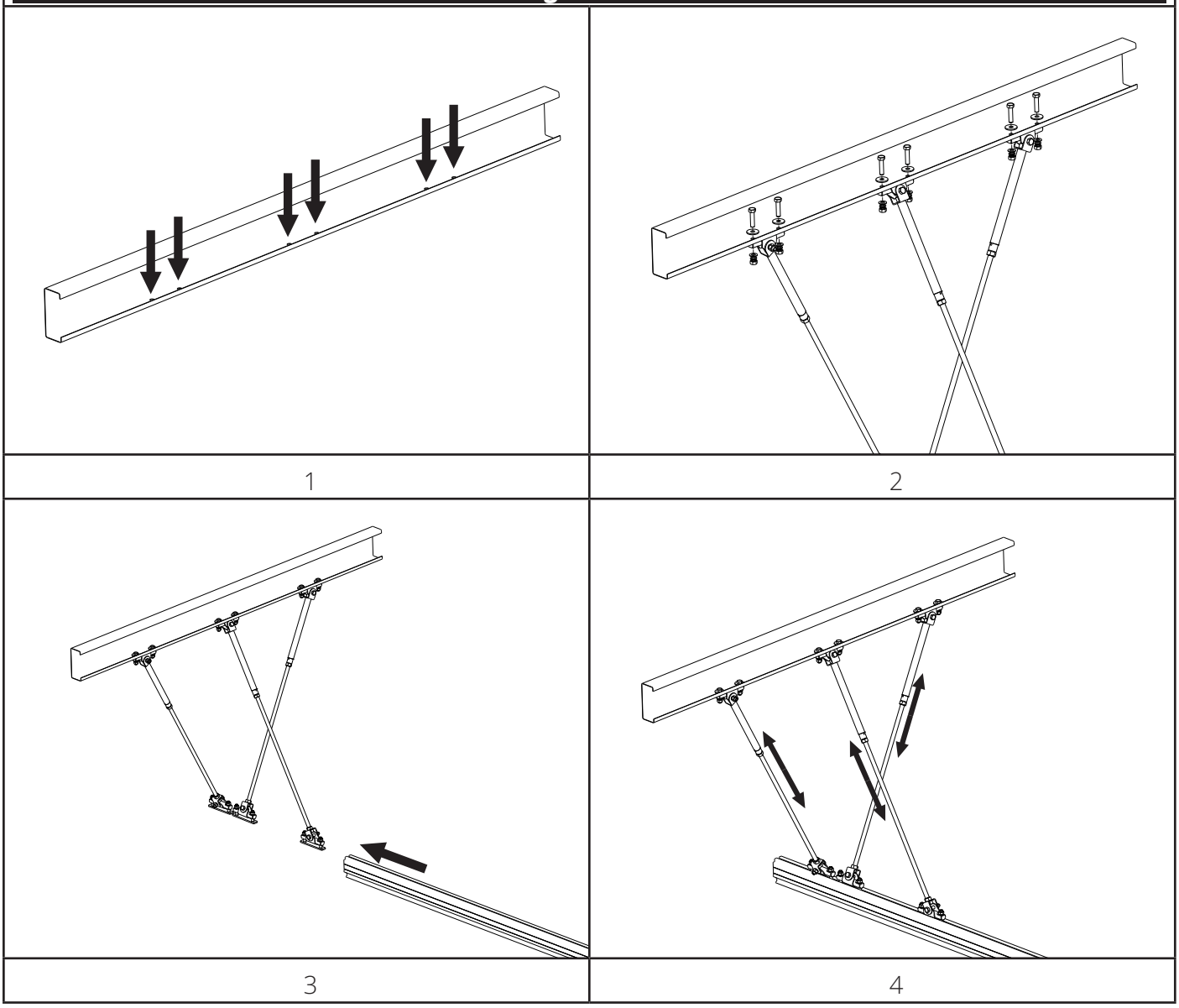
1 Drill 2x 13mm holes in the purlin at 110mm spacings for each of the suspended profile. (2 sets for an intermediate, 3 for an end).

2 Fix each of the suspended profiles to the purlin with 2x purlin bolts. The large diameter washer shall be placed inside the purlin.

3 Connect the profiles to the rail.

4 Adjust the profiles and tighten all bolts.

Figure 23



4.6.5 Purlin Installation (Parallel)

1 Drill 2x 13mm holes at 110mm spacings in the 2 adjacent purlins. The purlin spacing shall not exceed 2.4m.

2 Drill holes to match in the flange of the bracing channels and fix each to the purlin with 2x purlin bolts.

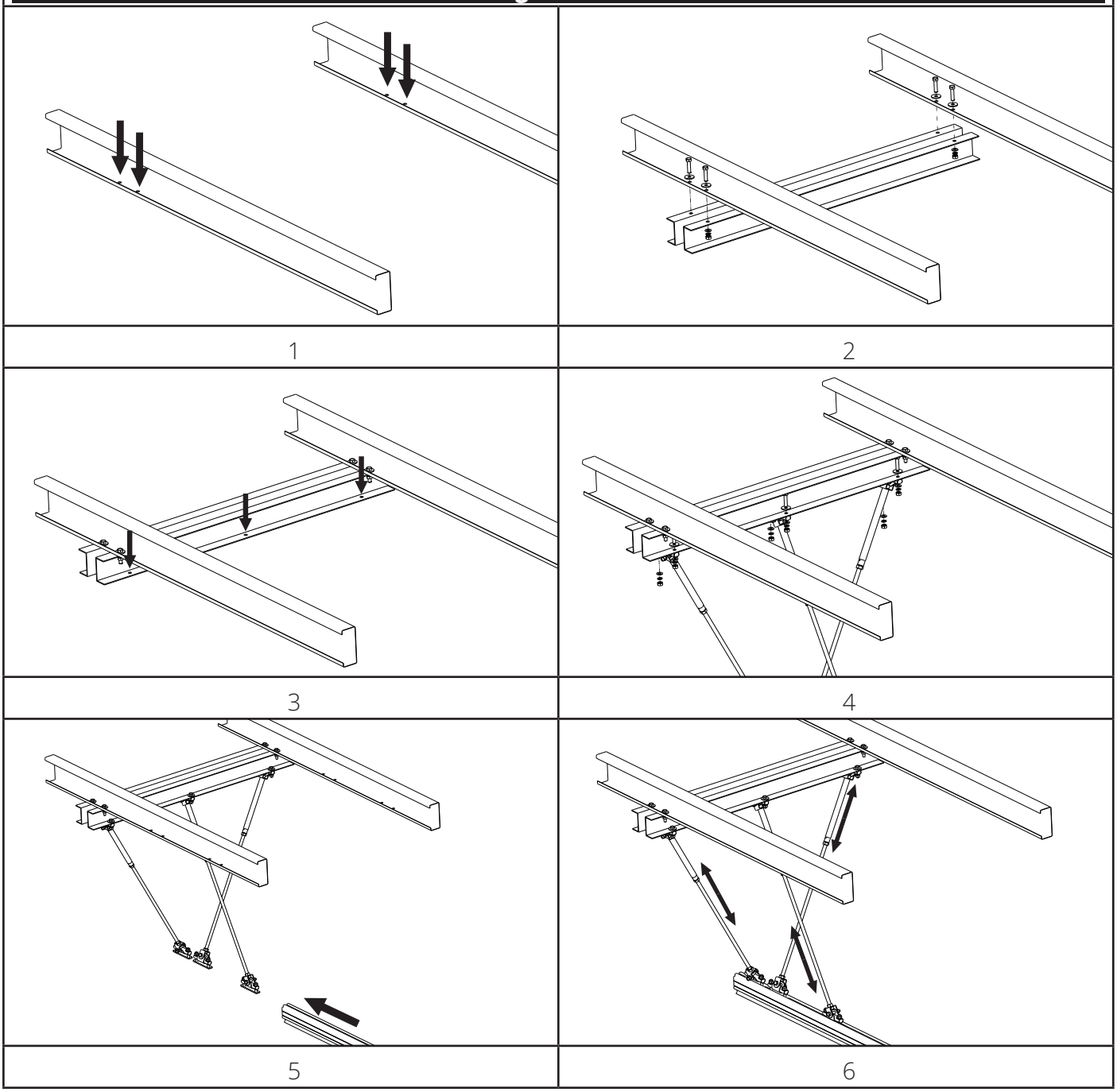
3 Drill 2x 13mm holes in the bracing channels at 110mm spacings for each of the suspended profile. (2 sets for an intermediate, 3 for an end). Each of the suspended profiles shall be bolted to both the bracing channels.

4 Fix each of the suspended profiles to the channels with 2x purlin bolts. The large diameter washer shall be placed inside the channel.

5 Connect the profiles to the rail.

6 Adjust the profiles and tighten all bolts.

Figure 24



4.7 Joins (less than or equal to 4m)

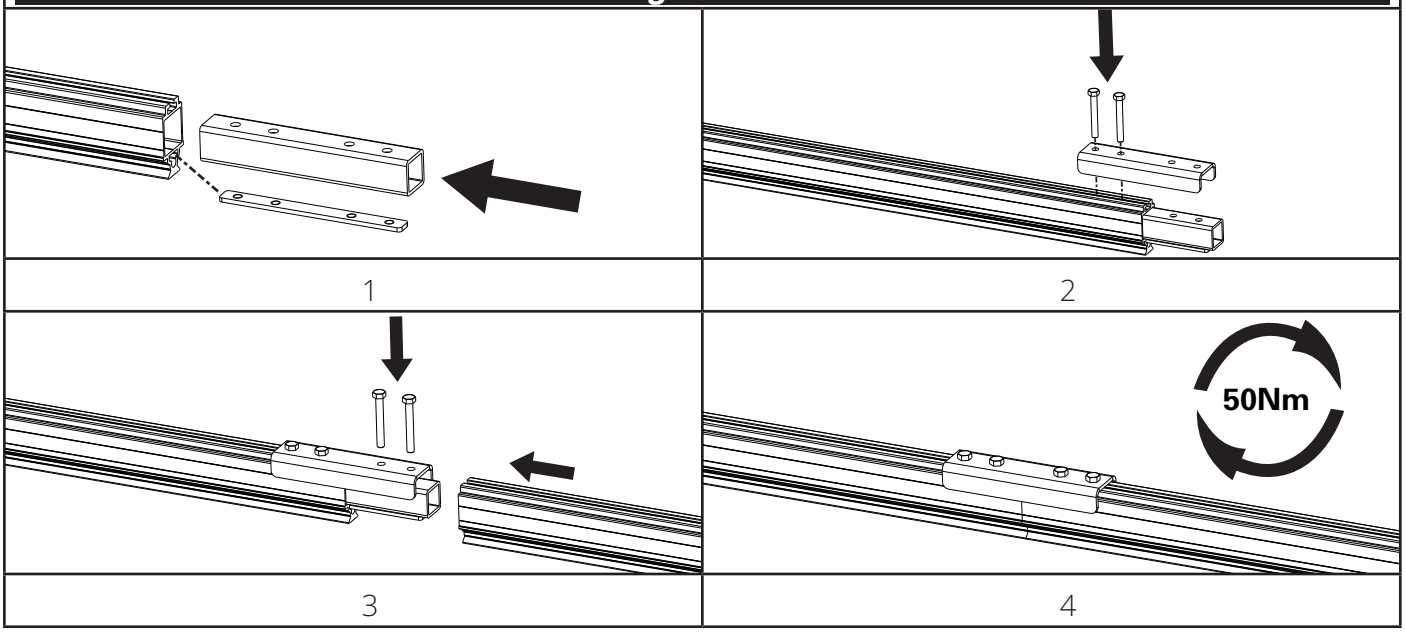
1 Insert the splice piece and the base bar into one side of the rail profile.

2 Install the top plate and 2 bolts (do not tighten).

3 Insert the assembly into the second rail section and install the remaining 2 bolts.

4 Tighten all 4 bolts to 50Nm.

Figure 25



1 2 3 4

4.8 Long Span Joins (greater than 4m)

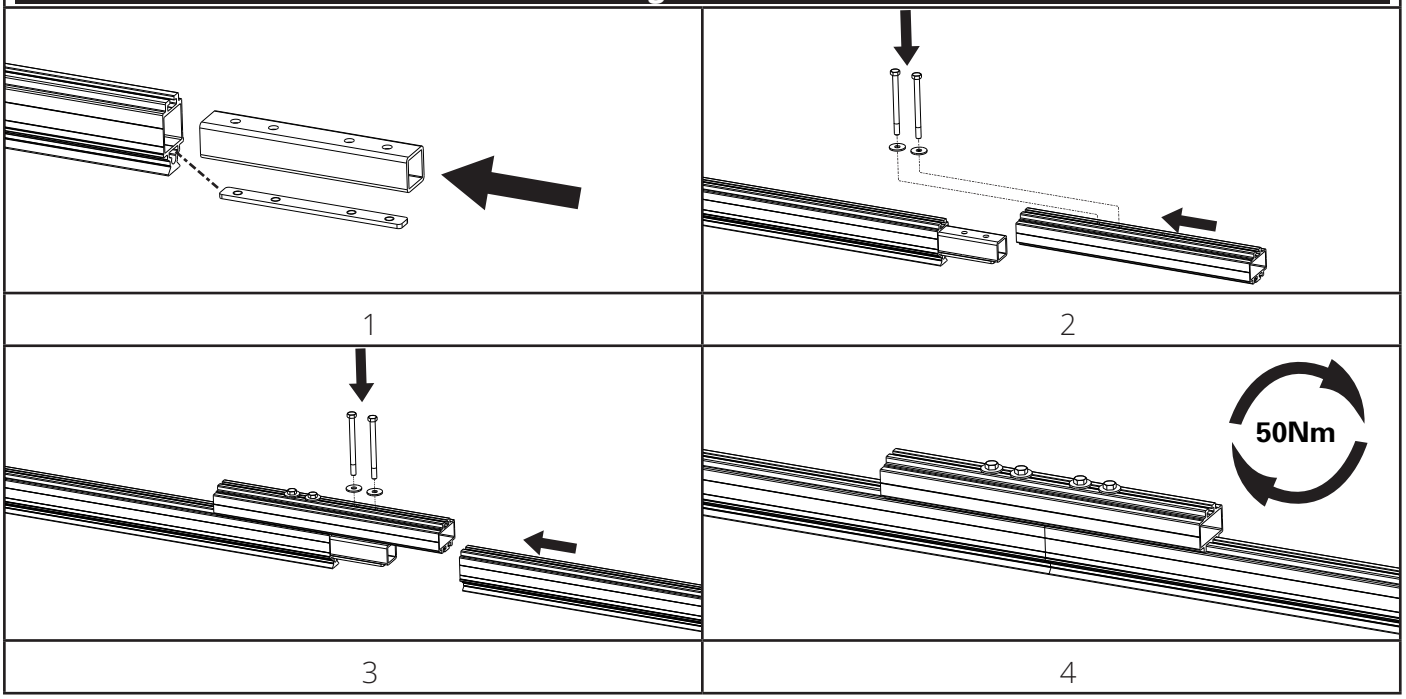
1 Insert the splice piece and the base bar into one side of the rail profile.

2 Insert the top profile in the top T-slot in the rail and install 2 bolts and washers (do not tighten).

3 Insert the assembly into the second rail section and install the remaining 2 bolts and washers.

4 Tighten all 4 bolts to 50Nm.

Figure 26



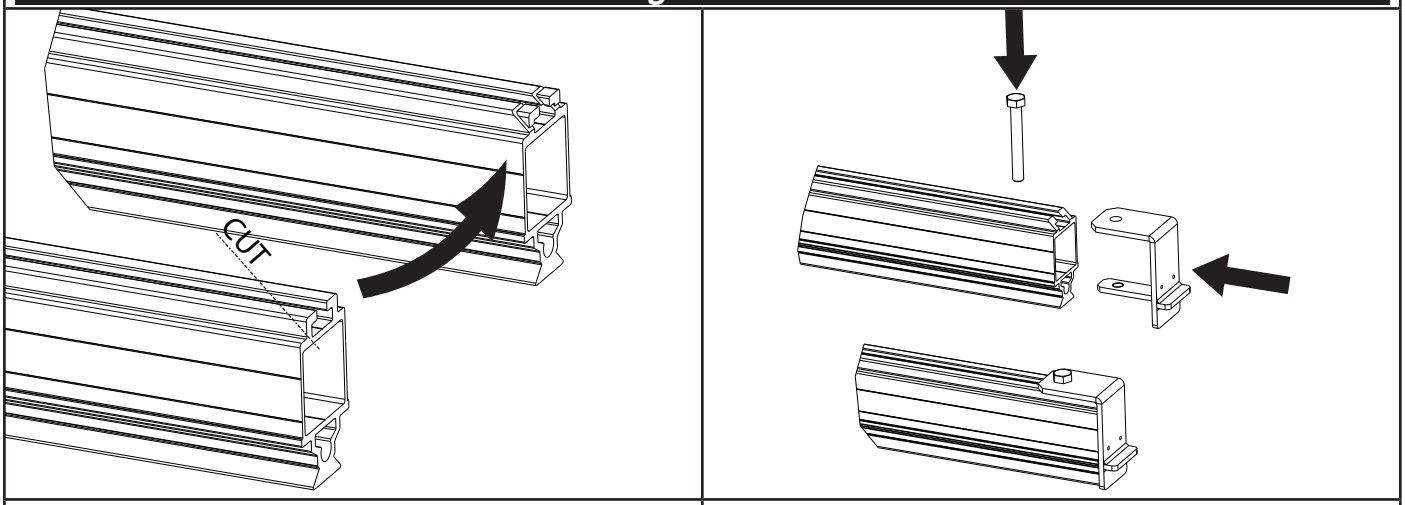
1 2 3 4

4.9 Ends

1 Cut the top corner of the rail off.

2 Insert the end piece and install the bolt and fasten to 50Nm.

Figure 27

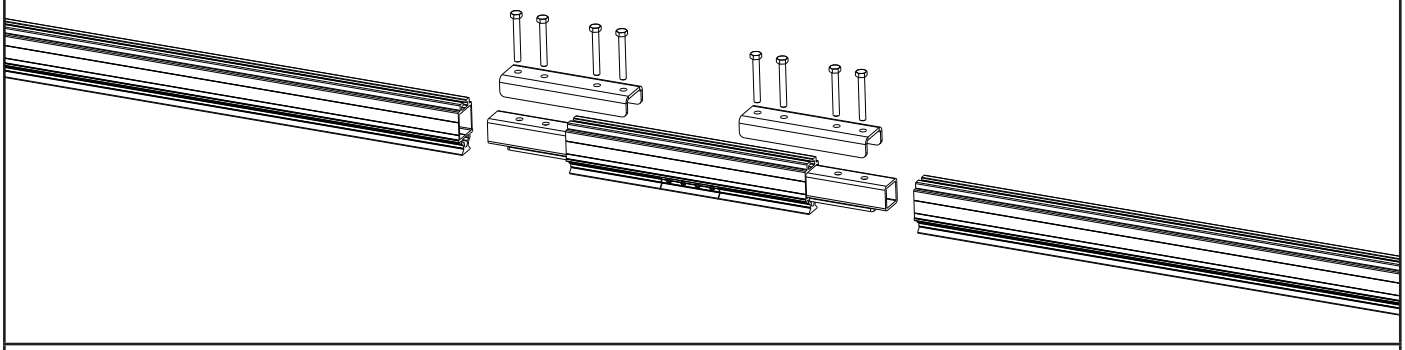


1 | 2

4.10 Gate - Mid Span

1 Install the joins as per Section 4.7.

Figure 28

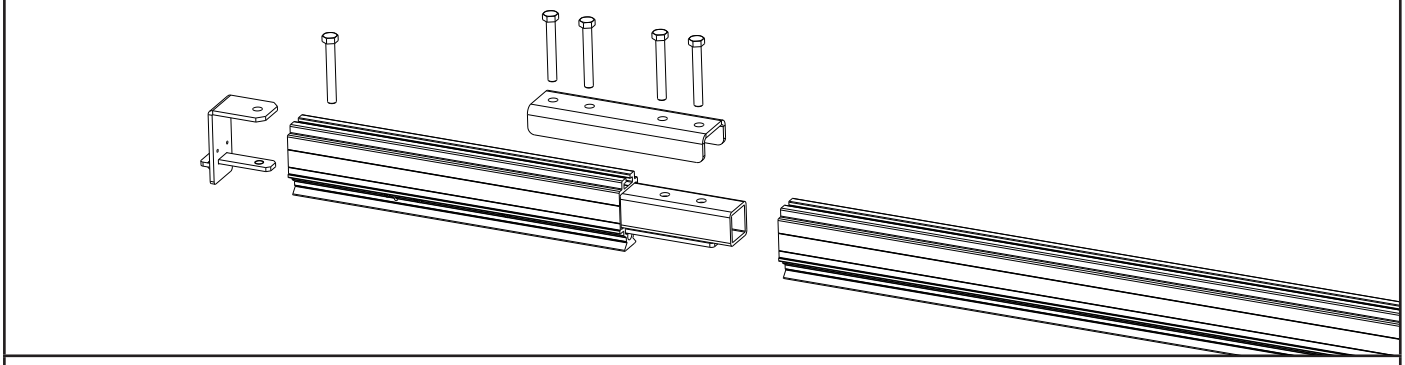


1

4.11 Gate - End

1 Install the join and end as per Sections 4.7 and 4.9.

Figure 29



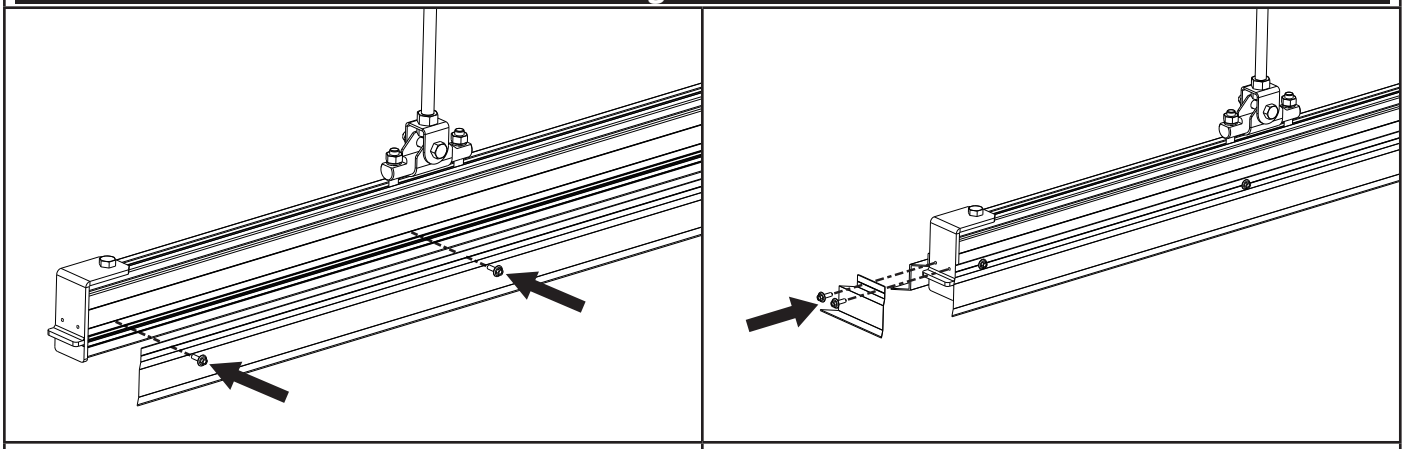
1

4.12 Concealed Profile

1 The concealed profiles shall be fixed to the rail with 20mm tek screws every 0.5m.

2 The end can be wrapped with the concealed profile by cutting the profile on a 45^0 angle and fixing a piece to the end assembly with 2 tek screws.

Figure 30



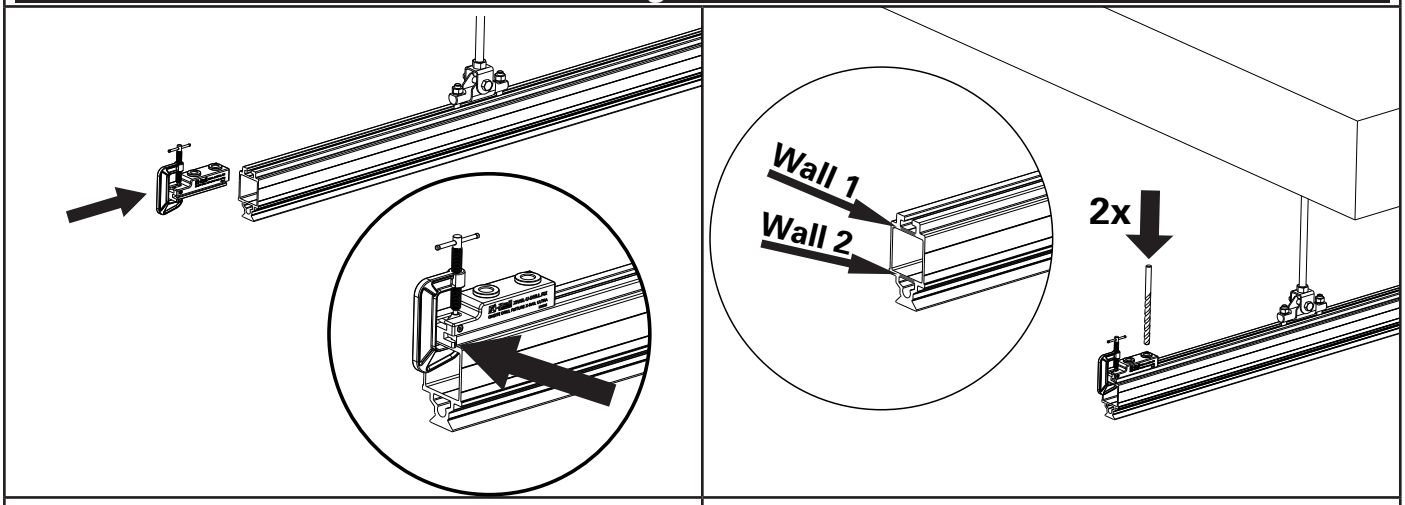
1 2

4.13 Drill Fixture

1 To drill holes in the rail for joins and ends, insert the drill fixture into the slot in the top of the profile until the stop hits the end of the rail.

2 With a 13mm drill bit, drill through the first and second walls only of the profile. After drilling, clean the underside of the walls with an aluminium file.

Figure 31



1 2

4.14 X-Rail to X-Rail Ultra Join

Using the XRAIL-U-XTX join, X-Rail and X-Rail Ultra systems can be joined to allow shuttles to pass between the 2 system.

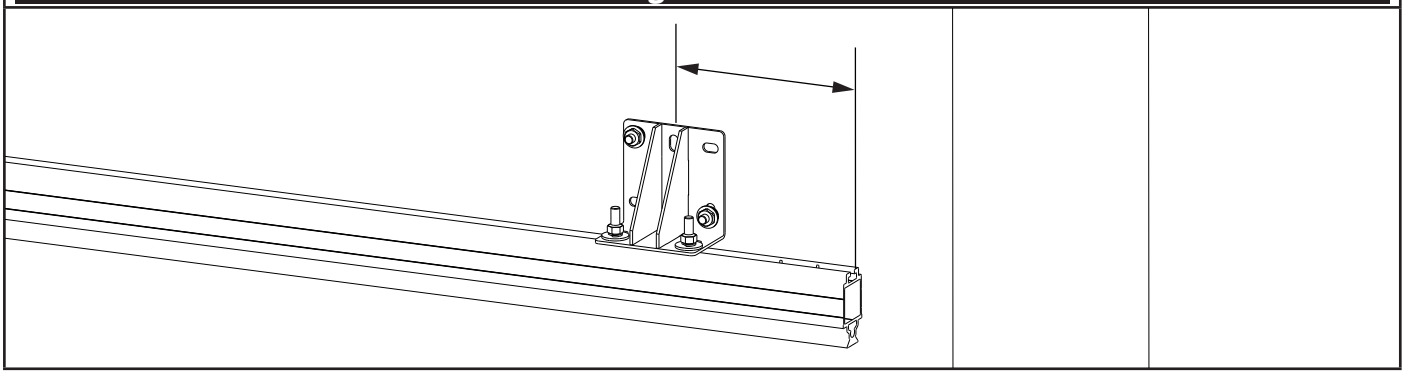
⚠ ***All sections of both the X-Rail and X-Rail Ultra installation manuals shall be followed.***

⚠ ***The installation of each system shall follow an installation manual containing this clause for joining these system together.***

4.14.1 X-Rail Ultra End Distance

The distance from the final X-Rail Ultra bracket to the start of the X-Rail system shall not exceed 300mm.

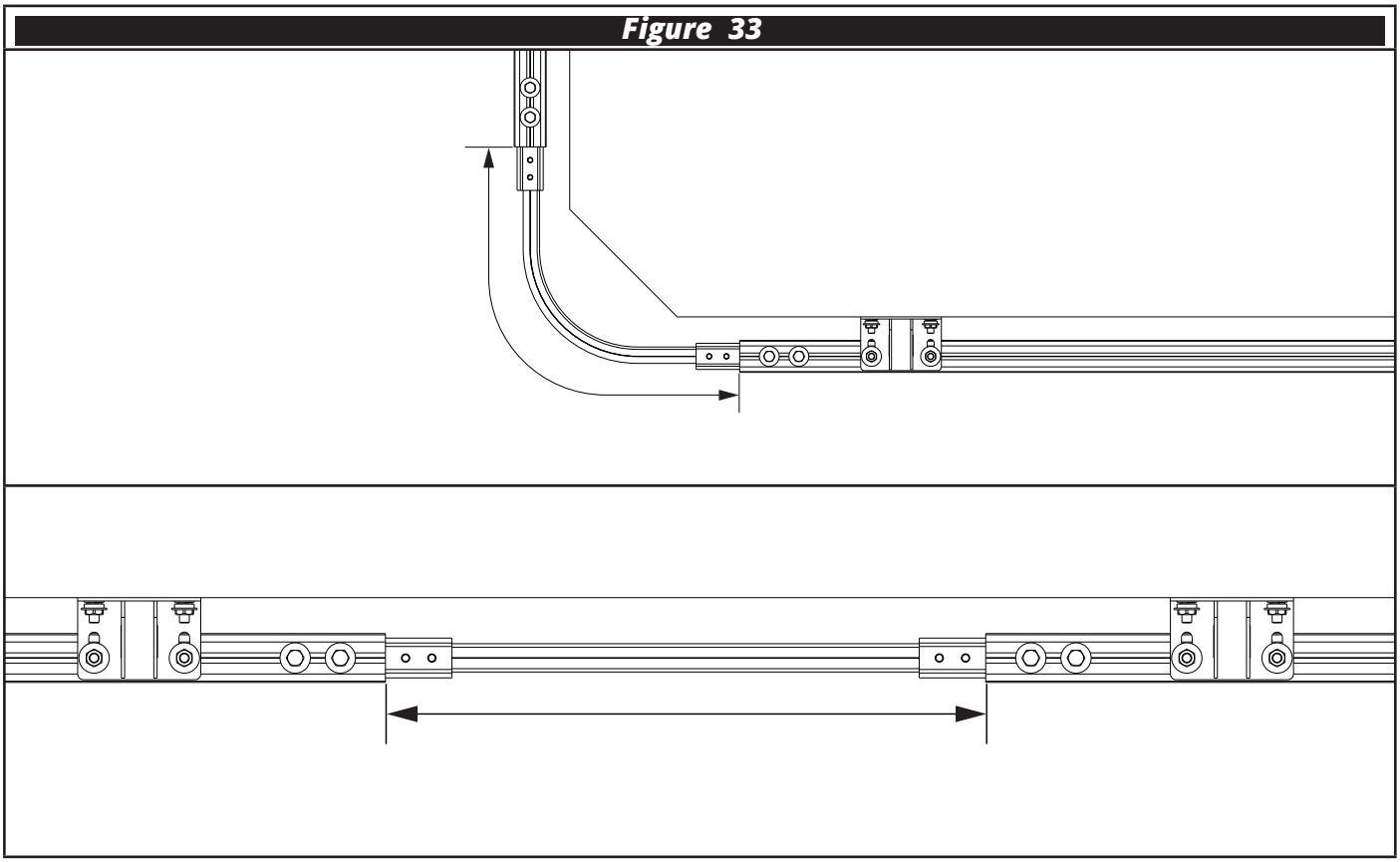
Figure 32



4.14.2 Distance Between Support

The distance between the intermediate brackets of the X-Rail Ultra and X-Rail system shall comply with their respective installation manuals. The distance between the end of the X-Rail Ultra profile and either, the start of an X-Rail Ultra profile, or an X-Rail support bracket shall comply with the requirements of the Concealed Fix X-Rail system.

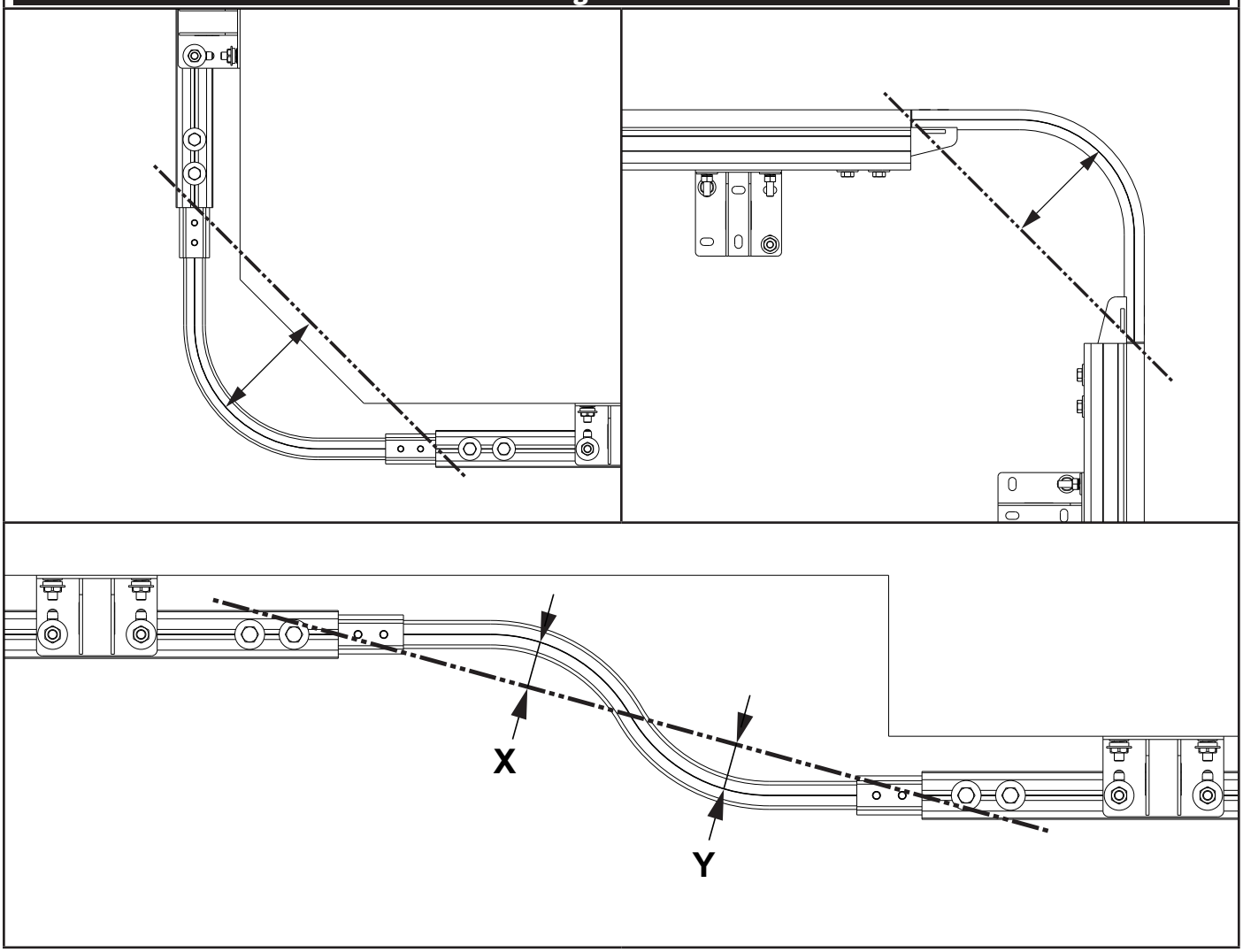
Figure 33



4.14.3 Offset Distance

If the X-Rail profile is bent, the maximum offset distance shall not exceed 195mm when a line is drawn between its extremities. If the rail is on either side of this line, the maximum distance shall be taken in either direction and their sum shall be less than 195mm.

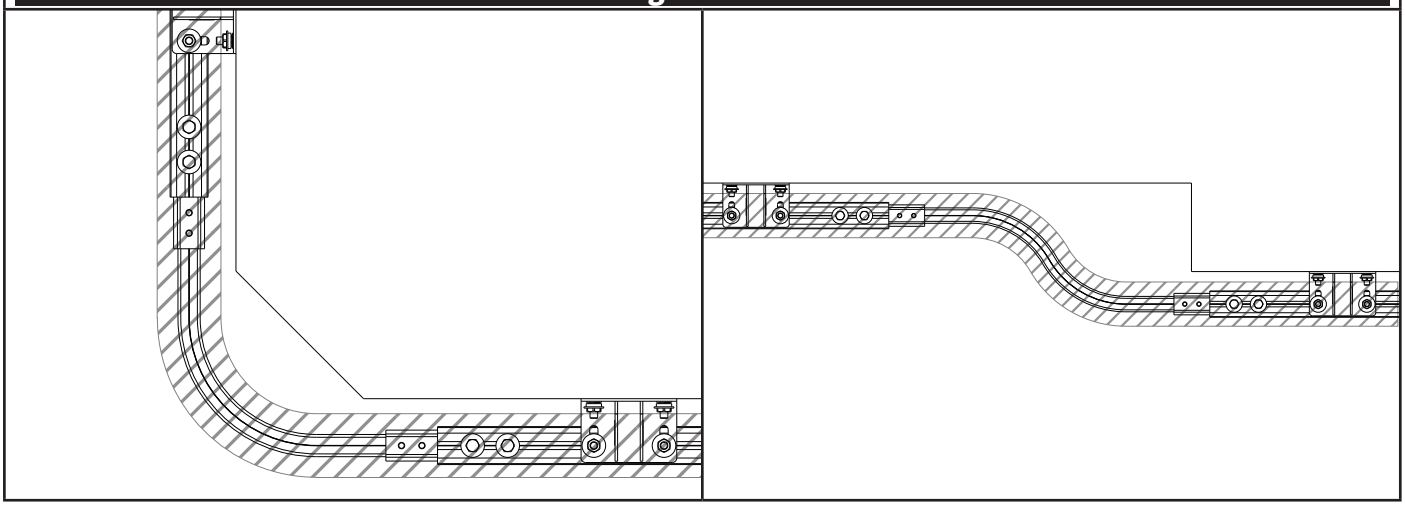
Figure 34



4.14.4 Clearance

There shall be minimum 50mm clearance either side of the centreline of both rails to ensure the shuttle can pass.

Figure 35



4.14.5 Installation

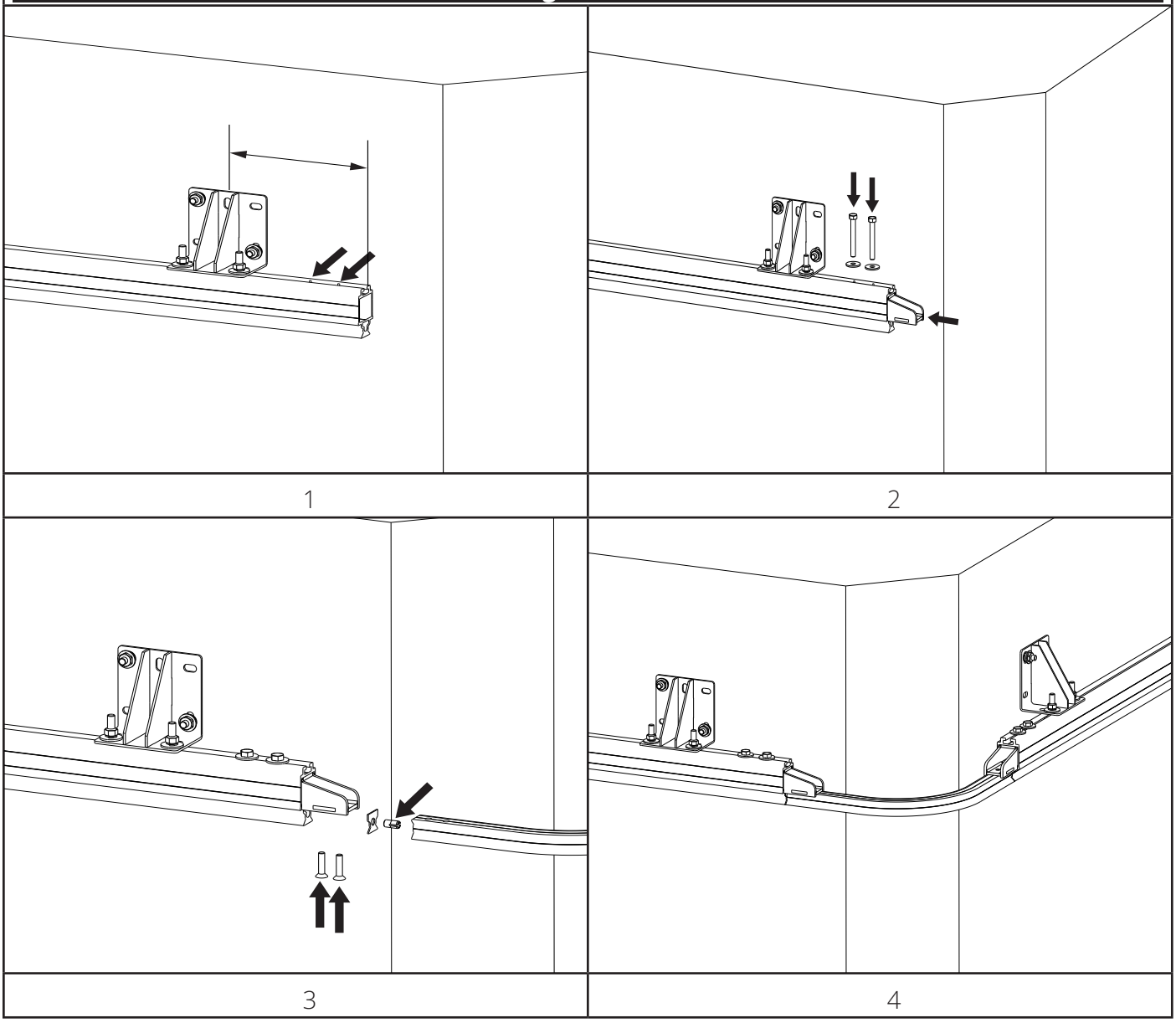
1 Install the final X-Rail Ultra intermediate and prepare the rail but drilling 2 holes as per section 4.13.

2 Insert the body of the join in to the X-Rail Ultra profile and fix with 2xM12 rail screws.

3 With a rubber mallet install the dowel, slit side first, in to the X-Rail profile. Place the plastic spacer on the dowel and fix the X-Rail to the body of the join with 2xM10 rail screws.

4 Repeat the same process to return the system to X-Rail Ultra or continue the system in X-Rail as needed.

Figure 36

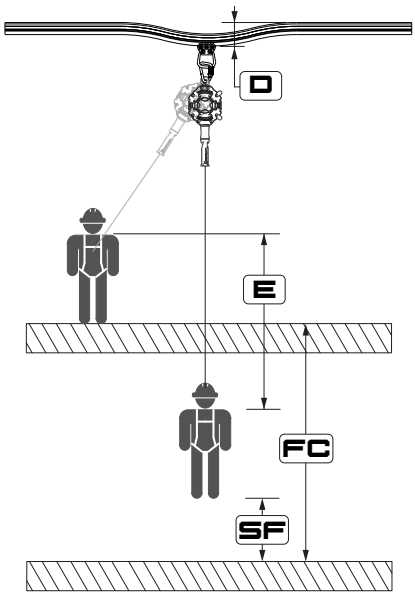


5 Limitations of Use

5.1 Fall Clearance

When planning your fall protection system, it is important to accurately assess all components of your system in order to avoid injury. Figure 37 provides guidance on how to calculate fall clearance. In Figure 37, (D) represents deflection of the anchor (see section 3.12), (E) represents energy absorber deployment and estimated D-ring slide of the harness (Refer the manufacturer's information), (SF) represents the recommended safety factor of 1m, (FC) represents the total allowable fall clearance. For safe use FC shall always be greater than D + E + SF.

Figure 37

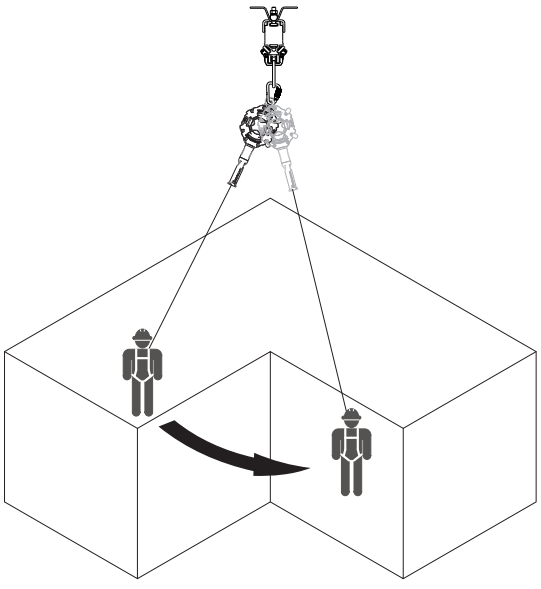


5.2 Swing Fall

Working off centre of a Horizontal Rail System may cause a swing fall. See Figure 38. Fall protection systems shall be setup in such a way to limit swing fall.

⚠ ***The force of striking an object during a swing fall may result in serious injury or death.***

Figure 38



5.3 Area of Use

Working outside the area of use of a Horizontal Rail System may cause the anchor to malfunction.

⚠ ***Always work within the area highlighted in Figure 9.***

5.4 Hazards

Use of this equipment in the presence of hazards may cause damage to the equipment and/ or result in the function of the equipment being impeded. These hazards include but are not limited to; extreme temperature, sharp edges, chemical reagents, electrical conductivity, abrasion, cutting, climatic exposure and rotating or moving machinery.

5.5 Training

It is essential that all users are trained in the proper inspection, setup and use of this equipment. It's the responsibility of the user to ensure they are trained in the correct use of this equipment and understand the limitations of its use.

⚠ ***Incorrect use of this equipment may result in serious injury or death.***

5.6 Rescue

It is the responsibility of the user of this equipment and their employer to have a suitable rescue plan and the ability to implement it at any time during setup and use of this equipment.

5.7 Materials Handling

The X-Rail Ultra may be used to lift materials. Materials shall only be lifted using the material handling bar. The following table provides the maximum loads allowable on the different system spans.

Figure 39

SPAN	4m	3m	2m
OVERHEAD BRACKETS	150kg	500kg	1000kg
WALL MOUNTED BRACKETS	150kg	400kg	800kg
SUSPENDED PROFILES	-	150kg	300kg
SUPPLIED STRUCTURE	150kg	500kg	1000kg

⚠ ***Material shall only be lifted from the attachment point on the materials handling bar.***

⚠ ***When lifting materials the system shall only have 2 users attached, independent of the rating in Figure 4.***

⚠ ***For supplied structure brackets, the engineer designing the structure shall approve the material lifting load.***

6 Connections

6.1 Making Connection

Only make compatible connections. Always ensure connectors close and lock correctly before use. Below and Figure 40 are examples of unsuitable connections;

1 To an anchor or D-ring which has another connector attached.

2 In a position that will apply load to the gate mechanism.

3 By passing the connection through the attachment.

4 Connecting a connector to another connector.

5 Around a structure and back to the lifeline.

6 To an attachment that will limit the function of the gate.

7 To a location that will not load the connector as designed.

6.2 Compatibility of Connections

Connection made to and with this equipment shall be compatible. Connector shall be compatible shape, size and equivalent rating in order to ensure a compatible connection is made. Incompatible connections may cause loading of the gate mechanism leading to unintentional disengagement. See Figure 41. Connectors shall be compliant with EN362 and auto closing and locking.

⚠ ***Making incompatible or unsuitable connection may result in unintentional disengagement of the connector resulting in serious injury or death.***

Figure 40

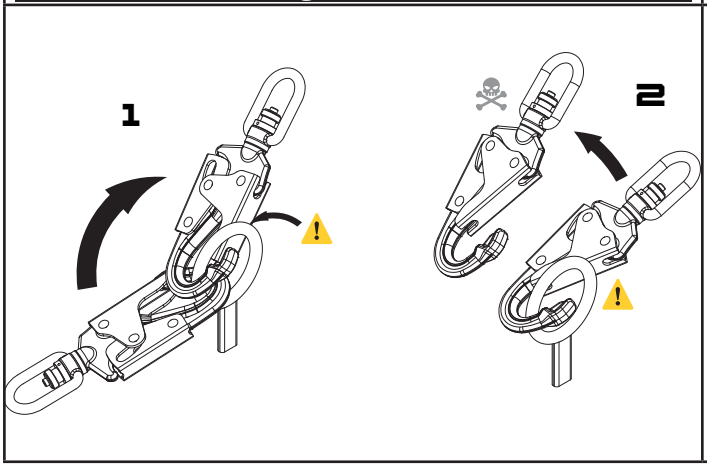
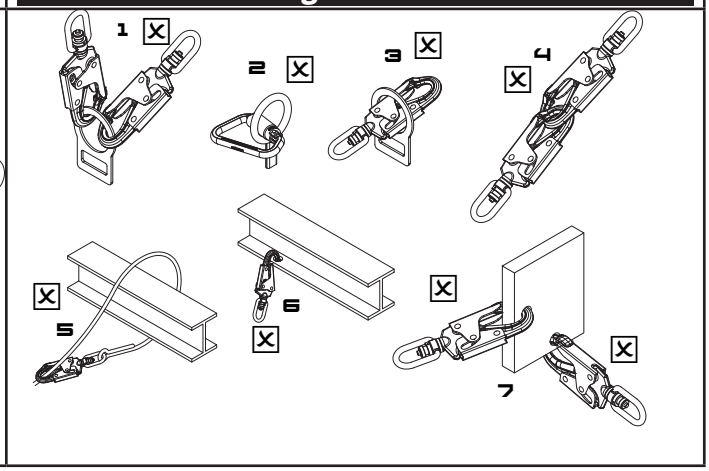


Figure 41



7 Use

7.1 Planning

Before starting work, plan your working at heights and rescue systems by accounting for all hazards present in the workplace and allowing for the available fall clearance. Ensure all users are fit, healthy and capable of safely operating this equipment as well as implementing the rescue plan.

⚠ ***During use always allow for the required fall clearance, swing fall and hazards present in the workplace.***

7.2 X-Rail Ultra Gate operation

⚠ ***All components of the X-Rail Ultra system are to be inspected prior to use.***

1 Unlock the gate by sliding the lock screws at the rear of the gate.

☑ *The gate key is an optional component that can be used to help unlocking the gate.*

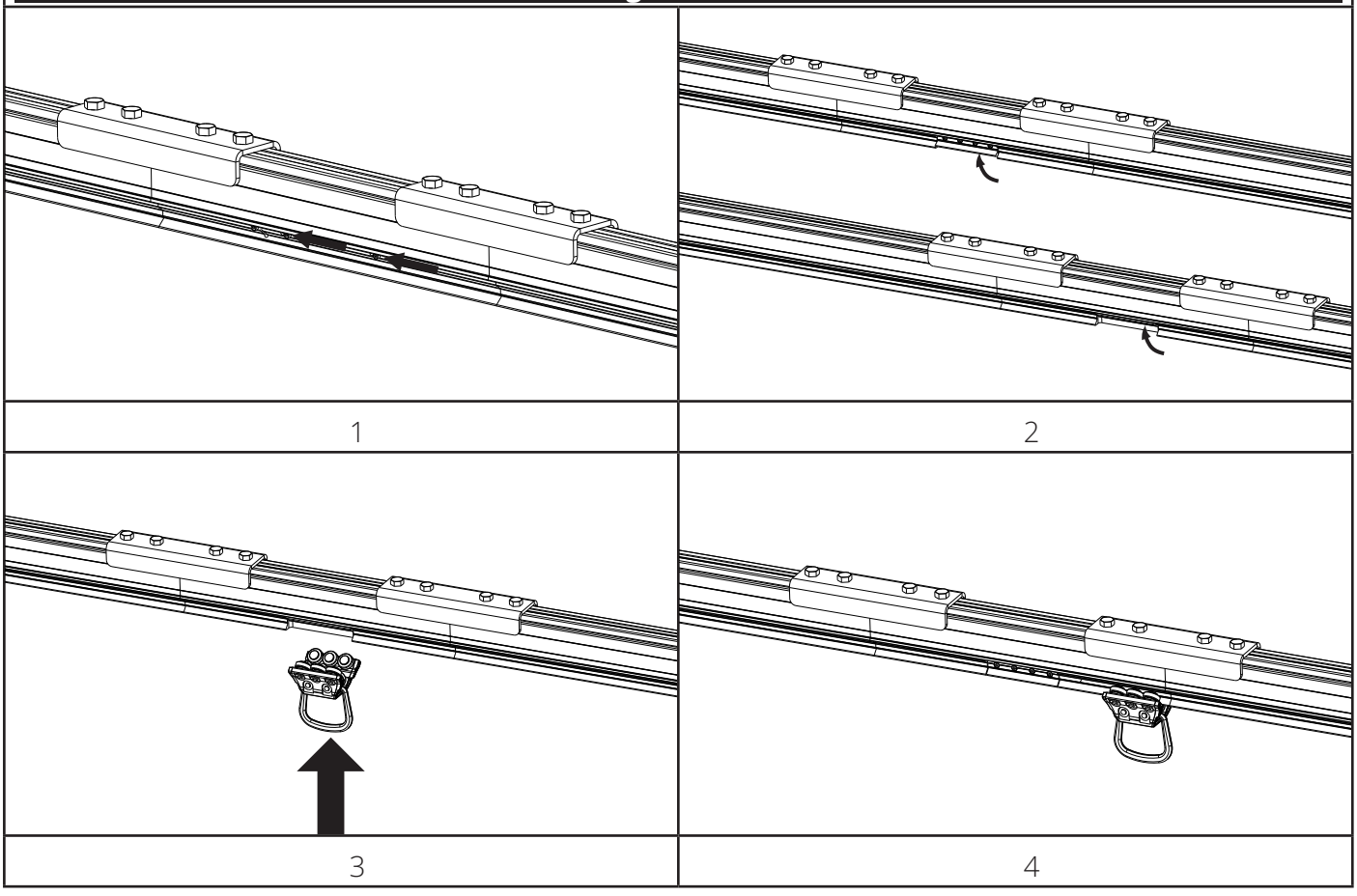
2 Open the latch by rotating the latch face.

3 Install or remove the required shuttles.

4 Release the latch face and sliding the lock screws.

⚠ ***Ensure the latch rotates back and the locks screws are on the closed position.***

Figure 42



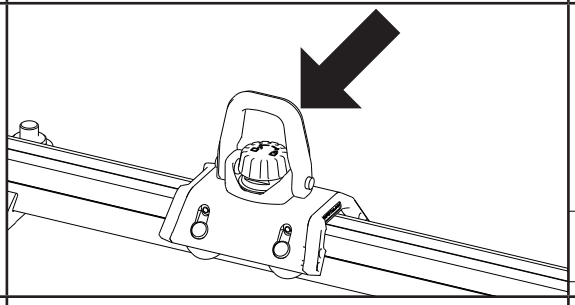
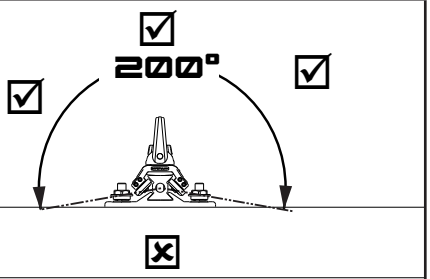
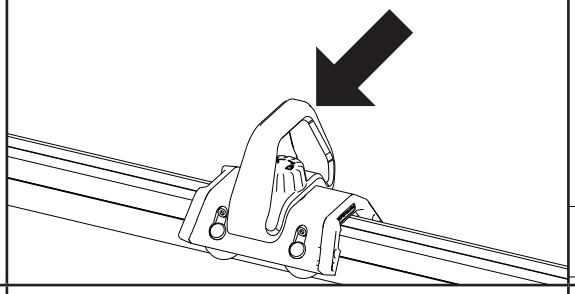
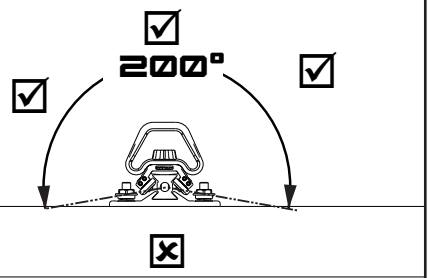
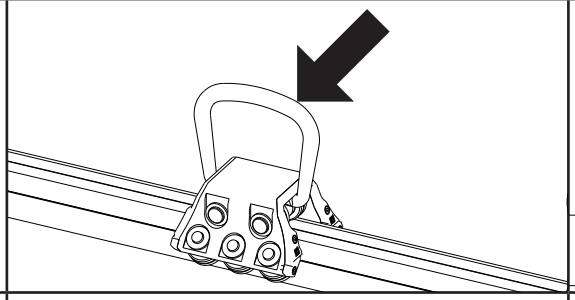
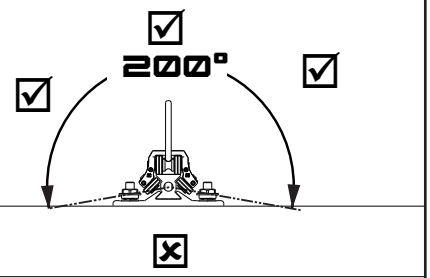
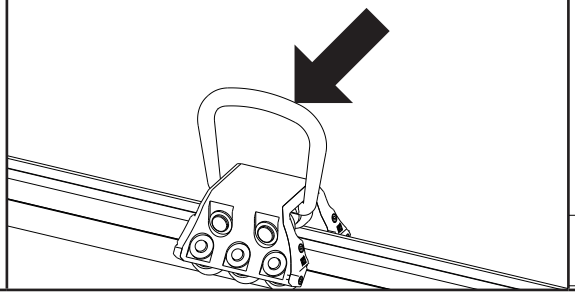
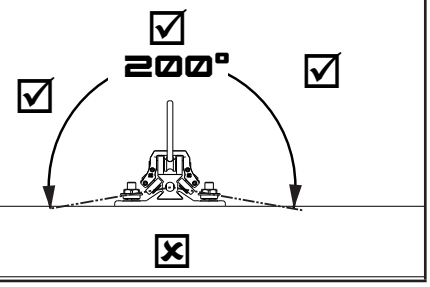
⚠ ***Do not attach multiple users to a single shuttle.***

⚠ ***Do not attach to any other point on the X-Rail Ultra.***

7.3 Shuttle Operation

Each shuttle type has 1 attachment point for connection of the users system. Users shall load the shuttle and system to which it is attached only within the operation range in Figure 43 and Figure 9. Shuttle TR-017A should be stored in a dry environment to prevent damage to the ball bearings

Figure 43

PRODUCT CODE	ATTACHMENT POINT	OPERATING RANGE
TR-011 General use fall arrest, swivel attachment		
TR-014 General use fall arrest, fixed attachment		
TR-017 General use fall arrest and abseil, swing attachment		
TR-017A Specialty use abseil, swing attachment		

8 Storage, Transport and Maintenance

8.1 Storage and transport

This equipment shall be stored and transported in a cool, dry environment, away from any hazards and out of direct sunlight.

8.2 Maintenance

The X-Rail Ultra system is serviceable only by trained and authorised installers. Contact SafetyLink to find your nearest available installer. The service interval will be determined by the condition in which it is used. Harsher conditions will require more frequent servicing. The equipment may remain in service until it fails an inspection or is involved in a fall.

⚠ ***Do not attempt to modify or disassemble this product.***

8.3 Cleaning

The X-Rail Ultra Horizontal Rail System may be cleaned by the end user periodically to increase service life. After cleaning, the product shall undergo the pre-use inspection.

Clean with a rag and warm water to remove dirt and grit. A mild detergent may be used to remove grease or oils from the product.

⚠ ***Do not store this product when wet. Allow the product to dry and conduct a pre-use inspection prior to returning the item to service.***

9 Inspection

9.1 Before and After Use

The X-Rail Ultra Horizontal Rail System shall be inspected before and after each use by the user.

9.2 Competent Person

A competent person shall inspect the system at least every 2 years. Systems installed in harsher conditions will require more frequent inspection. Installations in marine, coastal or other extreme corrosive environments should be inspected at least every 12 months.

9.3 Procedure

9.3.1 Rail - Inspect the base for damage, deformation, or debris that may affect the strength. Inspect the welds are free of cracks. Inspect the galvanised surface finish is intact. Ensure sleeve is free from debris. Check last date of inspection by competent person.

9.3.2 Support Brackets - Inspect welds for corrosion, discolouration or damage. Inspect the bracket components for damages, deformation, signs of over loading, corrosion and cracks. Ensure fasteners are tight and free from corrosion.

9.3.3 Gates - Ensure the mechanism works correctly and locks.

9.3.4 Shuttle - Inspect as per the shuttle instruction.

9.3.5 Label - Inspect the system label is present and legible as per Figure 44.

9.3.6 Proof Load - For competent person inspections only, concrete fixings that do not extend through the concrete and are not cast in shall be proof loaded to 50% of the design load and held for 30 seconds.

INSPECTION RECORD			
Product Code		Date of Manufacture	
Serial or Batch No.		Date of Install	
Inspector		Date of Inspection	

PROCEDURE	INSPECTION	USER	COMPETENT PERSON
9.3.1	Rail - Inspect the base for damage, deformation, or debris that may affect the strength. Inspect the welds are free of cracks. Inspect the galvanised surface finish is intact. Ensure sleeve is free from debris. Check last date of inspection by competent person.	☐	☐
	Comments:		
9.3.2	Support Brackets - Inspect welds for corrosion, discolouration or damage. Inspect the bracket components for damages, deformation, signs of over loading, corrosion and cracks. Ensure fasteners are tight and free from corrosion.	☐	☐
	Comments:		
9.3.3	Gates - Ensure the mechanism works correctly and locks.	☐	☐
	Comments:		
9.3.4	Shuttle - Inspect as per the shuttle instruction.	☐	☐
	Comments:		
9.3.5	Label - Inspect the system label is present and legible as per Figure 44.	☐	☐
	Comments:		
9.3.6	Proof Load - For competent person inspections only, concrete fixings that do not extend through the concrete and are not cast in shall be proof loaded to 50% of the design load and held for 30 seconds.	**N/A**	☐
	Comments:		

Figure 44

X-Rail ULTRA HORIZONTAL RIGID ANCHOR LINE

NUMBER OF USERS	☐ 1x	☐ 2x	☐ 3x	☐ 4x
SYSTEM USE	☐ Fall Arrest		☐ Abseil	
INSTALL DATE	__/__/____ DD/MM/YYYY		**INSTALLER**	
STANDARDS	**EN795:2012/D** **CEN/TS 16415:2013** **AS/NZS 1891.2:2009**		**1X** /	

A DIVISION OF DELTAPLUS

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ONLY EVER CONNECT 1 USER TO EACH SHUTTLE

INSPECTION RECORD

1	__/__/____ DD/MM/YYYY	**6**	__/__/____ DD/MM/YYYY
2	__/__/____ DD/MM/YYYY	**7**	__/__/____ DD/MM/YYYY
3	__/__/____ DD/MM/YYYY	**8**	__/__/____ DD/MM/YYYY
4	__/__/____ DD/MM/YYYY	**9**	__/__/____ DD/MM/YYYY
5	__/__/____ DD/MM/YYYY	**10**	__/__/____ DD/MM/YYYY

SYSTEM LABEL

Warranties

EXTRACT: SAFETYLINK PTY LTD STANDARD TERMS AND CONDITIONS

1.1 To the extent permitted by law all implied conditions, warranties and undertakings are expressly excluded.
1.2 Except as provided in this clause the Company shall not be liable for any loss or damage, whether direct or indirect (including consequential losses or damage) arising out of any breach of contract by the Company or any negligence of the Company, its employees or agents.
1.3 Should the Company be liable for a breach of a guarantee, condition or warranty implied by the Australian Consumer Law (not being a guarantee, condition or warranty implied by sections 51, 52 and 53 of that Law) then its liability for a breach of any such condition or warranty express or implied shall be limited, at its option, to any one or more of the following.

A in case of Goods
- I the replacement of the Goods or the supply of equivalent Goods.
- II the repair of the goods,
- III the payment of the cost of replacing the Goods or acquiring equivalent Goods.
- IV the payment of the cost of having the Goods repaired. Provided that any such Goods are returned to the Company by the Purchaser at the Purchaser's expense.

B in the case of services
- I the supply of the services again,
- II the payment of the cost of having the services supplies again.

1.4 The Company is not liable for the costs of recovery of the Goods from the field, loss of use of the Goods, loss of time, inconvenience, incidental or consequential loss or damage, nor for any other loss or damage other than as stated above, whether ordinary or exemplary, caused either directly or indirectly by use of the Goods.
1.5 The Company warrants that at the time of shipment, Products manufactured by it will be free from defects in material and workmanship. In the absence of a modified written warranty, the Company agrees to making good any such defects by repairing the same or at the Company's option by replacement, for a period of (1) one year from the date of shipment. This limited warranty applies provided that:

a defects have arising solely from faulty materials or workmanship;
b the Products have not received maltreatment, inattention or interference;
c the Products have been installed in accordance with the Company's Installation Handbooks using only products supplied by the Company;
d accessories used with the Products are manufactured by or approved by the Company
e the Products are maintained in accordance with Australian Standard 1891.4 (section 9).
f you notify any claim under this warranty to SafetyLink in writing to the address below no later than 14 days after the event or occurrence concerning the produce giving rise to the claim and you pay all costs related to your claim.

This warranty does not apply to any defects or other malfunctions caused to the Goods by accident, neglect, vandalism, misuse, alteration, modification or unusual physical, environment or electrical stress.

Please note that the benefits to the purchaser (as a consumer) given by this warranty are in addition to your other rights and remedies under the Australian Consumer Law. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

1.6 If any goods are not manufactured by the Company, the guarantee of the manufacturer thereof shall be accepted by the Purchaser as the only express warranty given in respect of the goods.
1.7 Except as provided in this clause 11, all express and implied warranties, guarantees and conditions under statute or general law as the merchantability, description, quality, suitability or fitness of the Products for any purpose or as to design, assembly, installation, materials or workmanship or otherwise are hereby expressly excluded (to the extent to which they may be excluded by law).
1.8

PLEASE SEE SAFETYLINK PTY LTD FULL STANDARD TERMS OF CONDITIONS OF SALE FOR FURTHER REFERENCE.

bsi ISO 9001 Quality Management Systems CERTIFIED
FS 707792

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