



TUFF-POST

Installation and Use

FIGURE 1



**Safety Centre
Online Training**



Catalogue



Layout



Website

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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.**

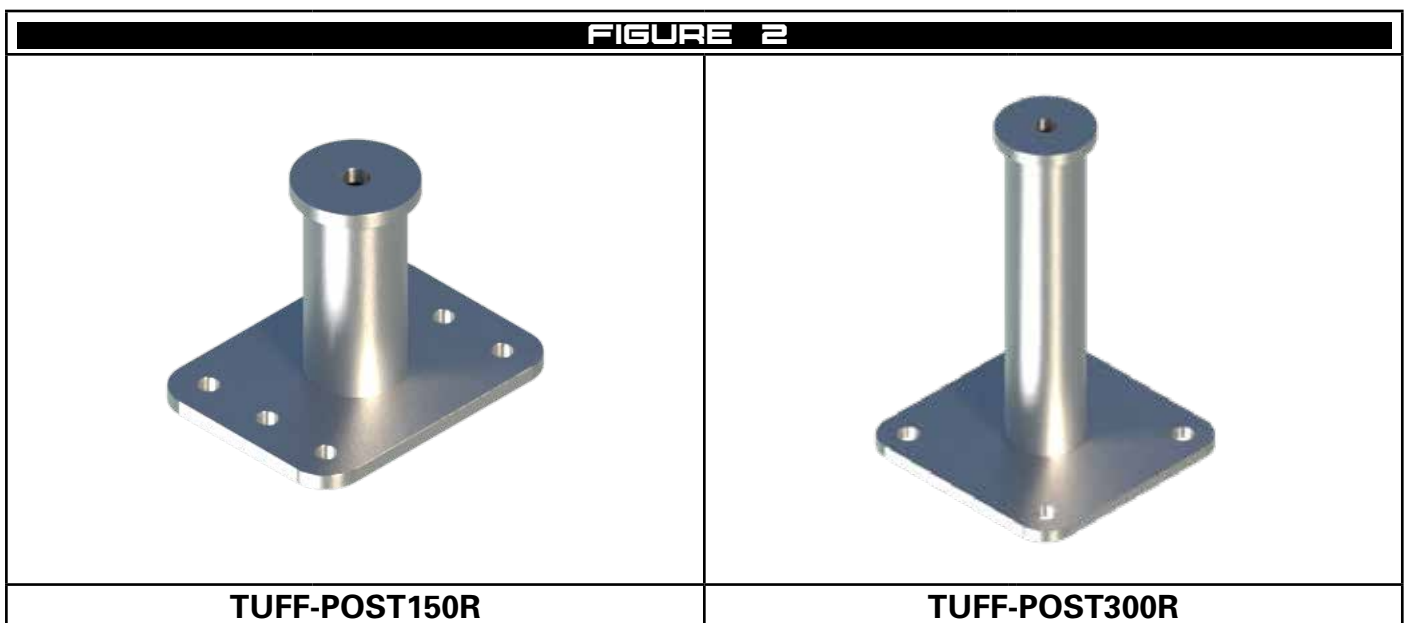
2 Specification

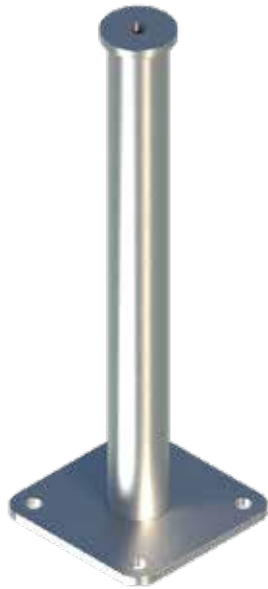
2.1 Description

The SafetyLink Tuff Post is designed to raise a height safety system above the existing substrate. They are suitable for installation in concrete or steel structure.

2.2 Material Specification and Components

All components in SafetyLink's TUFF POST range are made from 316 Stainless Steel.





TUFF-POST600R



TUFF-POST900R



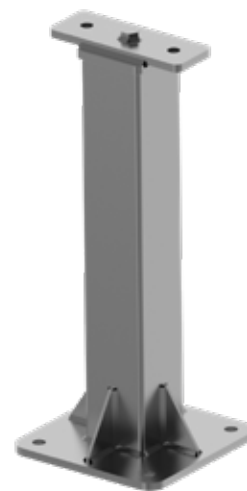
TUFF-POST300



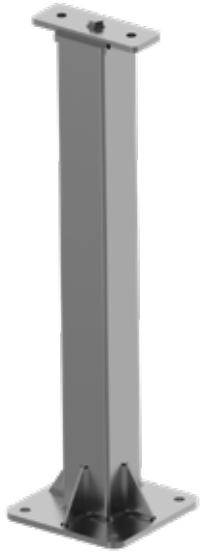
TUFF-POST600



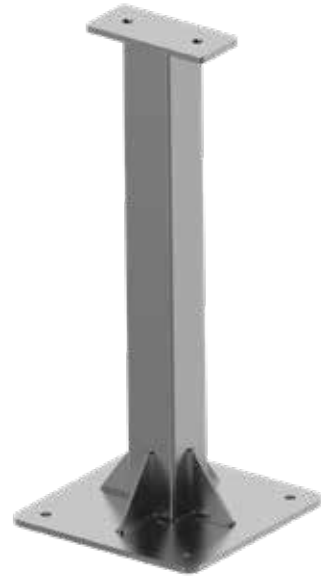
TUFF-POST900



TUFF-POST600_24



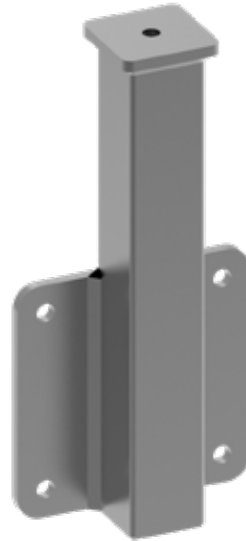
TUFF-POST900_24



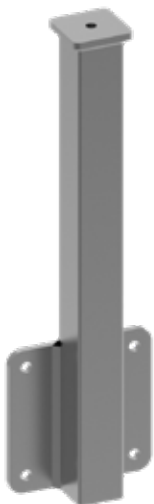
TUFF-POST900_24D



TUFF-POST150-SIDE



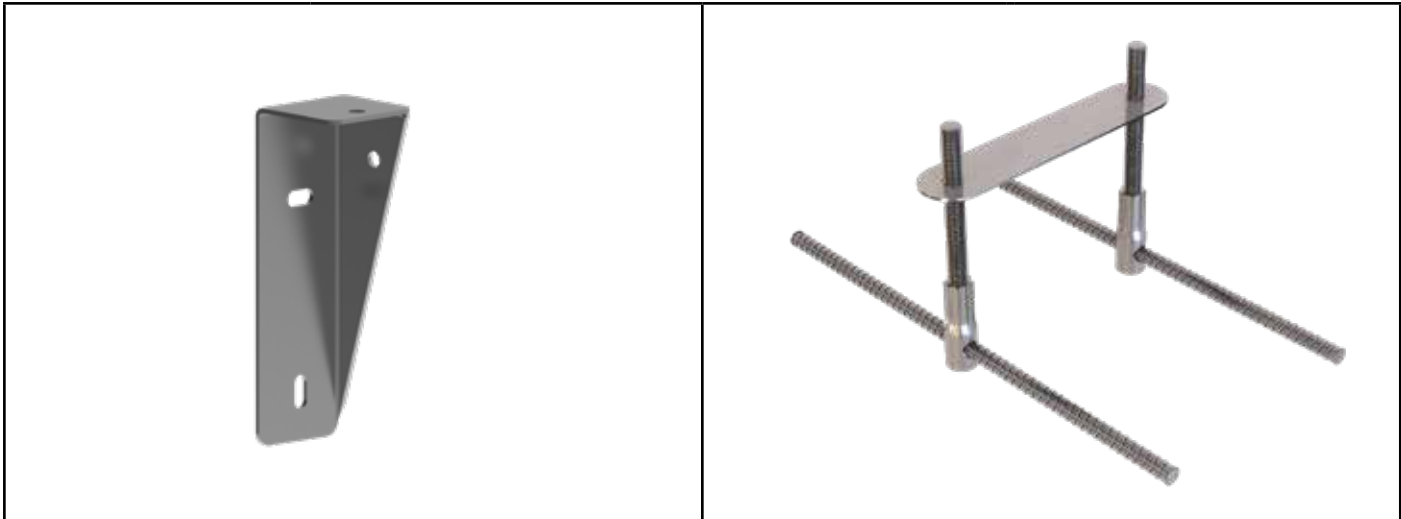
TUFF-POST300-SIDE



TUFF-POST600-SIDE



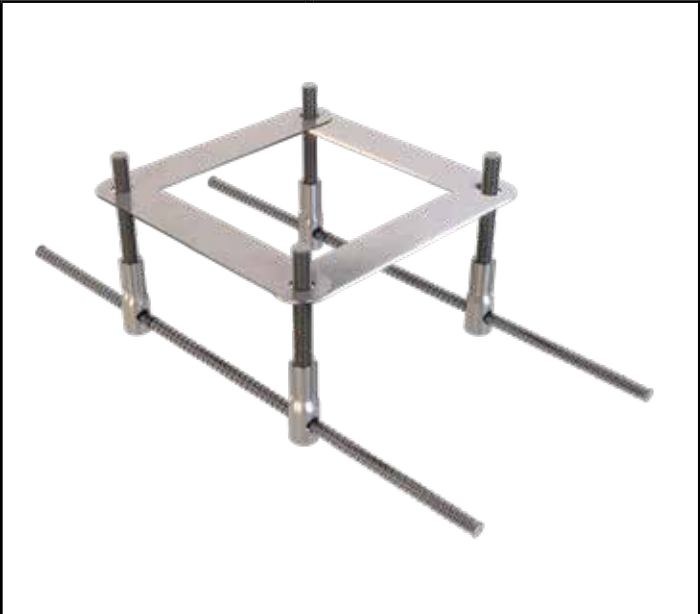
TUFF-POST300R-SIDE



TUFF-BRKT01

**STAINLESS STEEL
GALVANISED**

**CON-CAST-TP150R_SS
CON-CAST-TP150R_GAL**



**STAINLESS STEEL
GALVANISED**

**CON-CAST-TP300R_SS
CON-CAST-TP300R_GAL**

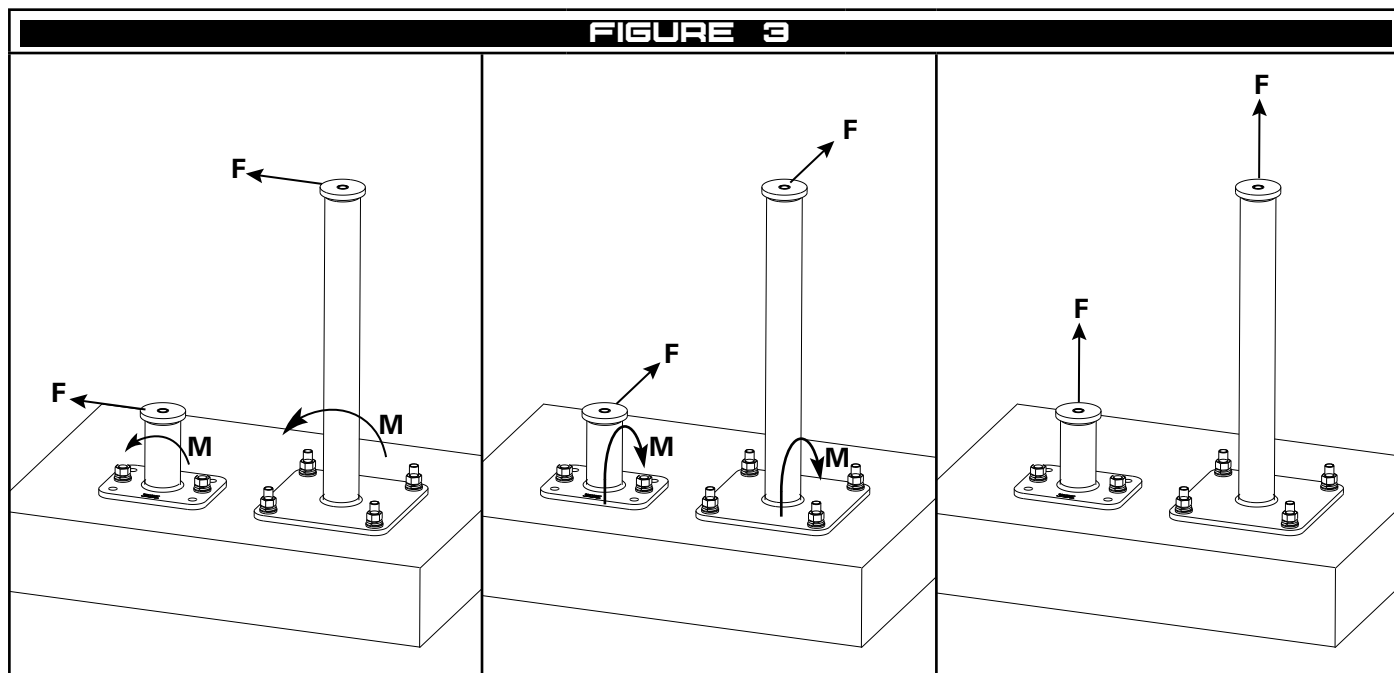
**STAINLESS STEEL
GALVANISED**

**CON-CAST-TPS_SS
CON-CAST-TPS_GAL**

3 Floor mounted Tuff Posts

3.1 Reaction Loads

The substrate must be able to sustain each of the relevant loads cases shown in Figure 3 for this product to be installed.



	F-Force (kN)	M-Moment (kN.m)
TUFF-POST150R (150mm Round Tuff Post)	15	2.25
TUFF-POST300R (300mm Round Tuff Post)	15	4.5
TUFF-POST600R (600mm Round Tuff Post)	15	9
TUFF-POST900R (900mm Round Tuff Post)	15	13.5
TUFF-POST300 (300mm Square Tuff Post)	15	4.5
TUFF-POST600 (600mm Square Tuff Post)	15	9
TUFF-POST900 (900mm Square Tuff Post)	15	13.5
TUFF-POST600_24 (600mm Square Tuff Post 24kN)	24	14.4
TUFF-POST900_24 (900mm Square Tuff Post 24kN)	24	21.6
TUFF-POST900_24D (900mm Square Tuff Post 24kN, large baseplate)	24	21.6

3.2 Concrete Studs Installation

! *This method is suitable for CON.CHEM.FISV.300 adhesive. Other adhesives or products may require different depths or edge distances. Consult the manufacturer's instructions for details.*

! *Minimum 32MPa uncracked concrete*

- 1 Mark the location for the holes and drill a hole with size and depth as per Figure 5.
- 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, ensuring that the embedment depth is calculated and wipe away any adhesive expelled from the hole. A minimum of 40mm of the stud should remain above the surface of the concrete.

! *Ensure that the stud is embedded in structural slab to the specified depth. Screeds or concrete toppings shall be considered when determining the total stud length.*

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

- 4 Once the adhesive has cured, lower the post onto the studs and install the washer, spring washer and nut. Refer to the adhesive manufacturers data sheets for curing times. M12 fixings should be tightened to 50Nm and M16 fixings should be tightened to 60Nm.

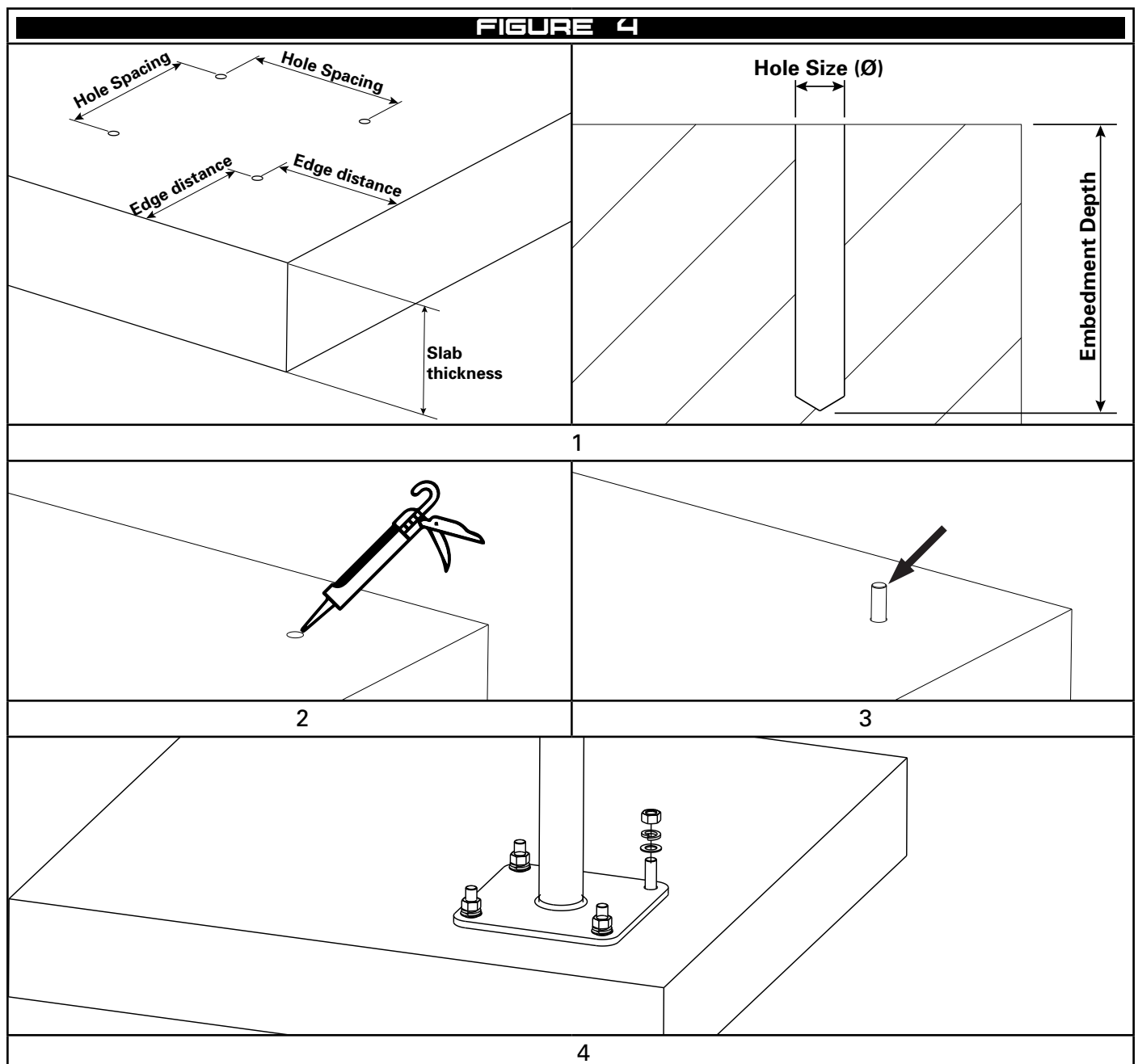


FIGURE 5

Post	Min Embedment Depth	Min Slab Thickness	Min Edge Distance	Hole Size (Ø)	Hole Spacing	Stud Size
TUFF-POST150R (150mm Round Tuff Post)	90mm	150mm	150mm	Ø14mm	150mm (2x holes)	M12x160mm
TUFF-POST300R (300mm Round Tuff Post)	90mm	150mm	150mm	Ø18mm	200mm x 200mm (4x holes)	M16x160mm
TUFF-POST600R (600mm Round Tuff Post)	100mm	150mm	150mm	Ø18mm	200mm x 200mm (4x holes)	M16x160mm
TUFF-POST900R (900mm Round Tuff Post)	110mm	150mm	250mm	Ø18mm	200mm x 200mm (4x holes)	M16x160mm
TUFF-POST300 (300mm Square Tuff Post)	90mm	150mm	150mm	Ø18mm	190mm x 190mm (4x holes)	M16x160mm
TUFF-POST600 (600mm Square Tuff Post)	100mm	150mm	150mm	Ø18mm	190mm x 190mm (4x holes)	M16x160mm
TUFF-POST900 (900mm Square Tuff Post)	125mm	200mm	200mm	Ø18mm	190mm x 190mm (4x holes)	M16x200mm
TUFF-POST600_24 (600mm Square Tuff Post 24kN)	160mm	200mm	300mm	Ø18mm	190mm x 190mm (4x holes)	M16x220mm
TUFF-POST900_24 (900mm Square Tuff Post 24kN)	200mm	300mm	400mm	Ø18mm	190mm x 190mm (4x holes)	M16x260mm
TUFF-POST900_24D (900mm Square Tuff Post 24kN, large baseplate)	130mm	200mm	200mm	Ø18mm	300mm x 300mm (4x holes)	M16x200mm

6

☑ Other bolting/slab configurations may be possible, refer to the chemical manufacturers details or contact SafetyLink.

3.3 Cast in Cage

SafetyLink's ConcreteLink Cast In Cages are concrete studs set at the correct spacing for different products. The cages are to be installed prior to the concrete being poured.

Cast In Cages's shall be installed at the depth, edge distance and slab thickness provided in Figure 6.

⚠ Minimum 32MPa uncracked concrete

- 1 Attach the studs to the template piece(s) with the nuts provided.
- 2 Position the studs in the slab with a minimum edge distance and embedment as in Figure 6.
- 3 Join the two adjacent studs with the length(s) of reinforcement steel provided.
- 4 Tie the steel to the slab reinforcement to prevent movement during the concrete pour.

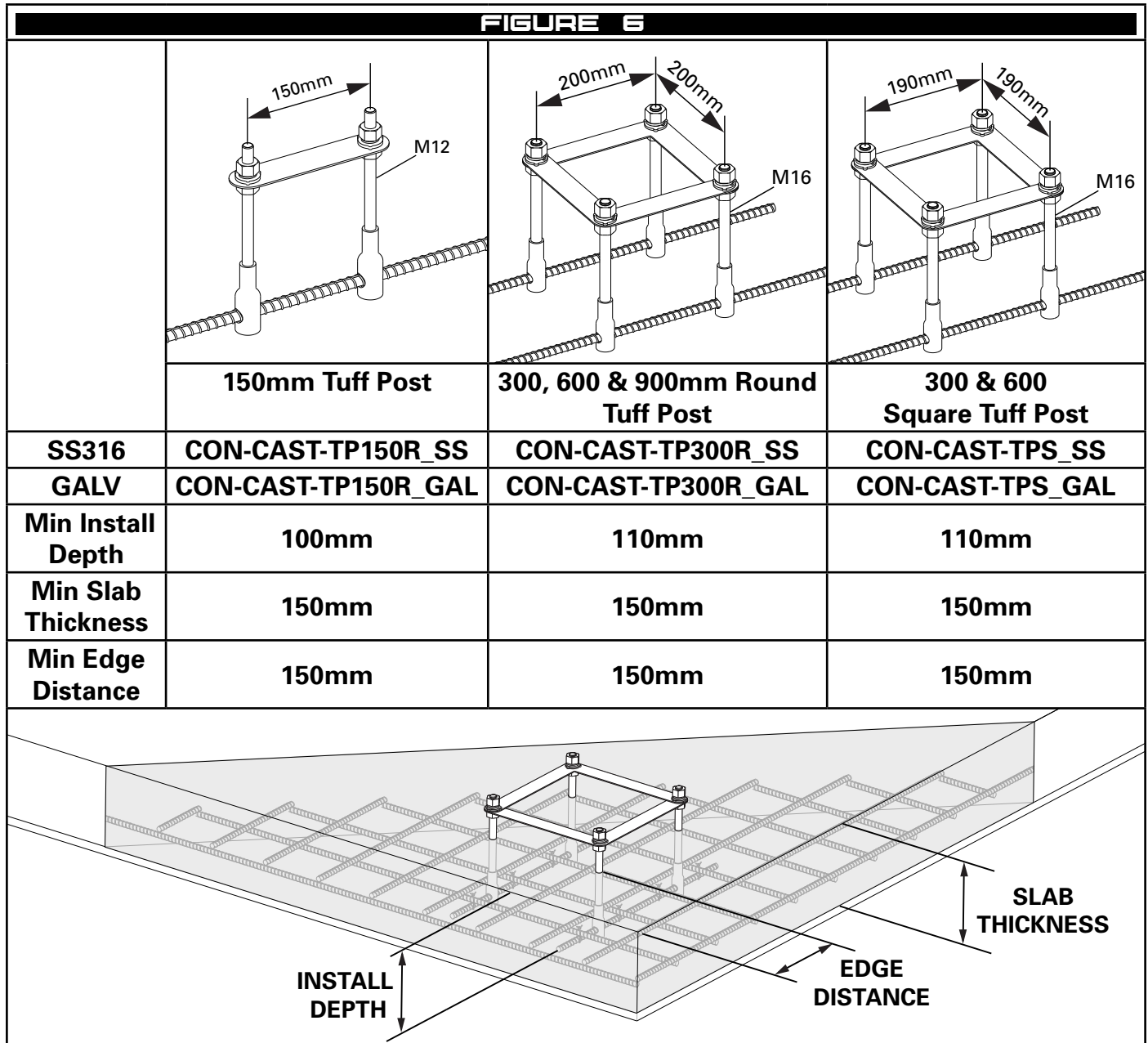
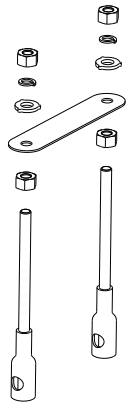
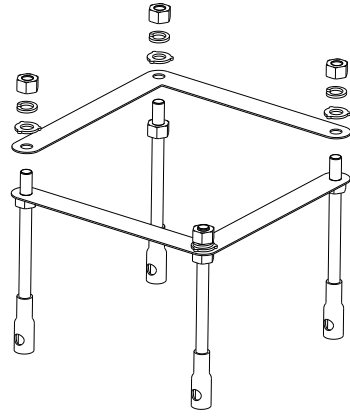


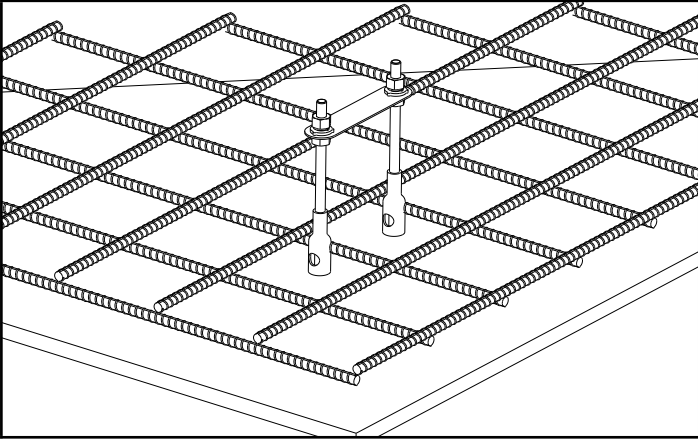
FIGURE 7



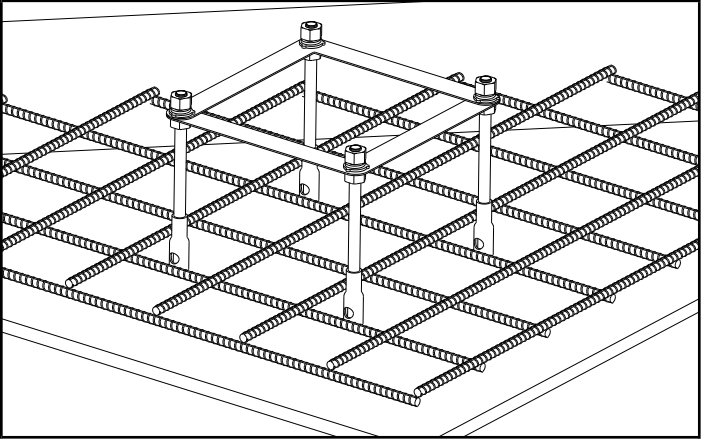
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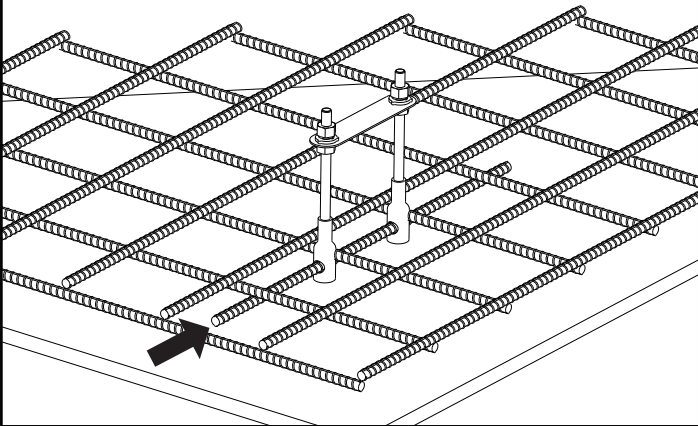
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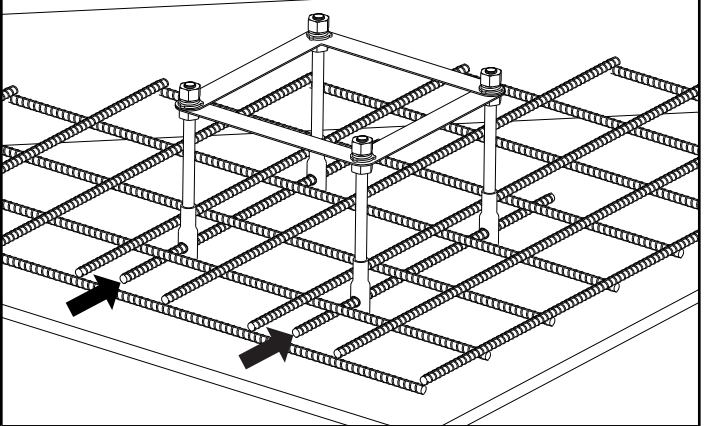
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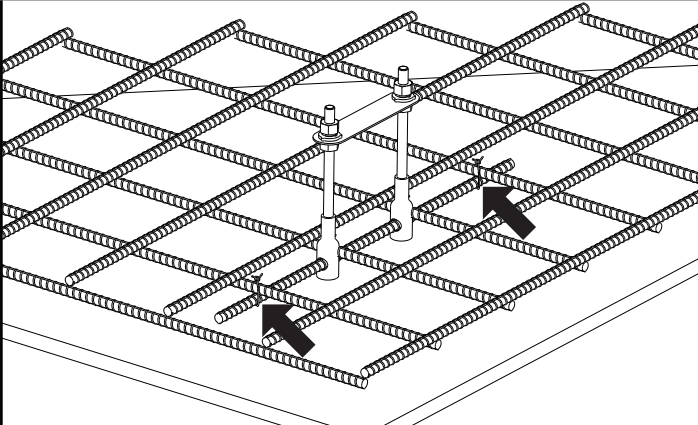
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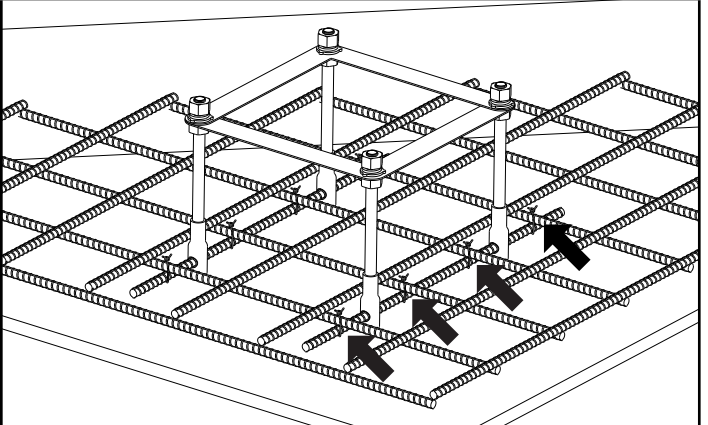
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3



4



4

3.4 Steel Mounted

All fixings used to attach the Tuff Post to the substrate that were not supplied by SafetyLink shall be stainless steel grade 304 or 316 or hot dip galvanised or zinc plated steel grades 8 or 8.8. Fixings shall be installed with spring washers, lock nuts or thread lock adhesive to prevent loosening.

- 1 Drill a hole in the structure as per Figure 9.
- 2 Fasten the Tuff Post with a bolt, washer, spring washer and nut as per Figure 9.

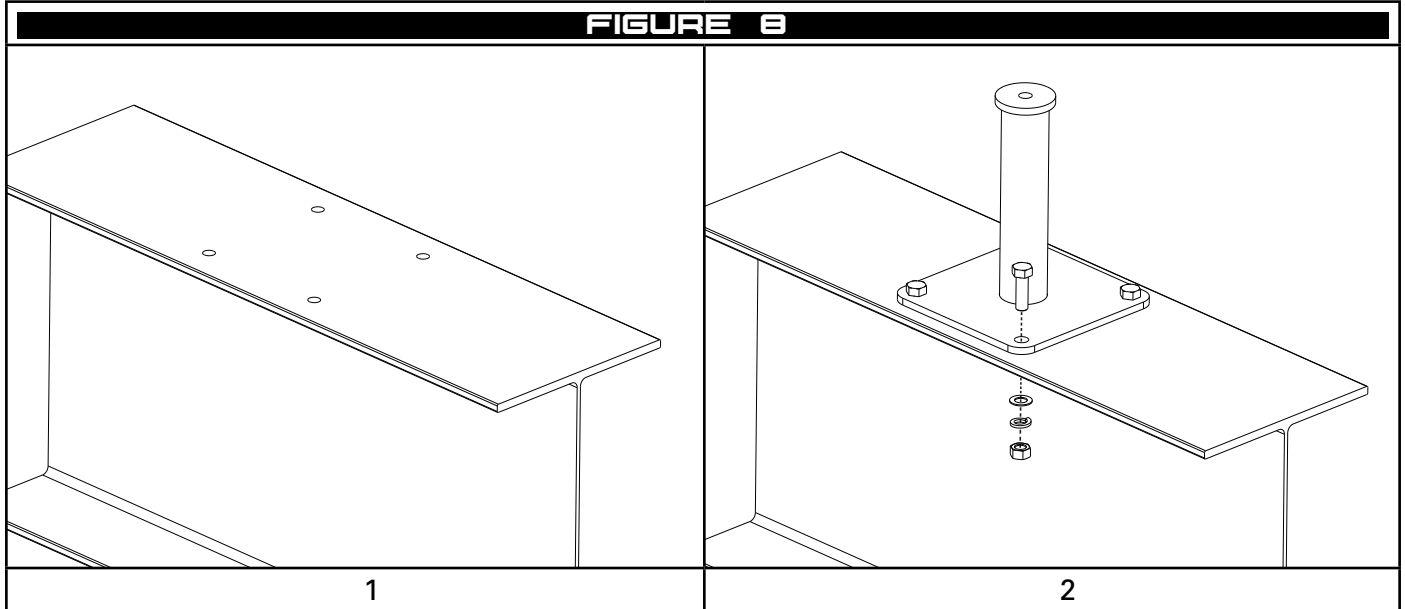
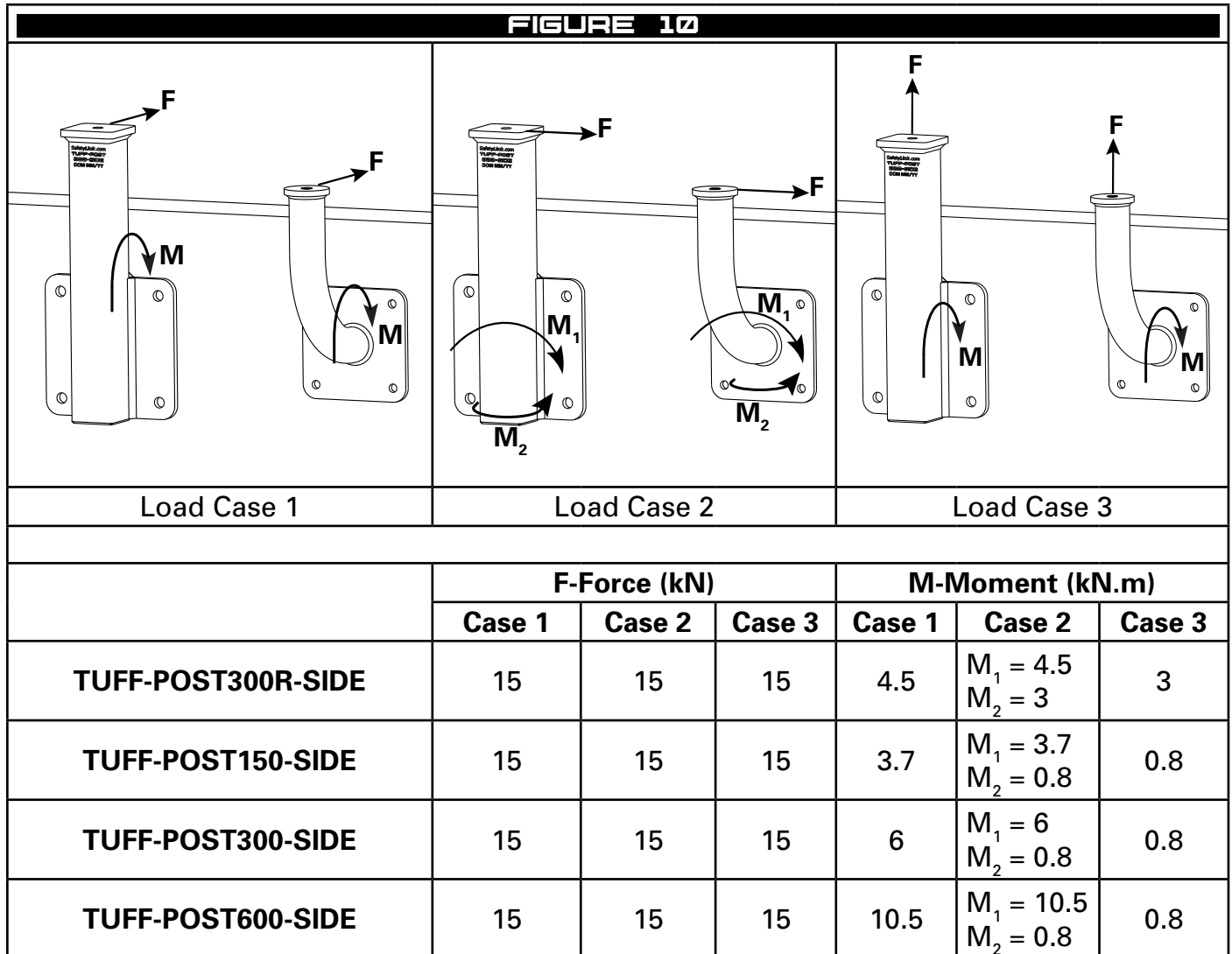


FIGURE 9			
	Hole Size	Fixing Size	Tightening Torque
150mm Tuff Post	Ø14mm	M12	50Nm
All other Posts	Ø18mm	M16	60Nm

4 Side Mounted Tuff Posts

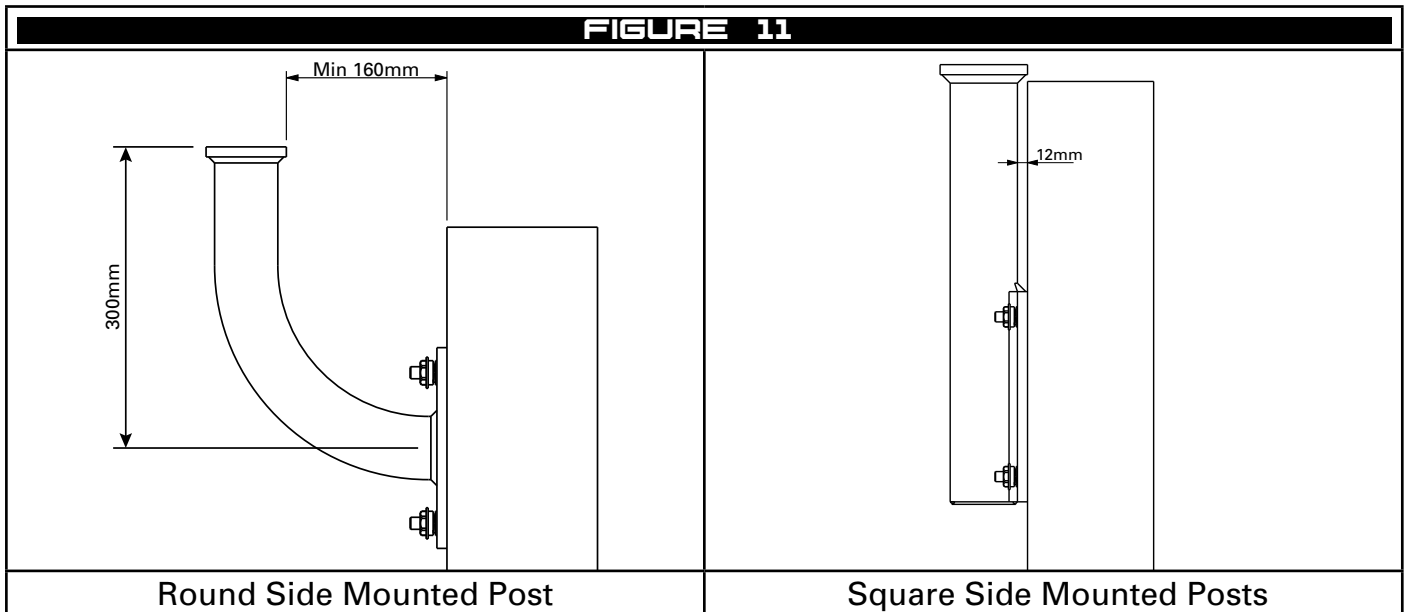
4.1 Reaction loads

The substrate must be able to sustain the reaction loads in Figure 3 for this product to be installed.



4.2 Clearances

Consideration should be made for any potential obstructions to the installation of side mounted tuff posts. Parapet walls may have conduits, lights, cappings/copings and waterproofing membranes which can obstruct the installation of the post. Figure 11 displays the minimum clearances required to avoid typical obstructions.



4.3 Concrete Studs Installation

! *This method is suitable for CON.CHEM.FISV.300 adhesive. Other adhesives or products may require different depths or edge distances. Consult the manufacturer's instructions for details.*

! **Minimum 32MPa uncracked concrete**

- 1 Mark the location for the holes and drill a hole with size and depth as per Figure 13.
- 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 and wipe away any adhesive expelled from the hole. A minimum of 40mm of the stud should remain above the surface of the concrete.

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

- 4 Once the adhesive has cured, lower the post onto the studs and install the washer, spring washer and nut. M12 fixings should be tightened to 50Nm and M16 fixings should be tightened to 60Nm.

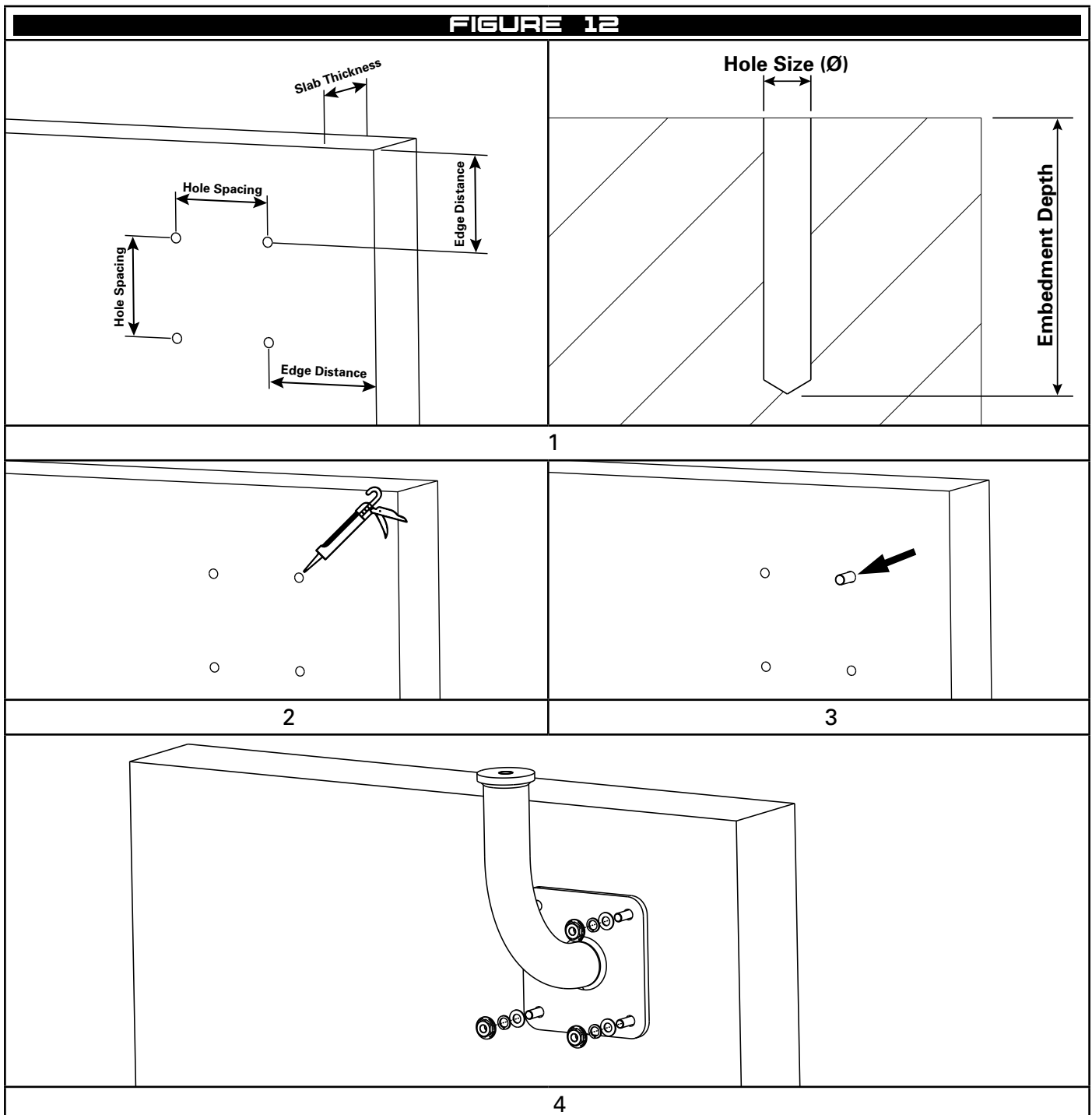


FIGURE 18

Post	Min Embedment Depth	Min Wall Thickness	Min Edge Distance	Hole Size (Ø)	Hole Spacing	Stud Size
TUFF-POST300R-SIDE (300mm Round Side Mounted Tuff Post)	90mm	150mm	150mm	Ø14mm	150mm x 150mm (4x holes)	M12x160mm
TUFF-POST150-SIDE (150mm Square Side Mounted Tuff Post)	90mm	150mm	150mm	Ø18mm	190mm x 190mm (4x holes)	M16x160mm
TUFF-POST300-SIDE (300mm Square Side Mounted Tuff Post)	90mm	150mm	200mm	Ø18mm	190mm x 190mm (4x holes)	M16x160mm
TUFF-POST600-SIDE (600mm Square Side Mounted Tuff Post)	100mm	150mm	300mm	Ø18mm	190mm x 190mm (4x holes)	M16x160mm

4.4 Steel Mounted

All fixings used to attach the Tuff Post to the substrate that were not supplied by SafetyLink shall be stainless steel grade 304 or 316 or hot dip galvanised or zinc plated steel grades 8 or 8.8. Fixings shall be installed with spring washers, lock nuts or thread lock adhesive to prevent loosening.

- 1 Drill a hole in the structure as per Figure 15.
- 2 Fasten the Tuff Post with a bolt, washer, spring washer and nut as per Figure 15.

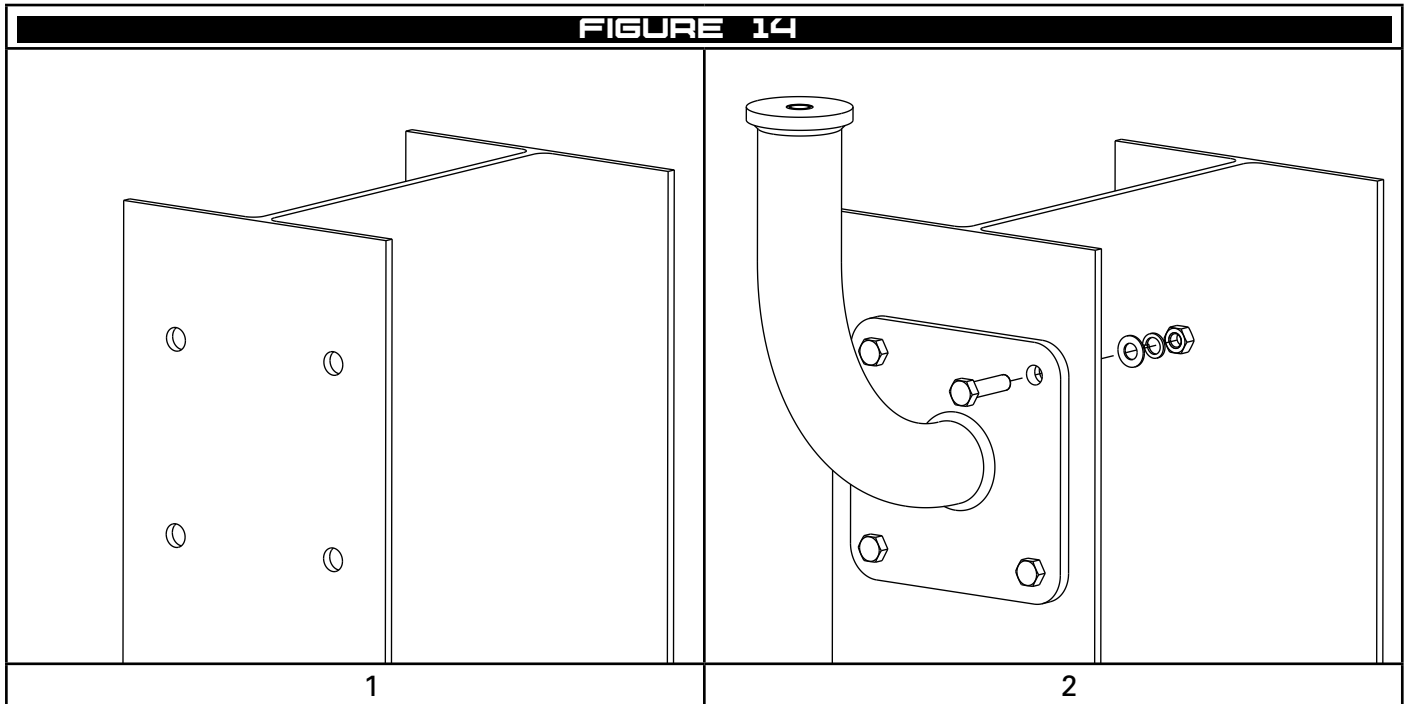
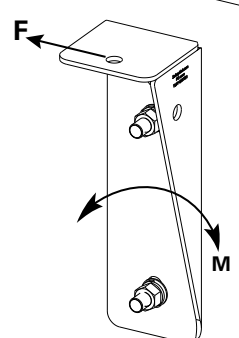
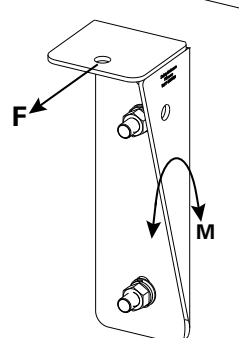
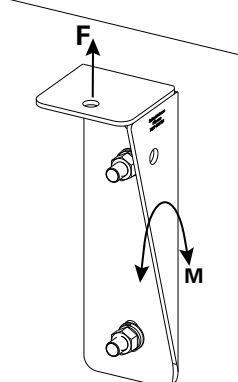


FIGURE 15			
	Hole Size	Fixing Size	Tightening Torque
Round Side Mounted Tuff Post	Ø14mm	M12	50Nm
Square Side Mounted Tuff Posts	Ø18mm	M16	60Nm

5 Tuff Bracket

5.1 Reaction loads

FIGURE 16						
						
Load Case 1	Load Case 2	Load Case 3				
	F-Force (kN)			M-Moment (kNm)		
	Case 1	Case 2	Case 3	Case 1	Case 2	Case 3
TUFF-BRKT01	15	15	15	3	3	1.35

5.2 Concrete Studs Installation

⚠ This method is suitable for CON.CHEM.FISV.300 adhesive. Other adhesives or products may require different depths or edge distances. Consult the manufacturer's instructions for details.

⚠ Minimum 32MPa uncracked concrete

⚠ Minimum 150mm slab edge distance

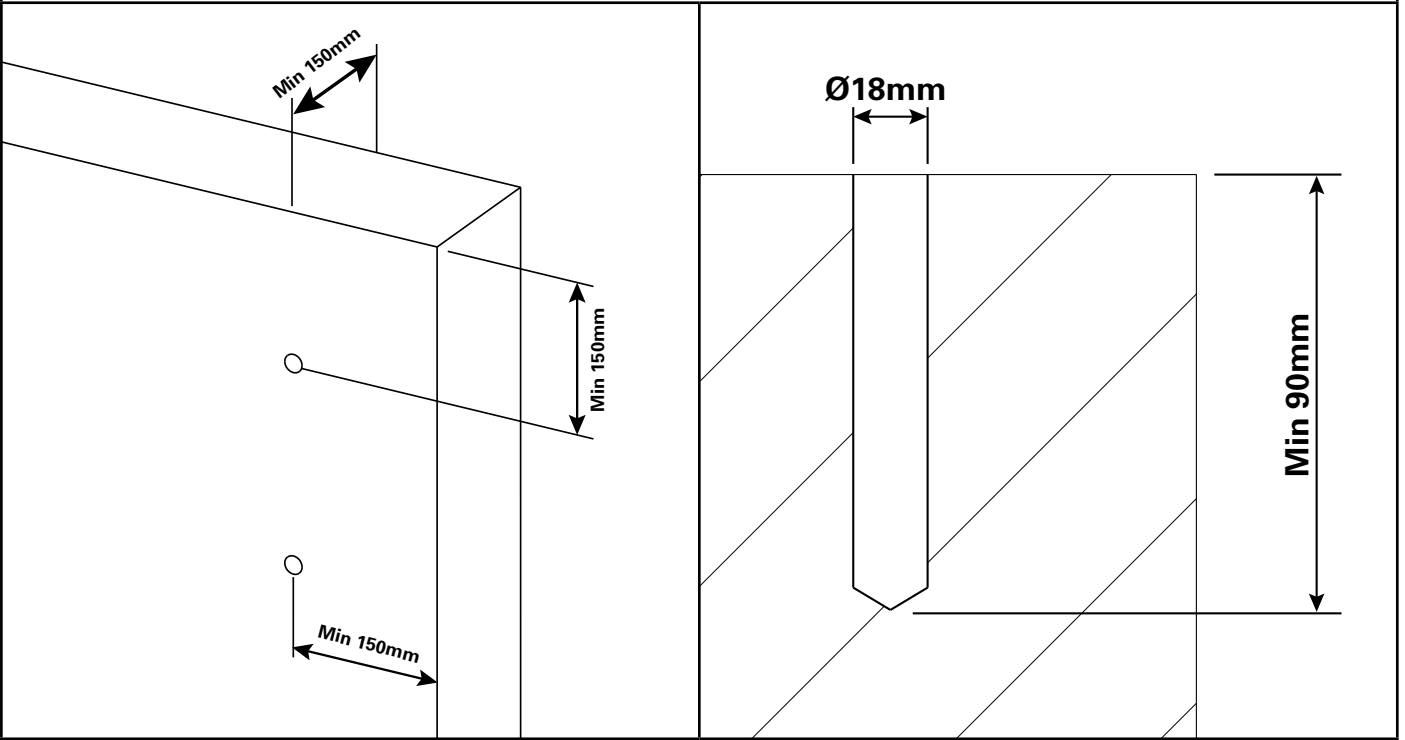
⚠ Minimum 150mm slab thickness

- 1 Mark the location for the holes and drill an $\varnothing 18\text{mm}$ hole to a depth of 90mm.
- 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 M16 stud to full depth and wipe away any adhesive expelled from the hole. A minimum of 40mm of the stud should remain above the surface of the concrete.

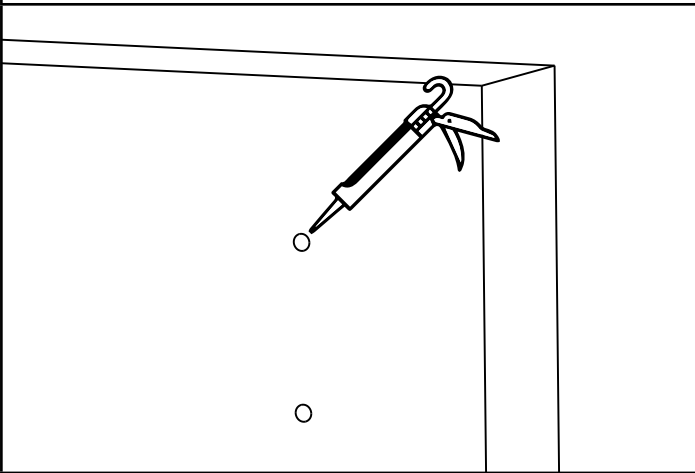
⚠ Ensure enough adhesive was used, the adhesive should finish flush with the concrete

- 4 Once the adhesive has cured, lower the bracket onto the studs and install the donut washer, spring washer and nut. The M16 fixings should be tightened to 60Nm.

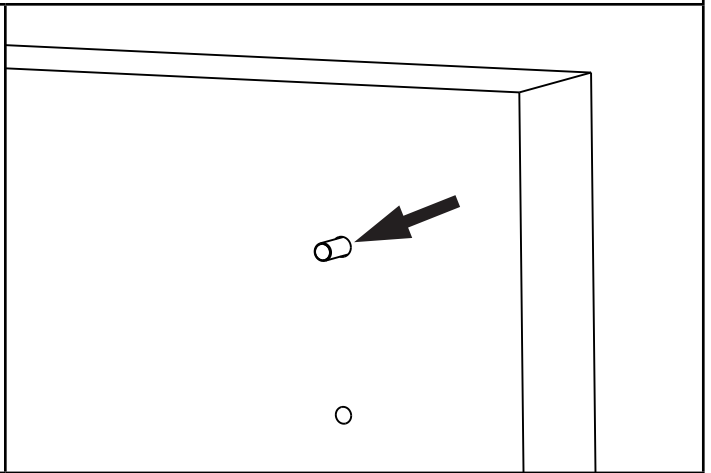
FIGURE 17



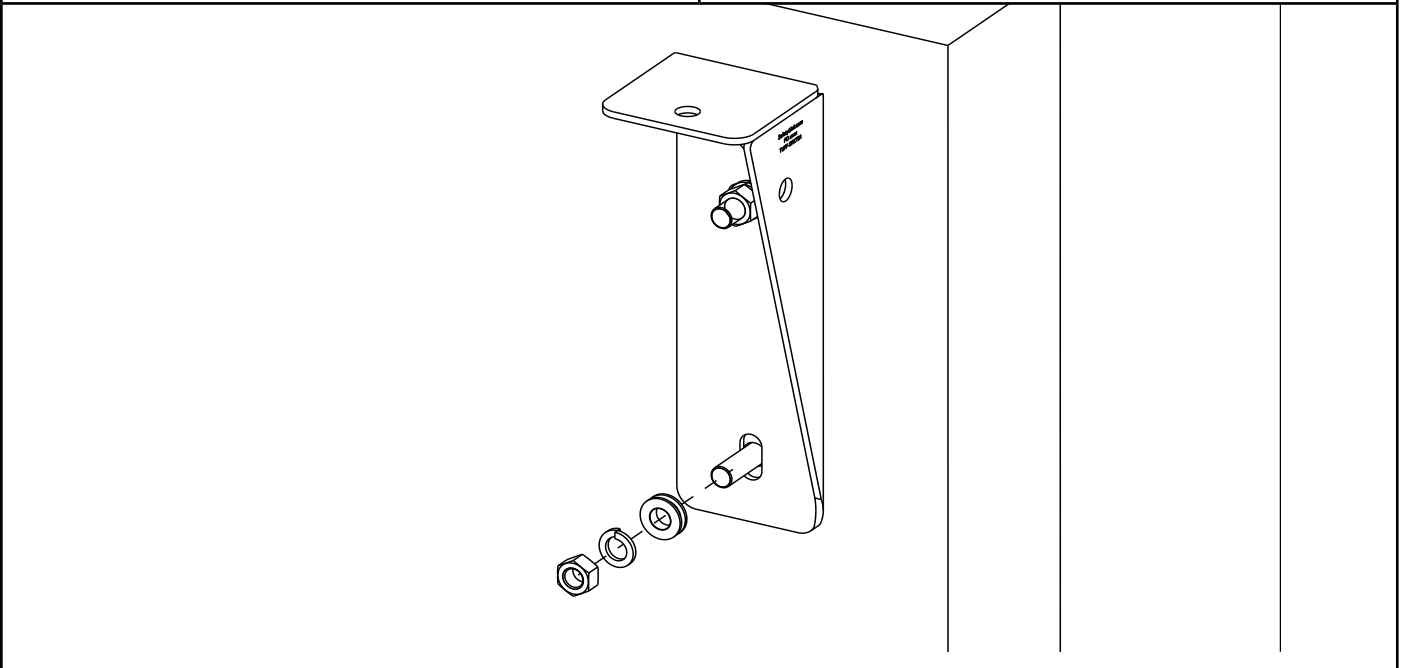
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3



4

5.3 Cast in Cage

SafetyLink's ConcreteLink Cast In Cages are concrete studs set at the correct spacing for different products. The cages are to be installed prior to the concrete being poured.

Cast In Cages's shall be installed at the depth, edge distance and slab thickness outlined below.

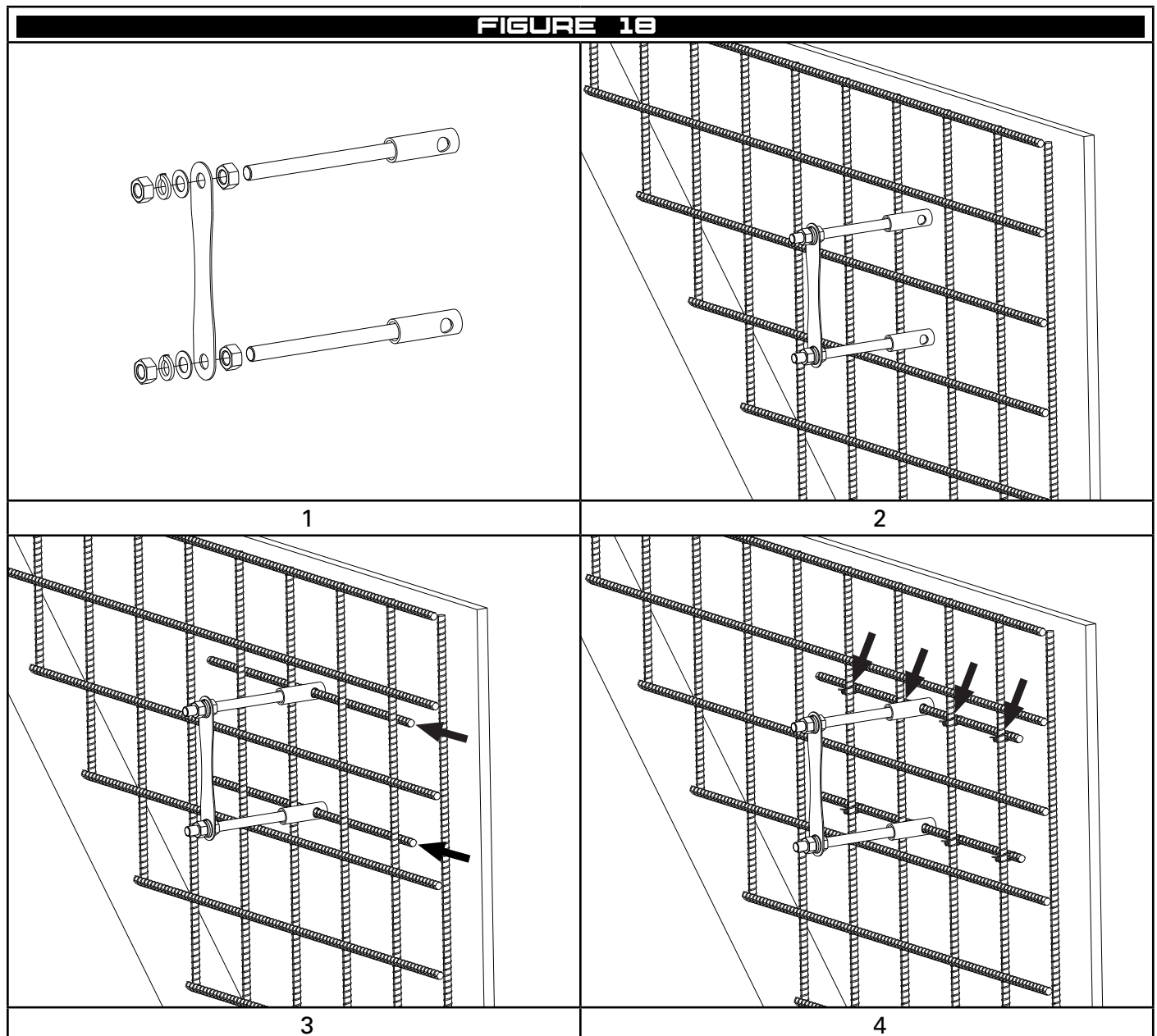
⚠ **Minimum 32MPa uncracked concrete**

⚠ **Minimum 150mm slab/wall**

⚠ **Minimum 150mm slab edge distance**

⚠ **Minimum embedment 100mm**

- 1 Attach the studs to the template piece(s) with the nuts provided.
- 2 Position the studs in the slab with a minimum edge distance and embedment as outlined above.
- 3 Join the two adjacent studs with the length(s) of reinforcement steel provided.
- 4 Tie the steel to the slab reinforcement to prevent movement during the concrete pour.

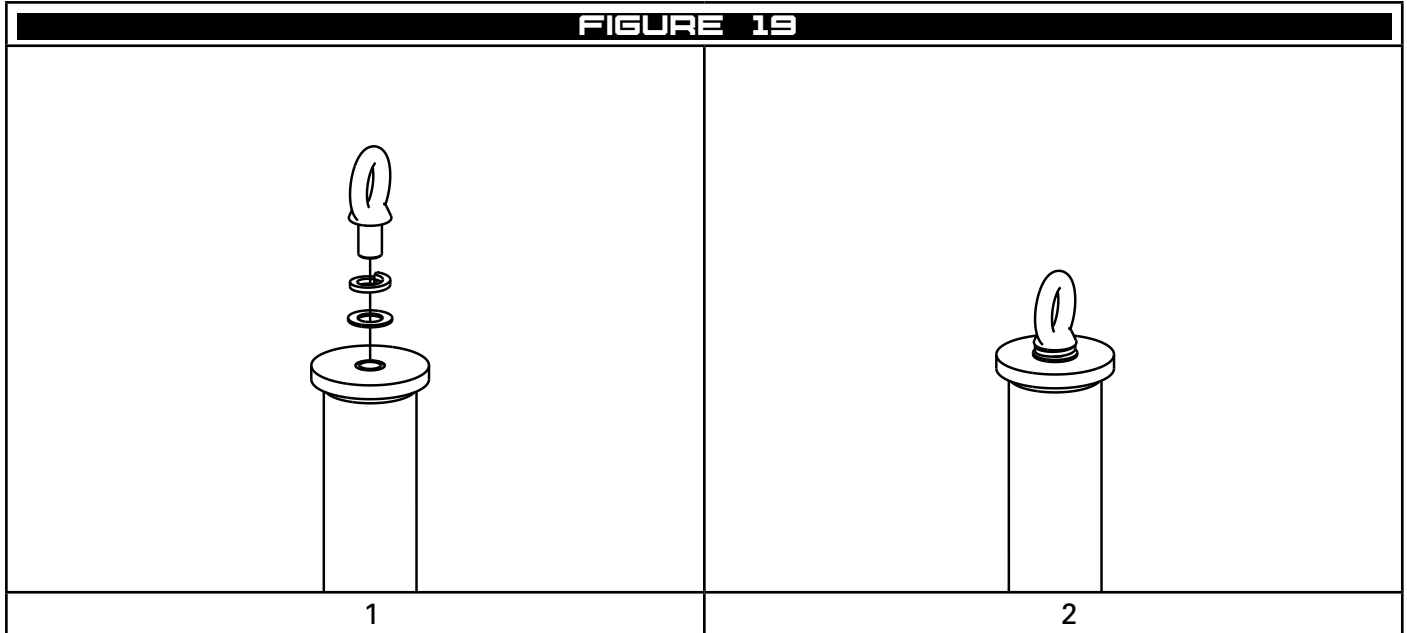


6 Attachments

The SafetyLink Tuff Post is designed to raise a height safety system above the existing substrate. SafetyLink's Eyebolts, Frogline or XRail systems can be fixed to the posts.

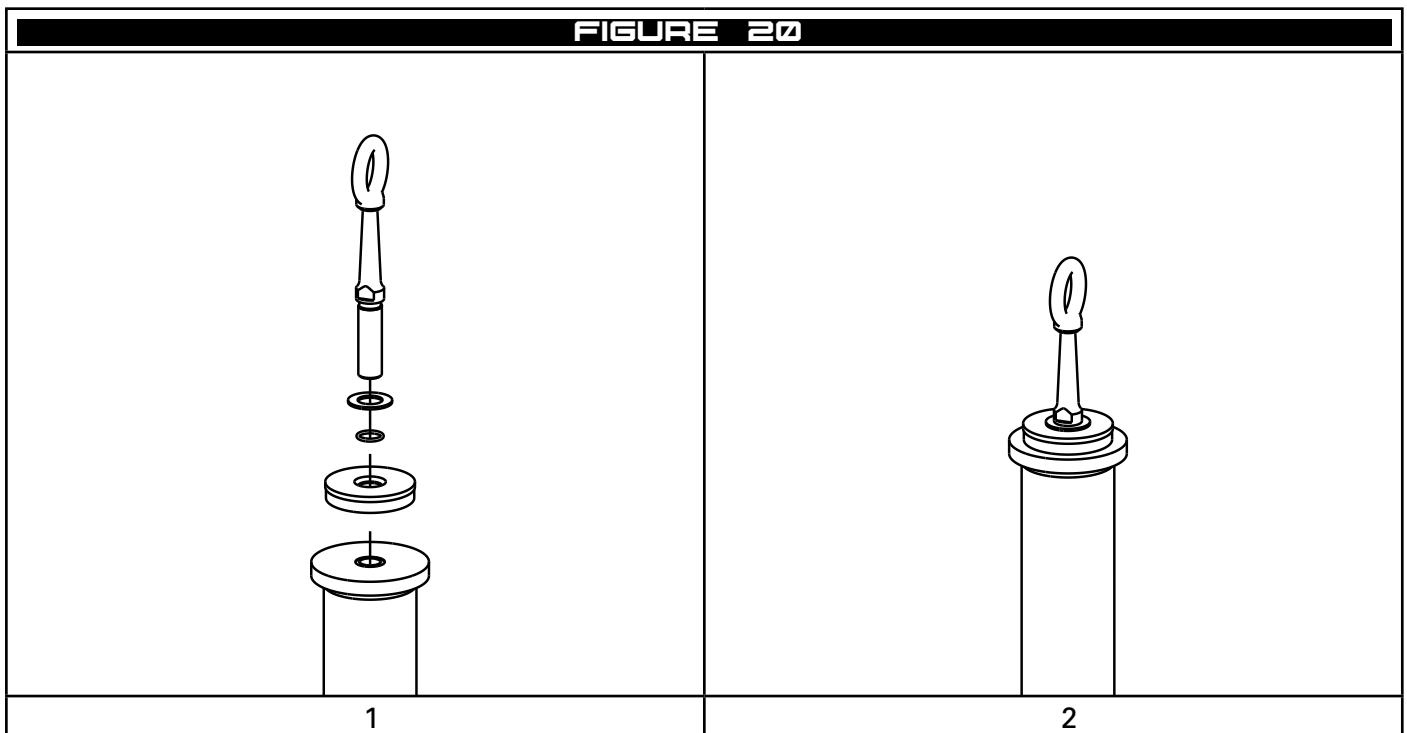
6.1 Collared Eyebolt

- 1 Install the eyebolt with an M16 washer and spring washer.
- 2 Tighten the eyebolt into the top of the Tuff-Post.



6.2 Retro Eyebolt

- 1 Install the Retro Eyebolt with the foam washer, washer and o-ring.
- 2 Tighten the eyebolt into the top of the Tuff-Post.



6.3 Lifelines and Rail Systems

For the installation of lifelines or rail systems onto TUFF-POSTS, refer to the appropriate installation manual for that system.

7 Proof Loading

Any installation that uses chemical fasteners shall be proof loaded after installation of the studs, and at each annual inspection. Tuff Post's and Tuff Brackets must be proofloaded in accordance with Sections 7.1 and 7.2.

7.1 After installation

After the studs have been installed and the chemical has cured, each of the studs shall be proof loaded to 7.5kN for 30 seconds.

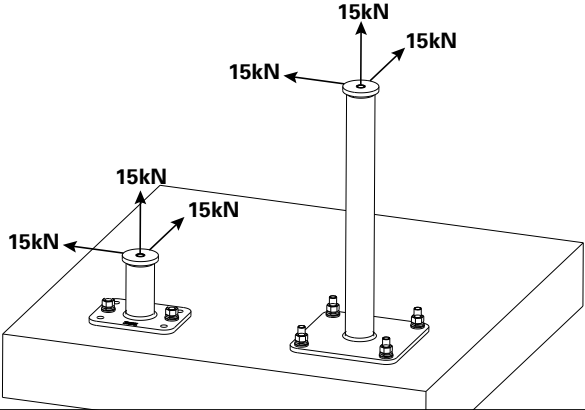
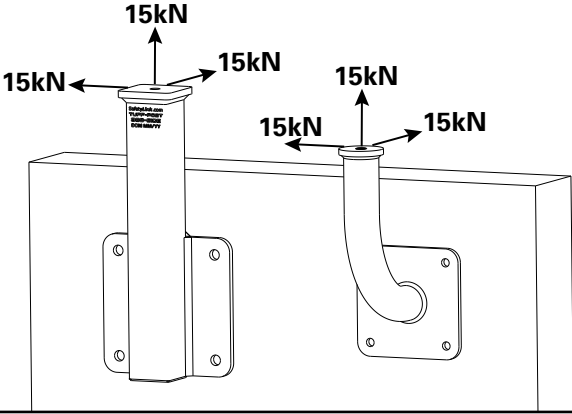
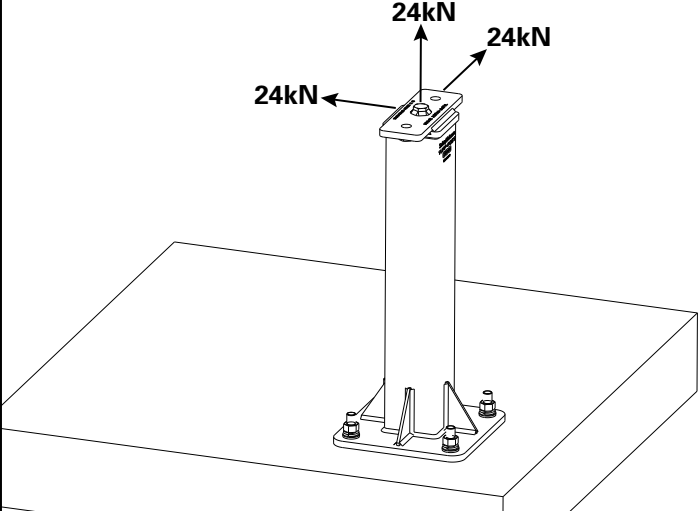
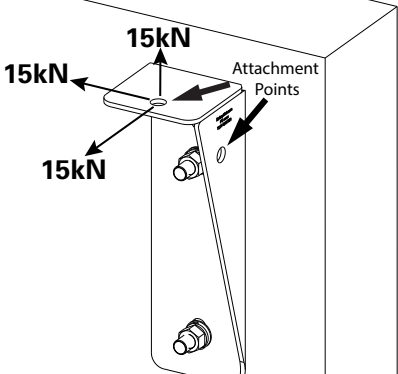
7.2 Recertification

Annual proof loading of the Tuff Post is required for Tuff Posts that have been installed with chemical fasteners. This can be achieved by loading the complete unit to 7.5kN for 30 seconds.

8 Limitations of Use

8.1 Tuff Post Ratings

The Tuff Post is designed to be used with a variety of attachments, as per Section 6. The maximum rated load of the Tuff Posts is shown in Figure 21. SafetyLink's range of tuff posts can be used in floor mounted, wall mounted or overhead applications.

FIGURE 21		
<p>TUFF-POST150R TUFF-POST300R TUFF-POST600R TUFF-POST300 TUFF-POST600 TUFF-POST900 TUFF-POST150-SIDE TUFF-POST300-SIDE TUFF-POST600-SIDE TUFF-POST300R-SIDE</p>	<p>15kN All Directions</p> <p>Suitable for Fall Arrest & Abseil</p>	
<p>TUFF-POST900R</p>	<p>15kN All Directions</p> <p>Suitable for Fall Arrest Only</p>	
<p>TUFF-POST600_24 TUFF-POST900_24 TUFF-POST900_24D</p>	<p>2x 12kN (24kN) All Directions</p> <p>Suitable for Fall Arrest & Abseil</p>	
<p>TUFF-BRKT01</p>	<p>15kN All Directions Only 1 Attachment point to be used at a time.</p> <p>Suitable for Fall Arrest & Abseil</p>	

9 Storage, Transport and Maintenance

9.1 Storage and transport

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

9.2 Maintenance

9.2.1 The Tuff Post is non serviceable. 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.

9.3 Cleaning

The Tuff Post 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.

10 Inspection

10.1 Before and After Use

The Tuff Post Single Point Anchor shall be inspected before and after each use by the user.

10.2 Competent Person

A competent person shall inspect the system at least every 12 months. 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.

10.3 Procedure

10.3.1 Attachment point

Inspect for damage, deformation, corrosion or signs of over loading.

10.3.2 Inspect

Ensure the post is not bent, indicating that it has been involved in a fall.

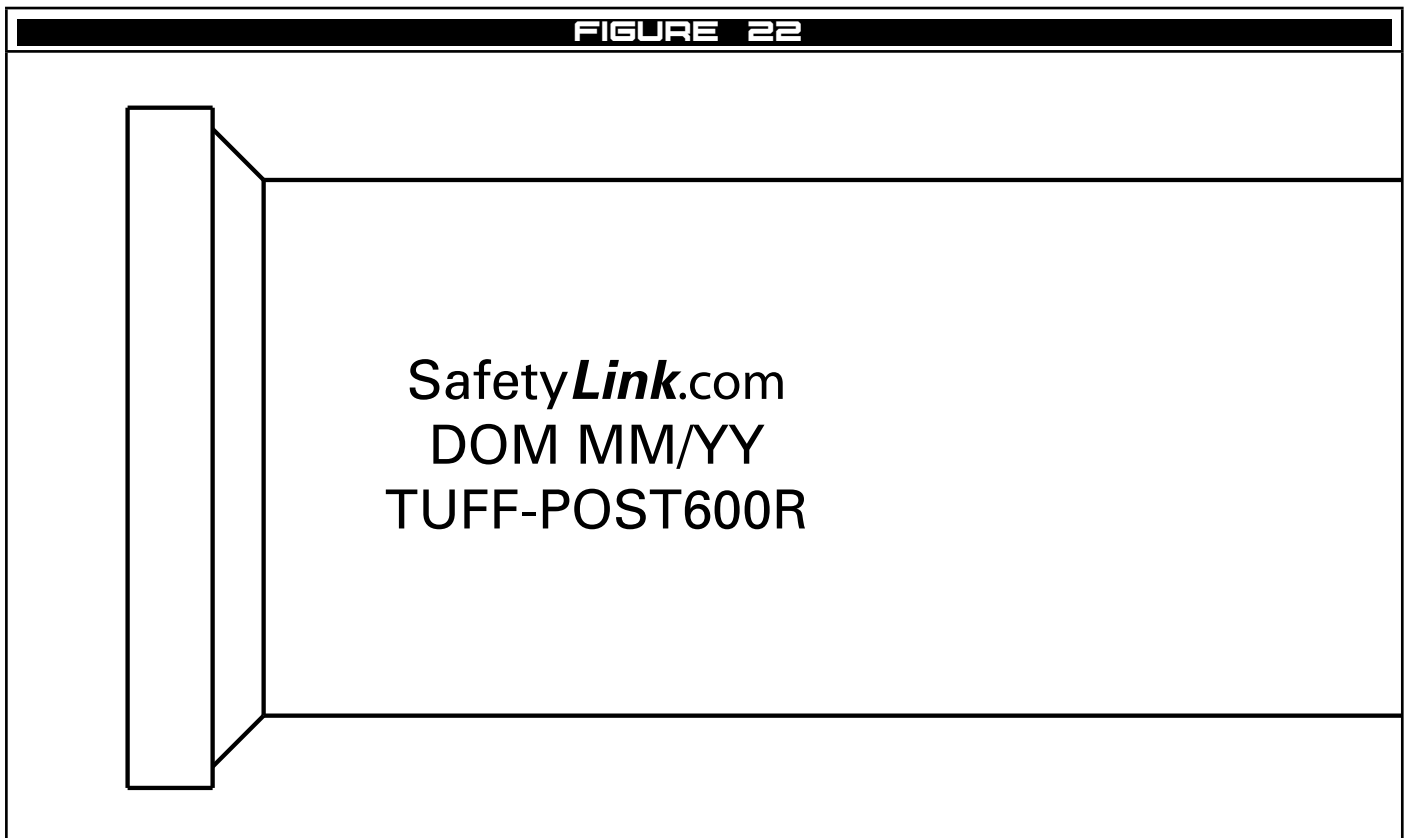
10.3.3 Markings

Inspect all markings are present and legible. Figure 22.

10.3.4 Proof Loading

Applicable for concrete anchors only as per AS/NZS1891.4. Proof load as per Section 7. Competent person inspection only.

INSPECTION RECORD			
Product Code		Date of Manufacture	
Serial or Batch No.		Date of Install	
Inspector		Date of Inspection	
PROCEDURE	INSPECTION	USER	COMPETENT PERSON
10.3.1	Attachment point - Inspect for damage, deformation, corrosion or signs of over loading.	<input type="checkbox"/>	<input type="checkbox"/>
	Comments:		
10.3.2	Ensure the post is not bent, indicating that it has been involved in a fall.	<input type="checkbox"/>	<input type="checkbox"/>
	Comments:		
10.3.3	Markings - Inspect all markings are present and legible. Figure 22.	<input type="checkbox"/>	<input type="checkbox"/>
	Comments:		
10.3.4	Proof Loading - Applicable for concrete anchors only as per AS/NZS1891.4. Proof load as per section 7. Competent person inspection only.	N/A	<input type="checkbox"/>
	Comments:		



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 supplied 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).

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



SafetyLink Pty Ltd | ABN 83 081 777 371 | www.safetylink.com

Head Office: 54 Bonville Ave, Thornton, 2322, NSW, Australia

+64 2 4964 1068 | 1300 789 545

Asia-Pacific/The Americas | info@safetylink.com

Europe/Africa/Middle East | europe.sales@safetylink.com

Northern Europe | uk.sales@safetylink.com