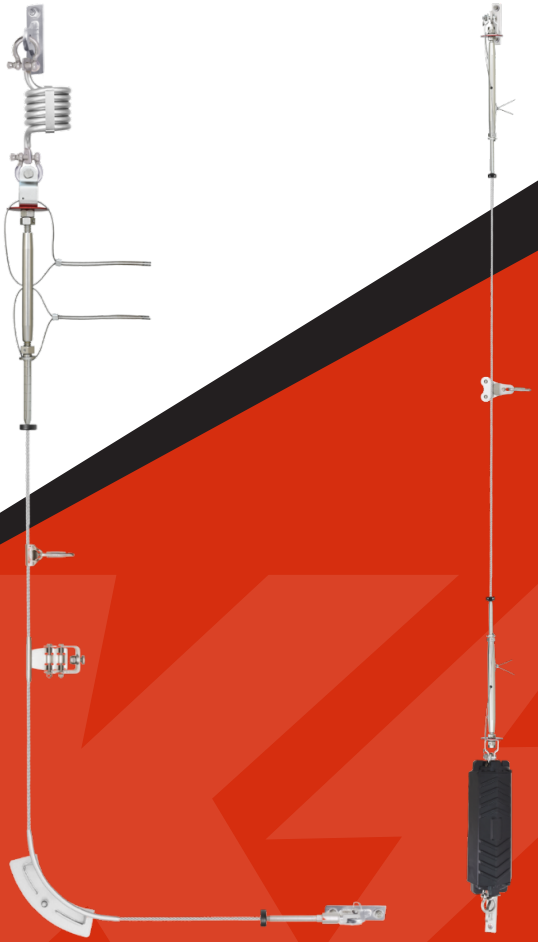
K-STRONG®
UNRIVALED SAFETY.



USER INSTRUCTION MANUAL

IMPAXX HORIZONTAL LIFELINE SYSTEMS

THESE INSTRUCTIONS APPLY TO THE FOLLOWING SYSTEMS:

IMPAXX CONSTEEL Floor Mounted / Wall Mounted / Overhead Mounted
IMPAXX LONGSPAN Wall Mounted / Overhead Mounted

EN 795:2012 Type C
CEN/TS 16415:2013 Type C



DISCLAIMER

The information provided in this User Instruction Manual (UIM) is based on technical data obtained by KStrong under laboratory conditions and is believed to be reliable; however, KStrong makes no guarantees regarding results and assumes no liability or obligation arising from the use of this information. Since conditions of end use are beyond KStrong's control, it is the user's responsibility to assess hazard levels, determine product suitability for the intended application, and ensure the use of appropriate personal protective equipment. Evaluation under specific end-use conditions should be conducted by persons with appropriate technical expertise at their own discretion and risk.

This information is provided solely to assist in verifying that the selected product is suitable for its intended use. Any product that is damaged, torn, worn, punctured, altered, or misused must be removed from service immediately. Failure to follow the manufacturer's instructions for proper use, care, maintenance, or system integration may result in serious injury or death. All manufacturer's instructions for each component or part of the complete system must be read, understood, followed, and retained, and must always be kept available for the user's reference. The user is advised to retain this UIM document for the life of the product.

Prior to use, the end user must read and understand the manufacturer's instructions supplied with this product at the time of shipment and seek training from their employer's trained personnel on its proper use. Users are required to complete and record the pre-use inspection as outlined in this UIM. Failure to follow these inspection and usage requirements significantly increases the user's liability exposure, as improper or undocumented use may not be supported during an incident investigation and could affect warranty or service outcomes. The manufacturer is not liable or responsible for any loss, damage, or injury caused or incurred by any person due to improper usage or installation of this product.

IMPORTANT SAFETY INFORMATION

Failure to follow these instructions may result in serious injury or death. Read and understand all instructions before using this fall arrest system.

PREFACE

This UIM has been designed to comply with **EN 795:2012 Type C** Clause 7 Information Supplied by the Manufacturer, Annex A.1 Installation Guidance, Annex A.2 Post-Installation Documentation, Annex A.3 Periodic Examination Guidance, and **CEN/TS 16415:2013 Type C** Clause 7 Information Supplied by the Manufacturer.

It has also been aligned to **AS/NZS 1891.2:2001** Industrial fall-arrest systems and devices Part 2: Horizontal lifeline and rail systems, Section 5 Instructions & Marking, 5.2 Systems Supplied in Kit Form.

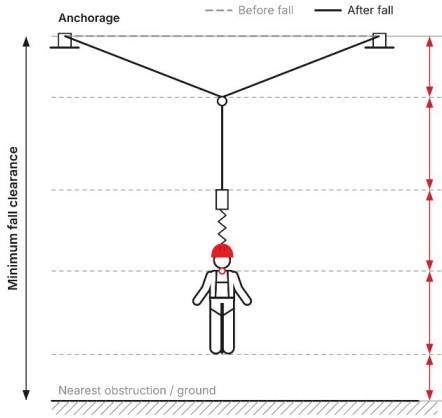
For supplementary information regarding fall protection systems used in Australia and New Zealand, see **AS/NZS 1891.4:2025** Personal equipment for work at height Part 4: Selection, use and maintenance.

A. KEY FALL PROTECTION CONSIDERATIONS

A1. Fall Clearance

When designing your fall protection system, it is critical to carefully evaluate every component to prevent injury. Figure A and Figure AA illustrate how to determine Minimum Fall Clearance.

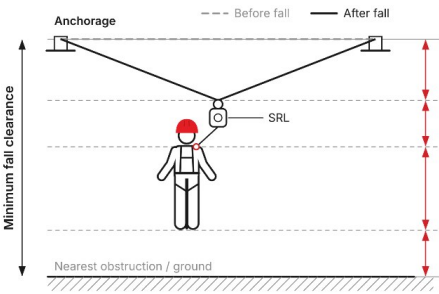
FIGURE A (Fall Clearance with Lanyards)



Measurement	Allowance
Cable deflection	Refer deflection tables, Section 2.1
Length of lanyard	**2.00 m**
Energy absorber extension	**1.75 m**
Height of worker	**1.80 m**
Safety clearance	**1.00 m**

Total = cable deflection + 6.55 m

FIGURE AA (Fall Clearance with SRL)



Measurement	Allowance
Cable deflection	Refer deflection tables, Section 2.1
SRL arrest distance (incl. harness stretch)	**1.00 m**
Height of worker	**1.80 m**
Safety clearance	**1.00 m**

Total = cable deflection + 3.80 m

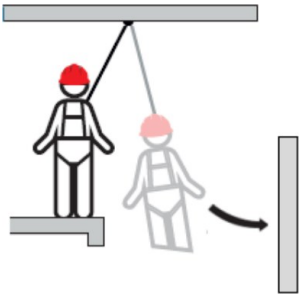
To accurately determine the cable deflection figure for use in your overall fall clearance calculation, see section 2.1, or enter your exact KStrong Horizontal Lifeline System parameters into the KStrong Compass App:
https://kstrong.com/australia/compass-fall-protection-systems-australia/

A2. Swing Fall

Positioning yourself off-centre from an anchor point risks a swing fall. Refer to Figure B. Fall protection systems must be configured to minimise the risk of a swing fall.

! Impact with an object as a result of a swing fall may cause serious injury or death.

FIGURE B (Swing Fall)



A3. Hazards

Operating this equipment in hazardous conditions may result in equipment damage and/or impair its performance. Such hazards include, but are not limited to: extreme temperatures, sharp edges, chemical agents, electrical conductivity, abrasion, cutting forces, outdoor exposure, and rotating or moving machinery.

A4. Training

All users must receive adequate training in the inspection, configuration, and operation of this equipment. Each user is responsible for ensuring they are properly trained and fully aware of the equipment's operational limits.

! Failure to use this equipment correctly may result in severe injury or death.

A5. Rescue

Both the user and their employer are responsible for establishing and maintaining a suitable rescue plan, and for being able to execute it at all times during setup and use of this equipment.

A6. Record Keeping

KStrong advises that the owner of this product keeps a record, which is made available to users, containing the following: product identification marks; manufacturer's name and contact details; product serial number; suitability for use with other components; date of purchase; date first put into service; date of the next inspection/service; and a space for user comments.

B. CONNECTIONS

B1. Making Connections

Only form compatible connections. Before use, always verify that connectors are fully closed and locked. The following list and Figure C show examples of connections that must be avoided:

(i) To an anchor or D-ring which has another connector attached.

(ii) In a position that will apply load to the gate mechanism.

(iii) By passing the connection through the attachment.

(iv) Connecting a connector to another connector.

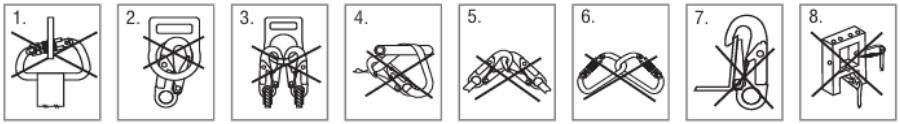
(v) Around a structure and back to the lifeline.

(vi) To an attachment that will limit the function of the gate.

(vii) To a location that will not load the connector as designed.

FIGURE C (Making Connections)

NOTE: Large throat opening snap hooks should not be connected to standard size D-rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates. Large throat snap hooks are designed for use on fixed structural elements such as rebar or cross members that are not shaped in a way that can capture the gate of the hook. (Refer 7 & 8)



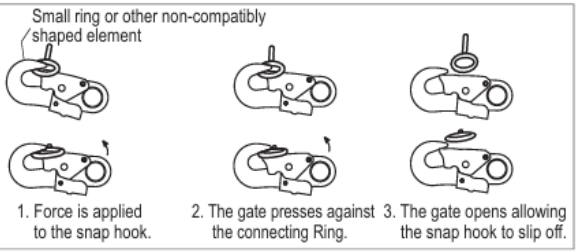
B2. Compatibility of Connections

All connections made to and with this equipment must be compatible. Connectors must match in shape, size, and load rating to ensure a safe and secure connection. Incompatible connections risk placing load on the gate mechanism, which may lead to accidental disengagement. See Figure D. All connectors must comply with EN 362 and be equipped with automatic closing and locking functions.

! Using an incompatible or improper connection may cause accidental disengagement of the connector, potentially resulting in serious injury or death.

FIGURE D (Compatibility of Connections)

If the connecting element to which a snap hook (shown) or karabiner attaches is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snap hook or karabiner. This force may cause the gate (of either a self-locking or a non-loking snap hook) to open, allowing the snap hook or karabiner to disengage from the connecting point.



C. USE

C1. Planning

Prior to commencing work, assess all workplace hazards and available fall clearance to plan your work at height and rescue procedures.

Confirm that all users are physically fit and competent to operate this equipment and carry out the rescue plan safely.

C2. Use

1A. Conduct a pre-use inspection of the product and structure as per Section E1.

1B. If the product or structure fails inspection, immediately remove the affected product or structure from service and tag or isolate it to prevent use. Return it to service only after a competent person has inspected and cleared it. Record the findings and actions taken.

2 Review the recommendations for use with other components.

3 Check compatibility with attachment hardware.

4 If a fall occurs, follow step 1B.

C2.1. Using the Standard Shuttle

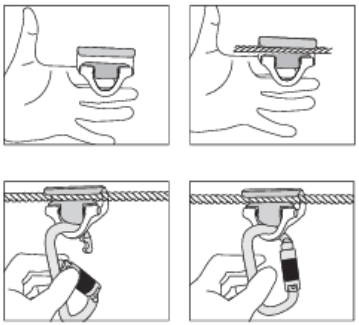
1 Remove the carabiner from the shuttle.

2 Open the cable gate and place the shuttle onto the lifeline cable.

3 The cable gate will close, allowing the carabiner to be passed back through both the cable gate D and the shuttle body D.

4 Ensure the carabiner closes fully and locks. You may now attach your lanyard to the carabiner.

FIGURE E (Standard Shuttle Use)



C2.2. Using the Overhead Shuttle

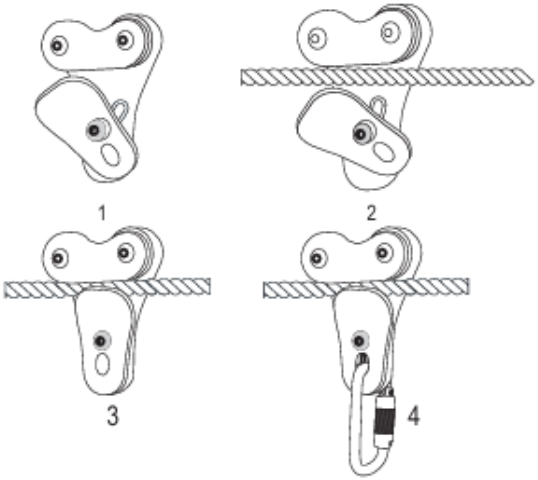
1 Remove the carabiner from the shuttle.

2 Swing the cable gate open and place the shuttle onto the lifeline cable.

3 Swing the cable gate closed, allowing the carabiner to be passed back through both the cable gate D and the shuttle body D.

4 Ensure the carabiner closes fully and locks. You may now attach your lanyard or SRL to the carabiner.

FIGURE F (Overhead Shuttle Use)



C2.3. Use with Self-Retracting Lifelines

KStrong Horizontal Lifeline Systems are approved for use with all KStrong “Brute” & “Vulcan” Series SRLs.

! Connect only to the designated attachment point marked on the shuttle.

! The lifeline system has no other approved connection points — do not use them.

! Each shuttle is for one user only — never connect more than one user to a shuttle.

! Keep use within the shuttle's specified operating range at all times.

! The equipment load hanging from the shuttle (SRL and connecting hardware, excluding the user) must not exceed 10 kg.

D. STORAGE, TRANSPORT AND MAINTENANCE

D1. Storage and transport

This equipment must be stored and transported in a cool, dry location, shielded from hazards and protected from direct sunlight.

D2. Maintenance

D2.1 KStrong IMPAXX lifeline systems have no authorised service agent or service interval. Competent person inspection frequency shall be, at minimum, as per E2 below, and should also be based on operating conditions — equipment used in demanding environments will need more regular attention. The equipment may continue in service until it either fails an inspection or has been subjected to a fall event.

! Do not attempt to alter or take apart this product in any way.

D3. Cleaning

Periodic cleaning by the end user can help extend the service life of the anchors. Following any cleaning, carry out the pre-use inspection. Use a cloth and warm water to clear away dirt and grit. For grease or oil residue, a mild detergent may be applied.

! Never put this product away while it is still wet. Ensure the product is fully dry and has passed a pre-use inspection before returning it to service.

E. INSPECTION

E1. Before and After Use

The user must complete the following checks before every use. If any check fails, do not use the system – remove it from service as per Section C2 1B and report it to a competent person.

E1.1 Ensure the system ID tag is present and legible, shows a current inspection period (inspected by a competent person within the last 12 months, as per Section E2), and that the system is certified for use. Do not use the system if the tag is missing, illegible or out of date, or if the system has been tagged or isolated as out of service.

E1.2 Ensure the shuttle is the correct type, as per Sections C2.1 and C2.2: AFF119025 IMPAXX Shuttle where the cable is within reach; AFF119028 IMPAXX Overhead Shuttle where the cable is out of reach and/or an SRL is connected.

E1.3 Inspect the shuttle for signs of deformation, cracks or corrosion.

E1.4 Ensure the cable gate and prescribed locking carabiner open, close and lock correctly.

E1.5 After use, report any damage, defect or fall event to a competent person.

E2. Competent Person

The lifeline system, and the surrounding anchorage structure, must be inspected by a competent person no less than once every 12 months, and must meet all specific criteria set out in the inspection record for that system.

E3. Competent Person Inspection Procedure

E3.1 Ensure the system installed matches the site plan.

E3.2 Ensure all systems are ID-tagged.

E3.3 Check that all system components are assembled and installed in accordance with this UIM.

E3.4 Ensure the site entry sign is present, legible and up to date.

E3.5 Ensure only components prescribed for the installed system type are used. IMPAXX CONSTEEL: maximum 4 users per system and per span, AFF112100 In-Line Shock Absorber and M12 Extremity Anchors. IMPAXX LONGSPAN: maximum 7 users per system and per span, AFF114112 In-Line Shock Absorber, AFF113710(16) M16 Extremity Anchors, AFF114113 Tensioners at both ends, and straight-line installation only, with no corners, Variable Intermediates, cable joiners or swageless fittings.

E3.6 Inspect all Extremity Anchors for correct type (AFF113710 M12 for IMPAXX CONSTEEL, AFF113710(16) M16 for IMPAXX LONGSPAN) and for signs of cracks, deformation, corrosion or overloading. For concrete installations, ensure Extremity Anchors are mounted so the load along the lifeline acts in shear on the fixings, as per Section 3.2.

E3.7.1 For steel installations, check all fixings are of the correct type, and have been installed and tightened correctly.

E3.7.2 For concrete installations, check all fixings are of the correct type, have been installed and tightened correctly, and proof-load each fixing in direct pull-out to the applicable value in Section 3.2.1, maintaining that load for 3 minutes.

E3.8 Ensure the correct In-Line Shock Absorber is fitted (AFF112100 for IMPAXX CONSTEEL, AFF114112 for IMPAXX LONGSPAN), and inspect it for signs of system impact, including the partial or full detachment of the keeper plate.

E3.9 Check that the tension indicator disc rotates under light finger pressure.

E3.10 Ensure tensioners are fitted as per Section 2.4.

E3.11.1 Check all swageless fittings have been installed correctly.

E3.11.2 Check all swaged fittings have been installed correctly.

E3.12 For IMPAXX CONSTEEL systems, check all cable joiners have been installed correctly, as per Section 3.7.

E3.13 Ensure the correct cable type is installed for the system, as per Section 3.5.

E3.14 Inspect for any broken, damaged or kinked strands along the full cable length.

E3.15 Ensure the cable is not obstructed in its line of deflection, or coming into contact with any other structure or surface, along its full length.

E3.16 Inspect all other bracket and corner components for signs of corrosion, cracks, defects or signs of overloading/impact.

E3.17 For IMPAXX CONSTEEL systems, check all Variable Intermediates are bent no more than 45° each side, with a minimum bend radius of 188 mm, as per Section 2.7.1.

E3.18 Where the IMPAXX Overhead Shuttle is used, ensure every Overhead Intermediate and Variable Intermediate is paired with an Overhead Spacer, as per Section 2.7.3.

E3.19 Ensure all cable spans are within the applicable minimum and maximum span limits specified in Section 2.3, and that the cable is installed within an angle of no more than 15° along the roof pitch and no more than 25° across it.

E3.20 Move the shuttle along the full length of the system to ensure there are no points where the shuttle catches or snags.

E3.21 Inspect all shuttles for correct type, as per Sections C2.1 and C2.2, and for signs of deformation, cracks or corrosion. Ensure the cable gate and prescribed locking carabiner open, close and lock correctly.

E3.22 Ensure cable stoppers are present and secure, limiting shuttle travel onto tensioners and cable terminations.

E3.23 Inspect the surrounding anchorage structure for deterioration, damage or modification, and ensure it is re-evaluated as per Section G2.

E3.24 In corrosive environments, ensure the inspection frequency has been increased as per Section F5.

E3.25 Confirm the system has not arrested a fall since the last inspection. If it has, remove it from service as per Section G1.

E3.26 Ensure the equipment record is complete and up to date, as per Section A6.

E3.27 Confirm the system is within its lifespan as per Section F2, and record any lifespan extension granted.

F. LIMITATIONS OF USE

F1. Temperature Range for Use

KStrong lifeline systems have been tested to work safely at temperatures between -40 °C and 55 °C. Temperature range for KStrong concrete-mounted lifelines, fixed with Hilti RE 500 is between 5 °C and 40 °C at the time of installation, and between -40 °C and 55 °C for use. NB this range may differ if alternative chemical adhesives are used.

F2. Product Life

KStrong lifeline systems have a standard lifespan of 10 years from date of installation, but may remain in service indefinitely, provided they pass annual competent person inspections. It must be noted that the effective lifespan of the product will be limited by both the condition of the anchorage structure into which it is installed, and the fixing method, including the chemical adhesive used.

F3. Bi-Metallic Corrosion

Where dissimilar metals are in contact or in proximity, bi-metallic (galvanic) corrosion may occur. All metallic components must be compatible with the installation substrate and surrounding materials. Where dissimilar metals cannot be avoided, appropriate isolation measures must be applied to prevent direct metal-to-metal contact.

F4. Compatibility of Connectors

Refer to above Section B.

F5. Corrosive & Acidic Environments

KStrong lifeline systems are manufactured from stainless steel grade 316 and aluminium and are suitable for use in most environments. However, exposure to corrosive & acidic conditions — including coastal, marine, industrial, chemical, or high-humidity environments — may accelerate degradation and reduce service life. In corrosive environments, inspection frequency must be increased beyond standard intervals, as determined by a competent person.

G. WARNINGS

G1. Warnings for Use

- ! Only people who have the necessary competence should be allowed to use this system.
- ! IMPAXX CONSTEEL systems are rated for up to 4 users, with a maximum of 4 users per cable span.
- ! IMPAXX LONGSPAN systems are rated for up to 7 users, with a maximum of 7 users per cable span.
- ! This lifeline system is for personnel fall arrest use only and must never be used for materials handling, work-positioning or industrial rope access.
- ! A personal energy absorber, minimising impact force to below 6 kN, must be included in the user's connecting system. This system may include: a single-leg or twin-leg shock-absorbing lanyard; an adjustable rope grab with shock absorber; or a self-retracting lifeline. The system must include a full-body fall arrest harness, with the connection to the harness only at designated fall arrest points.
- ! KStrong strongly recommends the use of connecting systems that show compliance with AS/NZS 1891.1:2020, AS/NZS 1891.3:2020 and AS/NZS 1891.5:2020, and users should use them in accordance with AS/NZS 1891.4:2025.
- ! Connect only to the system shuttle - do not attach to any other location.
- ! Only 1 user can be connected to a shuttle at any time.
- ! Using connectors that are not compatible with the shuttle may result in roll-out and accidental disconnection.
- ! Always refer to the connecting system manufacturer's instructions to verify compatibility with this system.
- ! While working, always account for the necessary fall clearance, potential swing fall, and any hazards in the work area.
- ! If the system's in-line shock absorber shows any sign of activation, the system must not be used until that component has been replaced and the entire system has been recertified by a competent person.
- ! The system is rated for the full user capacity per span; however, KStrong recommends that only one user occupy a span wherever practicable, to avoid a fall dragging other users off.
- ! If a fall occurs on the system, it must be taken out of service and clearly tagged or isolated until it has been inspected, repaired if necessary, and recertified as safe by a competent person.

G2. Warnings for Installation

- ! Misuse, incorrect installation, or failure to maintain this system may lead to severe injury or death.
- ! If any part of this system is to be installed into an environment containing chemicals, such as cleaning materials, or hazardous atmospheres, the installer should consult KStrong to determine whether it is suitable for use in that environment.

- ! The structure used to anchor KStrong products must be assessed by a competent person. If there is any doubt regarding its strength or suitability, it must be referred to a qualified structural engineer for evaluation.
- ! The anchorage structure's load-bearing capacity and condition must be re-evaluated by a competent person and/or a qualified engineer, in order to recertify the KStrong system for a further year of service, in line with its individual lifespan, and any extension to that lifespan, as per section F2 above.
- ! KStrong lifeline systems must be installed, operated, and serviced in line with the relevant KStrong UIM.
- ! KStrong lifeline systems must be operated in compliance with the prevailing working at height regulations, codes of practice, standards, or legislation applicable in the country of use.
- ! Whenever practicable, a lifeline system should be installed at a height above the user sufficient to minimise free fall distance, while remaining low enough not to unduly restrict the user's ability to reach and perform their work tasks.
- ! Professional guidance, by a competent person, is required where a layout of multiple anchor/lifeline systems is required, to ensure comprehensive coverage and adequate fall clearance.
- ! Where lifeline systems are to be installed in an existing building, the types of structure should be checked to ascertain the nature and thickness of the structural materials, and appropriate fixings should be selected. Ensure that decorative coatings are removed to ensure the correct evaluation of the substrate. The installer needs to follow the manufacturer's instructions in addition to those of the designer of the installed system.
- ! Where the fixing is in a substrate other than those specified in the manufacturer's instructions for use, the installer needs to refer to the system designer who may also require verification of suitability by carrying out a test in a sample of the material.
- ! Throughout installation, operation, and servicing, workers must not be placed at risk of a fall hazard.
- ! Installation must be performed by, or under the direct supervision of, a competent person.
- ! Prior to installing this product, the installer must complete all relevant KStrong training.
- ! Any connection systems used in conjunction with KStrong Anchors, Lifelines, and Rigid Rail Systems must incorporate a personal energy absorber.
- ! No alterations to this product may be made without prior written authorisation from KStrong.

1. SPECIFICATION

1.1. Description

The Horizontal Lifeline Systems covered in this UIM are designed for use as a component within a personal fall protection system. Each system consists of a permanently fixed horizontal cable fitted with shuttles that workers individually connect to. Shuttles can travel freely along the full cable length and pass intermediate brackets and corners without the user needing to disconnect.

IMPAXX CONSTEEL System Summary

These systems may be floor-, wall- or overhead-mounted into concrete and steel. Overhead-mounted means ceiling/soffit mounted.

They are designed to accommodate up to 4 users per system and 4 users per span, with maximum cable spans between anchors/intermediates/corners of **15 m** and a minimum span of **5 m**.

They are pre-tensioned to 1 kN, allowing multiple changes in cable direction using Variable Intermediates and/or Corners.

They experience a maximum measured extremity load of 12.85 kN.

They have an extremity anchor and corner anchorage strength requirement of 26 kN, and an intermediate anchorage strength requirement of 18 kN.

These systems use 8 mm stainless steel 7×7 or 7×19 cable, with 7×7 cable recommended for overhead mounting.

All In-Line Components and Corners have a strength rating of 26 kN, and Intermediates have a strength rating of 18 kN.

IMPAXX LONGSPAN Systems Summary

These systems may be wall- or overhead-mounted into concrete and steel. Wall-mounted systems must be installed at shoulder height or above, and overhead-mounted means ceiling/soffit mounted. They are designed to accommodate up to 7 users per system and 7 users per span.

For a single-span system between extremity anchors, the permitted span length is 5 m to 35 **m**.

For a multi-span system using intermediates, the permitted span length is 5 m to 30 **m**.

They are pre-tensioned to 5 kN and will experience a maximum measured extremity load of 23.7 kN.

They have an extremity anchor anchorage strength requirement of 48 kN, and an intermediate anchorage strength requirement of 18 kN.

All in-line components have a strength rating of 48 kN, and Intermediates have a strength rating of 18 kN.

These systems are strictly for straight-line installation, with no changes in cable direction permitted.

These systems must use 8 mm stainless steel 1×19 cable.

These systems must use the specific IMPAXX LONGSPAN In-Line Shock Absorber, and have the specific IMPAXX LONGSPAN Swaged Tensioners at both ends of the cable. Cable joining is not permitted in IMPAXX LONGSPAN systems.

1.2. Standard

The Horizontal Lifeline Systems covered in this UIM conform to EN 795:2012 Type C and CEN/TS 16415:2013 Type C (for multiple users).

In addition, IMPAXX CONSTEEL systems carry ATEX certification confirming their suitability for use in potentially explosive atmospheres in accordance with EN ISO 80079-36:2016 and EN ISO 80079-37:2016.

1.3. User Rating

1.3.1. Lifeline Systems Mounted to Concrete & Steel

When mounted to concrete & steel, IMPAXX CONSTEEL systems are rated for up to 4 users total, with a maximum of up to 4 users per cable span. Ratings are based on a total mass of 100 kg per user, including tools and equipment.

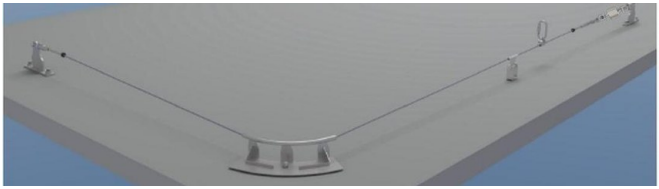
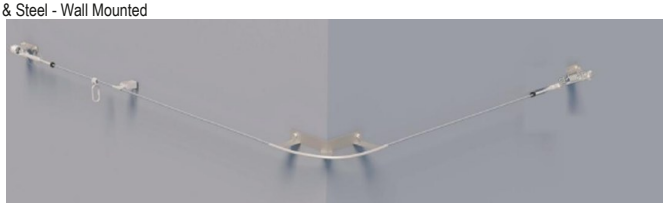
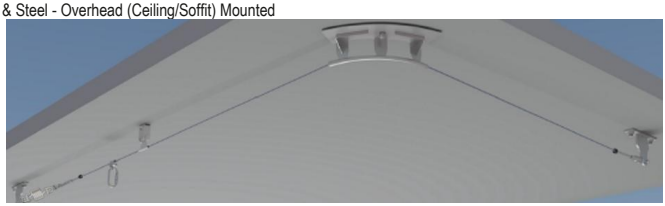
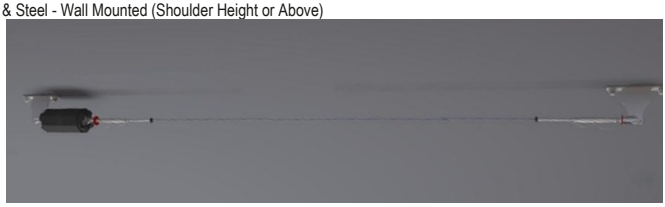
When mounted to concrete & steel, IMPAXX LONGSPAN Systems are rated for up to 7 users total, with a maximum of up to 7 users per cable span. Ratings are based on a total mass of 100 kg per user, including tools and equipment.

! Only 1 user can be connected to a shuttle at any time.

! Where user weight exceeds 100 kg, enter your exact KStrong Horizontal Lifeline System parameters into the KStrong Compass App: https://kstrong.com/australia/compass-fall-protection-systems-australia/ or contact KStrong.

1.4. System Range, Substrate & Orientation

IMPAXX LONGSPAN wall-mounted systems must be installed with the lifeline at shoulder height or above. Overhead-mounted systems are ceiling/soffit mounted.

FIGURE 1	
SYSTEM RANGE	**SUBSTRATE & ORIENTATION**
IMPAXX CONSTEEL	Concrete & Steel - Floor Mounted 
	Concrete & Steel - Wall Mounted 
	Concrete & Steel - Overhead (Ceiling/Soffit) Mounted 
IMPAXX LONGSPAN	Concrete & Steel - Wall Mounted (Shoulder Height or Above) 
	Concrete & Steel - Overhead (Ceiling/Soffit) Mounted 

1.5. System Components

FIGURE 2.1 (System Components – IMPAXX CONSTEEL)

	
AFF119025 IMPAXX Shuttle	AFF119028 IMPAXX Overhead Shuttle
	
AFF113710 IMPAXX Extremity Anchor M12	AFF112100 IMPAXX Standard In-Line Shock Absorber
	
AFF113210 IMPAXX Forked Cable Termination Swaged	AFF512001 IMPAXX Forked Cable Termination Swageless

FIGURE 2.1 (System Components – IMPAXX CONSTEEL) – continued

	
AFF114100TF IMPAXX Tensioner with Indicator Swaged	AFF114100(SL)TFI IMPAXX Tensioner with Indicator Swageless
	
AFF111510 IMPAXX Intermediate	AFF111510(OH) IMPAXX Overhead Intermediate
	
AFF111510(CB) IMPAXX Variable Intermediate	AFA935207(60) IMPAXX Corner Floor 60degree
	
AFA935207(90) IMPAXX Corner Floor 90degree	AFA935207(120) IMPAXX Corner Floor 120degree

FIGURE 2.1 (System Components – IMPAXX CONSTEEL) – continued

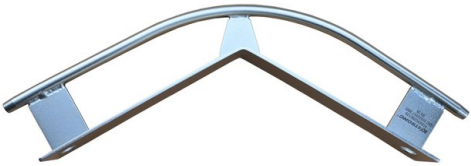
	
AFA935205(60) IMPAXX Corner Wall Internal 60degree	AFA935205(90) IMPAXX Corner Wall Internal 90degree
	
AFA935205(120) IMPAXX Corner Wall Internal 120degree	AFA935206(60) IMPAXX Corner Wall External 60degree
	
AFA935206(90) IMPAXX Corner Wall External 90degree	AFA935206(120) IMPAXX Corner Wall External 120degree
	
AFA935207(90)(OH) IMPAXX Corner Overhead 90degree	AFF111510(S) IMPAXX Overhead Spacer
	
AFF114191 IMPAXX Cable Stopper	AFF114192 IMPAXX Retrofit Cable Stopper

FIGURE 2.1 (System Components – IMPAXX CONSTEEL) – continued

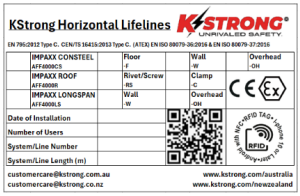
	
AFF111506 IMPAXX Cable Joiner	ANZ115100H IMPAXX Horizontal Lifeline System Info Sign
	
AFF5187X7250S IMPAXX Cable SS 8mm 7x7 250m	AFF5187X7500S IMPAXX Cable SS 8mm 7x7 500m
	
AFF518250(S) IMPAXX Cable SS 8mm 7x19 250m	AFF518500(S) IMPAXX Cable SS 8mm 7x19 500m

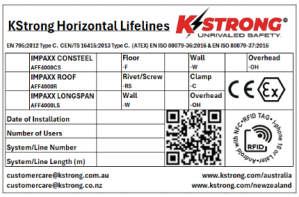
FIGURE 2.2 (System Components – IMPAXX LONGSPAN)

	
AFF119025 IMPAXX Shuttle	AFF119028 IMPAXX Overhead Shuttle
	
AFF113710(16) IMPAXX LONGSPAN Extremity Anchor M16	AFF114112 IMPAXX LONGSPAN In-Line Shock Absorber

FIGURE 2.2 (System Components – IMPAXX LONGSPAN) – continued

	
AFF114113 IMPAXX LONGSPAN Tensioner with Indicator Swaged	AFF111510 IMPAXX Intermediate
	
AFF111510(OH) IMPAXX Overhead Intermediate	AFF111510(S) IMPAXX Overhead Spacer
	
AFF114191 IMPAXX Cable Stopper	AFF114192 IMPAXX Retrofit Cable Stopper

FIGURE 2.2 (System Components – IMPAXX LONGSPAN) – continued



ANZ115100H
IMPAXX Horizontal Lifeline System Info Sign



AFF518119250S
IMPAXX LONGSPAN Cable SS 8mm 1x19 250m



AFF518119500S
IMPAXX LONGSPAN Cable SS 8mm 1x19 500m

2. LAYOUT AND SELECTION

2.1. System Design

Systems must be designed to minimise free fall and swing fall distances while maximising available fall clearance.

Where practicable, the system design should eliminate the possibility of a free fall occurring altogether.

Use the tables below, in conjunction with Figures A and AA, to ensure the system installation location provides for sufficient fall clearance at all points along the cable.

IMPAXX CONSTEEL Cable Deflection

Configuration	1 User	2 Users	3 Users	4 Users
5 m Single Span	700 mm	980 mm	990 mm	1000 mm
15 m Single Span	1900 mm	1950 mm	2000 mm	2050 mm
Multi-Span, Middle of 5 m Span	1100 mm	1100 mm	1100 mm	1100 mm
Multi-Span, Middle of 15 m Span	2050 mm	2050 mm	2070 mm	2090 mm

Cable deflection only – NOT total fall clearance.

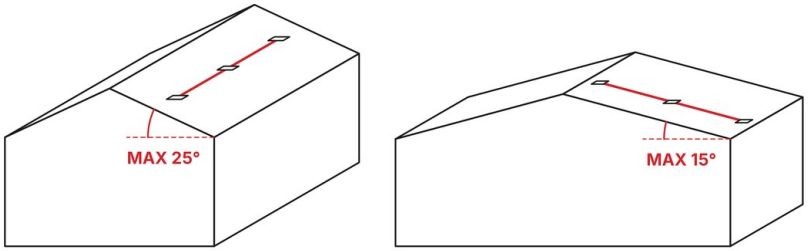
IMPAXX LONGSPAN Cable Deflection

Configuration	1 User	2 Users	3 Users	4 Users	5 Users	6 Users	7 Users
35 m Single Span	1890 mm	2520 mm	2520 mm	2520 mm	2580 mm	2610 mm	2630 mm
30 m Multi-Span, Middle of 30 m Span	1710 mm	2295 mm	2305 mm	2320 mm	2360 mm	2395 mm	2425 mm
5 m Single Span	380 mm	480 mm	500 mm	520 mm	540 mm	565 mm	595 mm
Multi-Span, Middle of 5 m Span	460 mm	525 mm	525 mm	530 mm	530 mm	530 mm	540 mm

Cable deflection only – NOT total fall clearance.

The horizontal lifeline must be installed within an angle of no more than 15° along the roof pitch and no more than 25° across it, as per FIGURE 3.

FIGURE 3 (System Inclination)



Lifeline running ACROSS the roof pitch (parallel to ridge) – roof pitch max. 25°

Lifeline running ALONG the roof pitch (up the slope) – line inclination max. 15°

2.2. Structure

Unless specified otherwise, all anchorage structure must meet, or exceed, the following strength specifications:

2.2.1. IMPAXX CONSTEEL In-Line Shock Absorber Systems

Concrete Strength: Minimum 25 MPa Uncracked / 32 MPa Cracked

Extremity Anchor and Corner Anchorage Strength: 26 kN

Intermediate Anchorage Strength: 18 kN

2.2.2. IMPAXX LONGSPAN In-Line Shock Absorber Systems

Concrete Strength: Minimum 25 MPa Uncracked / 32 MPa Cracked

Extremity Anchor Strength: 48 kN

Intermediate Anchorage Strength: 18 kN

In addition to the in-line load capacities above, KStrong's Extremity Anchor and Intermediate anchorages shall be designed to resist an ultimate load of 18 kN applied at right angles to the axis of the line, in the direction a fall would load the structure if it occurred close to that anchorage. The supporting structure and fixings should be assessed against this rating as an additional, perpendicular load case.

! If the structure does not meet these specifications, contact KStrong for further guidance.

2.3. Cable Spans & In-Line Shock Absorbers

2.3.1. IMPAXX CONSTEEL Systems – Concrete & Steel Mount

When mounted to concrete and steel, the maximum permitted cable span length is 15 m, and minimum span is 5 m, as shown in Figure 4.

! For IMPAXX CONSTEEL systems to achieve their 15 m spans with 4 users, the AFF112100 IMPAXX Standard In-Line Shock Absorber must be used.

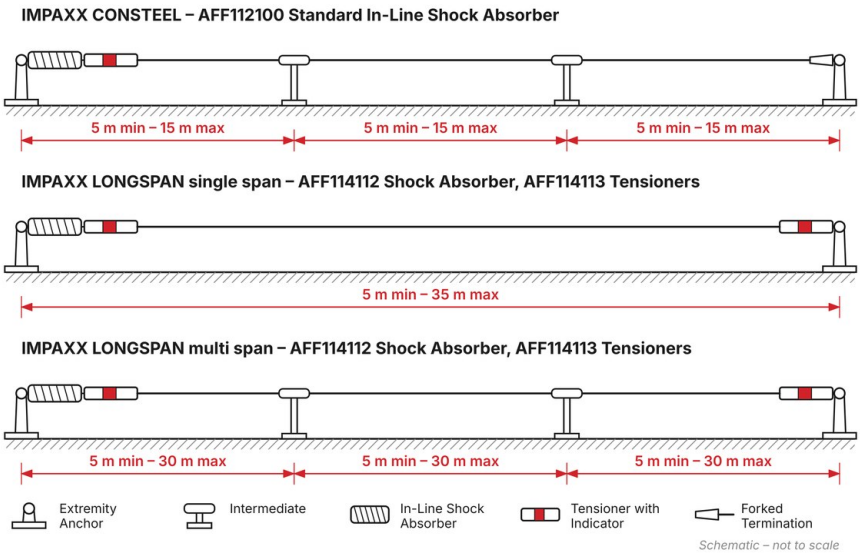
2.3.2. IMPAXX LONGSPAN Systems – Concrete & Steel Mount

For a single-span system mounted to concrete and steel, the maximum permitted cable span length is 35 m, and minimum span is 5 m, as shown in Figure 4.

For a multi-span system mounted to concrete and steel, the maximum permitted cable span length is 30 m, and minimum span is 5 m, as shown in Figure 4.

! For IMPAXX LONGSPAN systems to achieve their 30/35 m spans with 7 users, the AFF114112 IMPAXX LONGSPAN In-Line Shock Absorber must be used.

FIGURE 4 (Cable Spans – span lengths only, not mounting orientation)

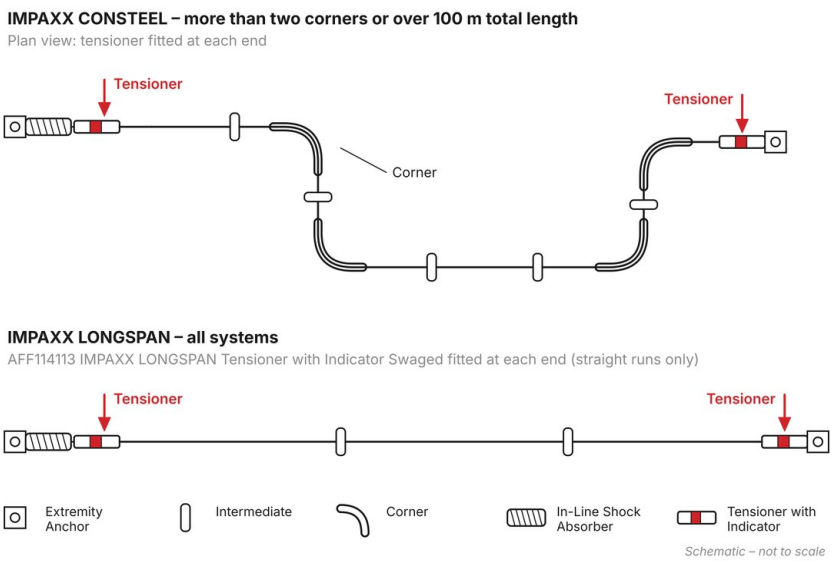


2.4. Tensioner(s)

Where an IMPAXX CONSTEEL system has more than two corners or exceeds 100 m in total length, a tensioner must be fitted at each end to ensure adequate cable tension.

! All IMPAXX LONGSPAN systems must have an AFF114113 IMPAXX LONGSPAN Tensioner with Indicator Swaged installed to each end of the cable.

FIGURE 5 (Dual Tensioner Systems)



2.5. Cable Joins

Cable joiners may be used to connect sections of cable at any point, for IMPAXX CONSTEEL systems only, using 8 mm 7×7 and 7×19 cable only.

! Cable Joiners may NOT be used in IMPAXX LONGSPAN Systems.

2.6. System Loading

The supporting structure and all fixings must be capable of withstanding the applicable load cases described in this section and Section 2.2. Loads can be calculated using the KStrong Compass Software at:
https://kstrong.com/australia/compass-fall-protection-systems-australia/

Loads on the anchorage structure calculated using the KStrong Compass Software represent the maximum load the system will impose on the Extremity Anchor anchorage in the direction of the line in the event of a fall. When determining the design load for the supporting structure, this figure must be multiplied by a safety factor of 2.

! All load cases should be reviewed and assessed by a qualified engineer.

2.7. Variable Intermediates & Corners

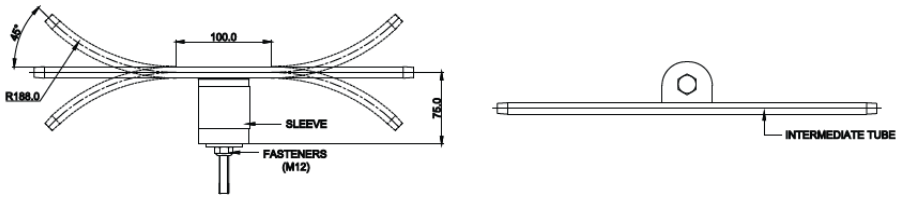
Variable intermediate brackets and corners can be configured in multiple ways to accommodate different structural arrangements. 60°, 90° and 120° corners are available for floor, wall and overhead applications into concrete and steel.

! Variable Intermediates & Corners may NOT be used in IMPAXX LONGSPAN Systems.

2.7.1. Corners with Variable Intermediates

Variable intermediate brackets can form corners with up to 45° of cable deviation on each side, giving a total deviation of 90° per Variable Intermediate. The tube can be bent in any direction up to 45°, with a minimum bend radius of 188 mm to allow the shuttle to pass through unobstructed. Refer to Section 3.4 for bending instructions.

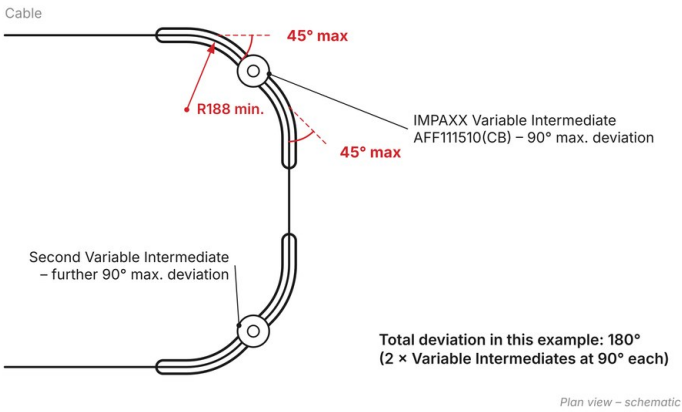
FIGURE 6 (Variable Intermediates)



2.7.2. Corners with Multiple Variable Intermediates

Where a deviation greater than 90° is required, multiple Variable Intermediate brackets can be combined to achieve the necessary angle.

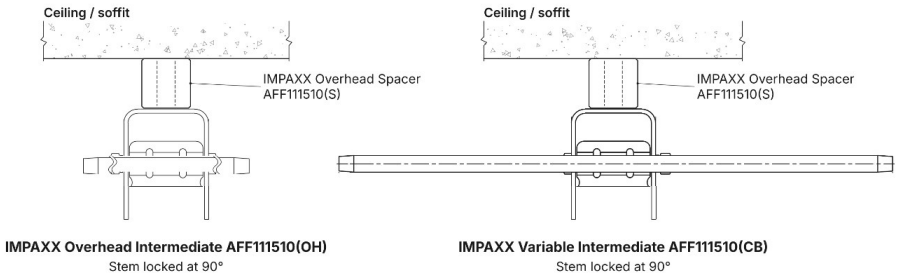
FIGURE 7 (Multiple Variable Intermediates)



2.7.3. Overhead Intermediates and Variable Intermediates installed Overhead

For overhead system installations where the IMPAXX Overhead Shuttle (AFF119028) is to be utilised, each IMPAXX Overhead Intermediate AFF111510(OH) and IMPAXX Variable Intermediate AFF111510(CB) must be paired with an IMPAXX Overhead Spacer AFF111510(S).

FIGURE 8 (Overhead Spacer)



IMPAXX Overhead Intermediate AFF111510(OH)
Stem locked at 90°

IMPAXX Variable Intermediate AFF111510(CB)
Stem locked at 90°

! Allow for an additional 35 mm in stud or bolt length for fixing through IMPAXX Overhead Spacer AFF111510(S). For concrete installations, use the 185 mm M12 stud, maintain the specified embedment depth and leave 75 mm of stud projecting above the concrete surface; see Section 3.3.1 and Figures 9 and 10.

2.7.4. Intermediate Stem Position

The stem on IMPAXX Intermediate, Overhead Intermediate and Variable Intermediate brackets pivots on the pivot bolt and is held in position by the locking bolt. Set the stem position at installation to suit the mounting orientation and the shuttle in use, as per Figure 8.1:

Floor mounted: 0° (stem upright).

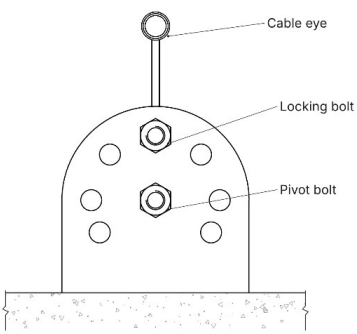
Wall mounted, using the IMPAXX Overhead Shuttle (AFF119028): 0° (stem straight out from the wall).

Wall mounted, using the IMPAXX Shuttle (AFF119025): 90°, with the cable above the bracket.

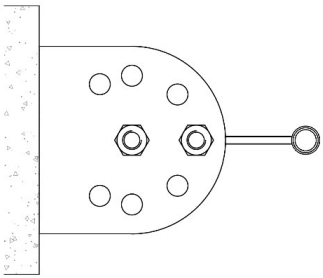
Overhead (ceiling/soffit) mounted: 90°. Where the IMPAXX Overhead Shuttle (AFF119028) is to be used, fit an IMPAXX Overhead Spacer AFF111510(S) between the bracket and the mounting surface, as per Section 2.7.3.

! Wall-mounted brackets must never be set with the cable below the bracket. In this position the stem blocks the passage of both the IMPAXX Shuttle and the IMPAXX Overhead Shuttle.

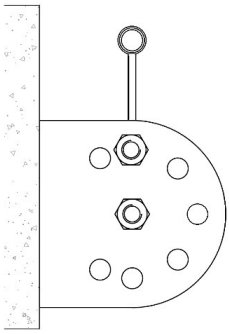
FIGURE 8.1 (Intermediate Stem Positions)



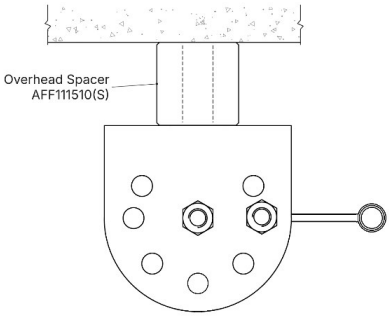
Floor mounted
Stem upright (0°)



Wall mounted – IMPAXX Overhead Shuttle
Stem 0° (straight out from wall)



Wall mounted – IMPAXX Shuttle
Stem 90°, cable above bracket



Overhead (ceiling/soffit) mounted
Stem 90° with Overhead Spacer

To change the stem position:

1 Remove the locking bolt.

2 Rotate the stem about the pivot bolt until the stem aligns with the hole for the required position.

3 Refit the locking bolt through that hole, and tighten both the locking bolt and pivot bolt lock nuts to 50 Nm.

4 Pass the shuttle along the cable through the intermediate to confirm it passes freely before the system is used.

! The 45° holes are not approved stem positions for these systems.

3. INSTALLATION

3.1. Fixings

3.1.1. Extremity Anchors & Fixings for IMPAXX CONSTEEL Systems

IMPAXX CONSTEEL systems use the AFF113710 IMPAXX Extremity Anchor M12.

All fixings for IMPAXX CONSTEEL Systems, including studs and bolts, used to attach the lifeline system to the anchorage structure shall be M12 in diameter.

Fixings shall be stainless steel 316 or 304. Bolt Type A2/4-70. Fixings must include SS flat washers to each bearing surface and be secured with lock nuts to prevent loosening.

3.1.2. Extremity Anchors & Fixings for IMPAXX LONGSPAN Systems

IMPAXX LONGSPAN Systems must use the AFF113710(16) IMPAXX LONGSPAN Extremity Anchor M16.

Fixings for LONGSPAN Systems, including studs and bolts, used to attach the LONGSPAN Extremity Anchor to the anchorage structure shall be M16 in diameter.

All fixings used to attach Intermediates shall be M12 in diameter.

Fixings shall be stainless steel 316 or 304. Bolt Type A2/4-70. Fixings must include SS flat washers to each bearing surface and be secured with lock nuts to prevent loosening.

3.2. Concrete Fixing

KStrong recommends Hilti RE 500 for installation of the lifelines into concrete. Refer to the manufacturer's instructions for proper preparation, installation, edge distance and embedment depth.

! For all concrete installations, Extremity Anchors must be installed so that the load along the lifeline acts in shear on the fixings (ceiling, side-wall or top-surface mounting, with the line parallel to the fixing surface). Mounting where the line pull acts in tension on the fixings is not permitted.

3.2.1. Proof Loading

Studs/bolts used in concrete fixing shall be proof loaded, in direct pull-out, to the values below and held for 3 minutes.

M12 fixing IMPAXX Extremity Anchors & M12 fixing IMPAXX Corners – 13 kN per stud/bolt

M12 fixing IMPAXX Intermediates – 9 kN per stud/bolt

M16 fixing IMPAXX LONGSPAN Extremity Anchors – 24 kN per stud/bolt

3.3. System Extremity Anchor, Intermediate & Corner Installation

3.3.1. Concrete Installation via M12 Concrete Stud

The following process applies to IMPAXX CONSTEEL Extremity Anchors, Intermediates and Corners, as well as IMPAXX LONGSPAN Intermediates only.

SS 150 mm M12 studs should be installed with chemical adhesive such as Hilti RE 500. The method below is suitable for 25 MPa uncracked / 32 MPa cracked concrete.

! Check the expiry date on the adhesive and that you have a sufficient quantity to complete the job.

1 Mark the hole location and drill a 14 mm diameter hole to a depth of 105 mm, ensuring the full 105 mm penetrates structural concrete. Refer to Figure 9 for minimum edge distances.

FIGURE 9 (M12 Stud Concrete Spec Table)

			25 MPa uncracked 32 MPa cracked	
Stud	**Hole Diameter (mm)**	**Hole Depth (mm)**	**Edge Distance (mm)**	**Slab Thickness (mm)**
150 mm M12	14	105	250	160
185 mm M12 for use with Overhead Spacer	14	105	250	160

2 Clean the hole thoroughly, ensuring it is free of dust and moisture, then inject the adhesive in accordance with the manufacturer's instructions.

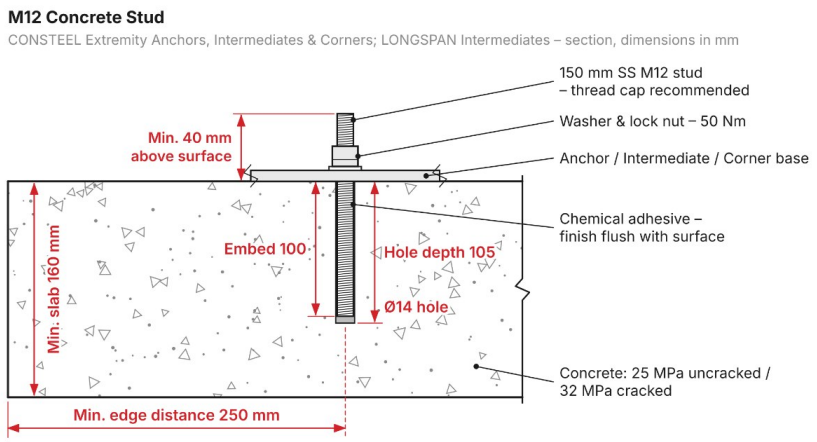
3 Insert the stud to 100 mm depth and wipe away any adhesive that is displaced from the hole. The top of the stud must sit at least 40 mm above the concrete surface. For use with Overhead Spacer it should sit 75 mm above the concrete surface.

! Sufficient adhesive must be used so that it finishes flush with the concrete surface once the stud is fully inserted.

4 Once the adhesive has fully cured, place the Extremity Anchor/Intermediate/Corner over the stud, fit the washer, and tighten the lock nut to 50 Nm.

5 Retain the remaining threaded length above the lock nut so that an M12 eyenut may be installed periodically for load testing using a Hydrajaws portable tension tester – applying a thread cap is also recommended.

FIGURE 10 (M12 Concrete Stud)



With Overhead Spacer AFF111510(S): 185 mm stud, same embedment, min. 75 mm above surface

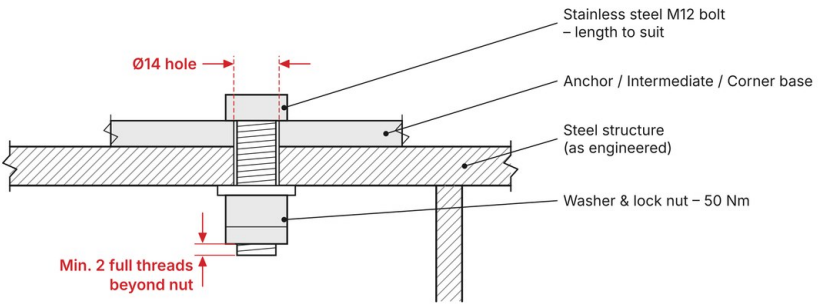
3.3.2. Steel Installation via M12 Bolt

The following process applies to IMPAXX CONSTEEL Extremity Anchors, Intermediates and Corners, as well as IMPAXX LONGSPAN Intermediates only.

1 Drill a 14 mm hole into the structure.

2 Secure the Extremity Anchor/Intermediate/Corner using a stainless steel M12 bolt of suitable length - allowing at least two full threads to protrude beyond the nut - along with a washer and lock nut. Tighten to 50 Nm.

FIGURE 11 (M12 Bolt)



3.3.3. Concrete Installation via M16 Concrete Stud

The following process applies to IMPAXX LONGSPAN Extremity Anchors only.

SS 200 mm M16 studs should be installed with chemical adhesive such as Hilti RE 500. The method below is suitable for 25 MPa uncracked / 32 MPa cracked concrete.

! Check the expiry date on the adhesive and that you have a sufficient quantity to complete the job.

1 Mark the hole location and drill an 18 mm diameter hole to a depth of 145 mm, ensuring the full 145 mm penetrates structural concrete. Refer to Figure 12 for minimum edge distances.

FIGURE 12 (M16 Stud Concrete Spec Table)

			25 MPa uncracked 32 MPa cracked	
Stud	**Hole Diameter (mm)**	**Hole Depth (mm)**	**Edge Distance (mm)**	**Slab Thickness (mm)**
200 mm M16	18	145	450	200

2 Clean the hole thoroughly, ensuring it is free of dust and moisture, then inject the adhesive in accordance with the manufacturer's instructions.

3 Insert the stud to 140 mm depth and wipe away any adhesive that is displaced from the hole. The top of the stud must sit at least 50 mm above the concrete surface.

! Sufficient adhesive must be used so that it finishes flush with the concrete surface once the stud is fully inserted.

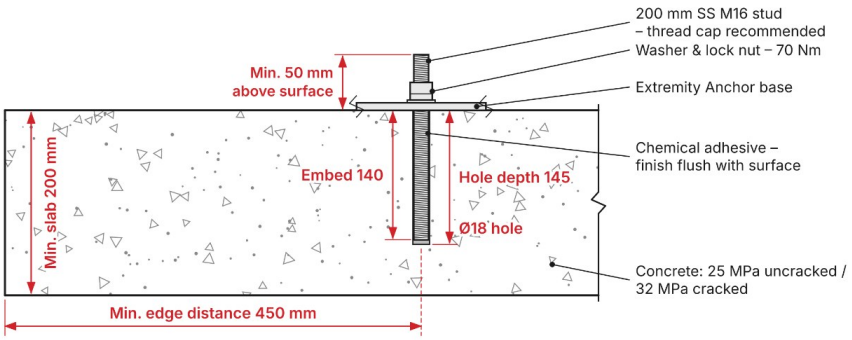
4 Once the adhesive has fully cured, place the Extremity Anchor over the stud, fit the washer, and tighten the lock nut to 70 Nm.

5 Retain the remaining threaded length above the lock nut so that an M16 eyenut may be installed periodically for load testing using a Hydrajaws portable tension tester – applying a thread cap is also recommended.

FIGURE 13 (M16 Concrete Stud)

M16 Concrete Stud

IMPAXX LONGSPAN Extremity Anchors – section, dimensions in mm



3.3.4. Steel Installation via M16 Bolt

The following process applies to Extremity Anchors on IMPAXX LONGSPAN systems only.

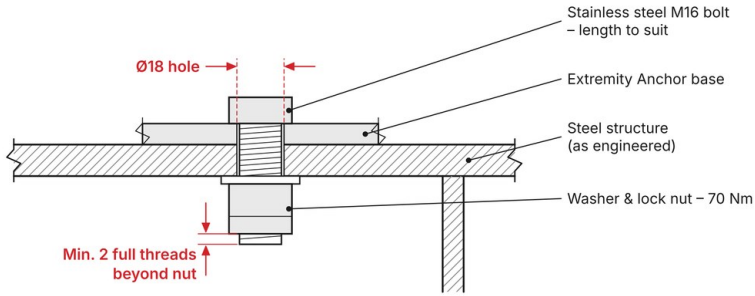
1 Drill an 18 mm hole into the structure.

2 Secure the Extremity Anchor using a stainless steel M16 bolt of suitable length - allowing at least two full threads to protrude beyond the nut - along with a washer and lock nut. Tighten to 70 Nm.

FIGURE 14 (M16 Bolt)

M16 Bolt – Steel Installation

IMPAXX LONGSPAN Extremity Anchors – section, schematic



3.4. Bending Variable Intermediates

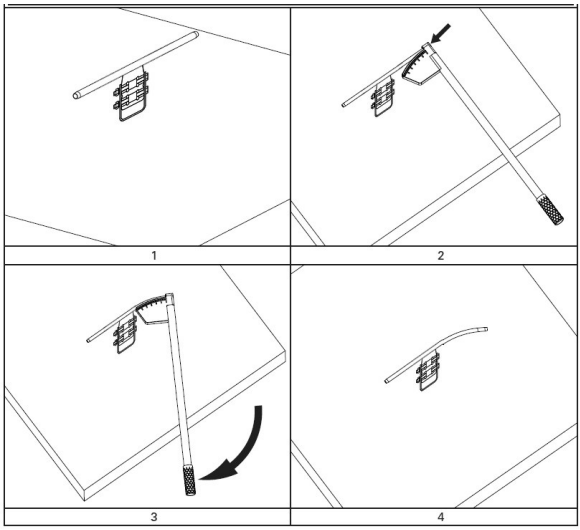
1 Install the intermediate bracket in accordance with this UIM.

2 Align the end of the bending tool with the end of the intermediate's tube.

3 Support the intermediate to prevent it from rotating and pull the bender handle to the desired angle.

4 Remove the bending tool and verify the angle, noting that the tube will spring back slightly once released.

FIGURE 15 (Bending Variable Intermediates)



3.5. Cable Installation

! Only Ø8 mm 7×7 & 7×19 stainless steel cable is approved for use with IMPAXX CONSTEEL Systems.

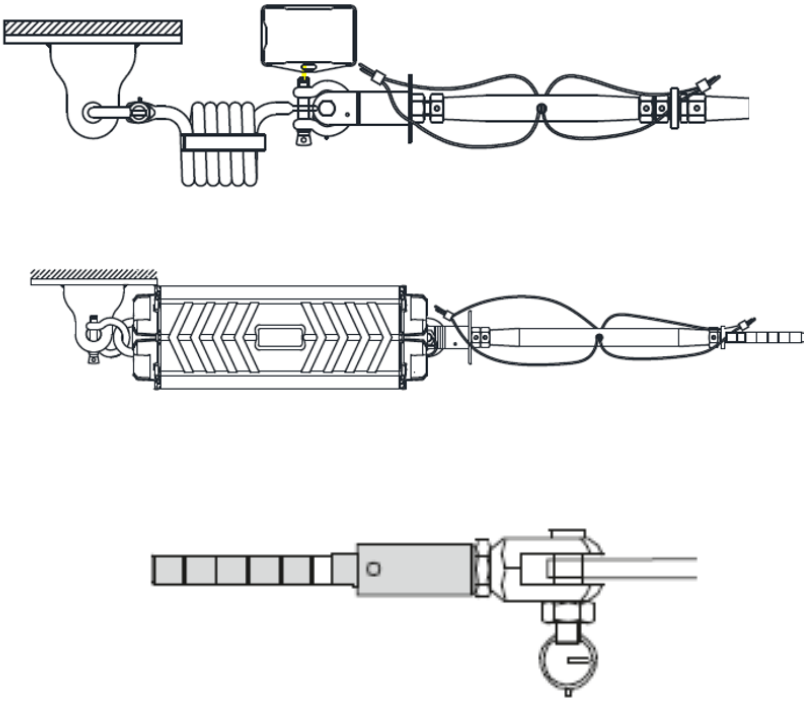
! Only Ø8 mm 1×19 stainless steel cable is approved for use with IMPAXX LONGSPAN systems.

1 Feed the cable through all intermediate brackets and corners already installed.

2 At one end, fit the In-Line Shock Absorber & Tensioner to the Extremity Anchor as per Figure 16, and then fit the Tensioner to the cable as per Section 3.6.

! The cable tensioner must be extended to its full length before proceeding.

FIGURE 16 (In-Line Shock Absorbers, Tensioners & Forked Terminations)



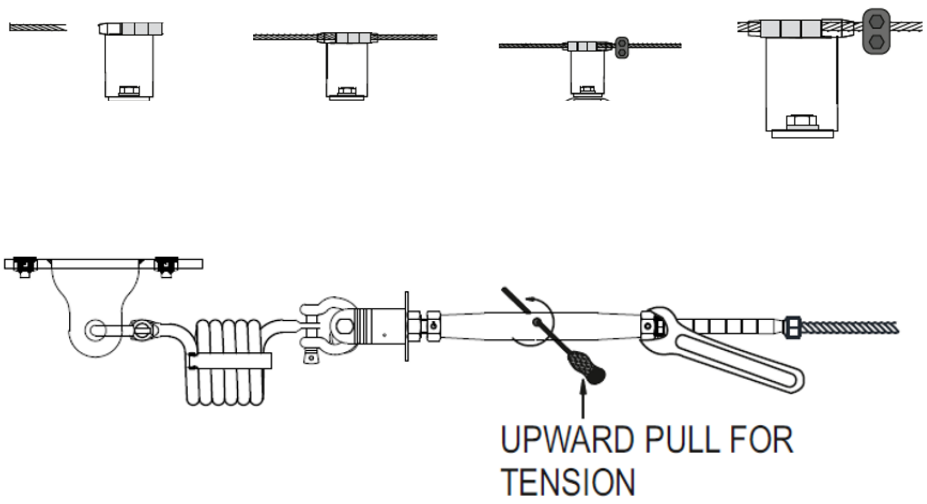
3 Working from each intermediate bracket or corner, use clamps or KStrong Retrofit Cable Stopper to remove as much slack from each cable span as possible by hand.

4 Trim excess cable at the opposite end and connect a forked cable termination or tensioner to the Extremity Anchor as per Figure 16 and Section 3.6.

5 Tighten the system using the cable tensioner(s) until the red tension indicator disc rotates freely under light finger pressure, then tighten all lock nuts throughout the system.

! If the tension indicator disc spins freely with no applied pressure, the system has been over-tensioned.

FIGURE 17 (Cable Tensioning)



3.6. Cable Ends

3.6.1. Swaged Terminations and Tensioners

! Only Ø8 mm 7×7, 7×19 & 1×19 stainless steel cable is approved for use.

! Only Hexagonal Swaging Die R1.5, A/F 10.95 is approved for use.

! IMPAXX LONGSPAN systems must only use AFF114113 IMPAXX LONGSPAN Tensioner with Indicator Swaged, and one must be installed to each end of the cable.

1 Slide the Cable Stopper and Swage Ferrule over the cable end.

2 Insert the cable fully into the Swage Tube and move the Swage Ferrule down to be in contact with the mouth of the Swage Tube. Lightly compress the Swage Ferrule onto the cable with pliers and hand pressure.

3 Withdraw the cable and confirm the Swage Ferrule is at least 84 mm from the cable end. Place the cable alongside the Swage Tube, aligning the Swage Ferrule with the mouth of the Swage Tube, then mark the position of the cable end on the Swage Tube to create a depth line.

4 Reinsert the cable into the Swage Tube, ensuring the Swage Ferrule is still in contact with the mouth of the Swage Tube.

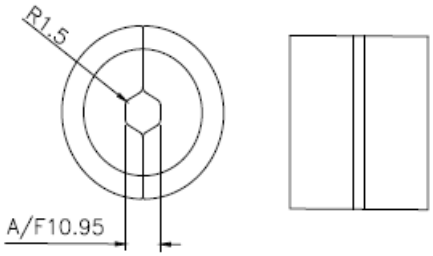
5 Perform the first swage operation 6 mm from the depth line, towards the mouth of the Swage Tube.

6 Complete five additional swage operations, each spaced 6 mm from the previous, rotating the swaging die by 90° with every new swage, for a total of six swage impressions along the Swage Tube.

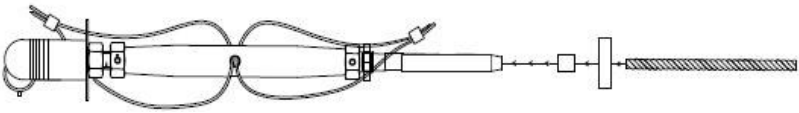
! Each of the six swage impressions must measure 11.1 mm ± 0.2 mm across the flat surfaces – inspect all six before proceeding.

FIGURE 18 (Swaged Terminations & Tensioners)

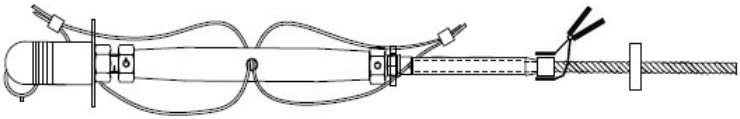
Swaging Die Specification



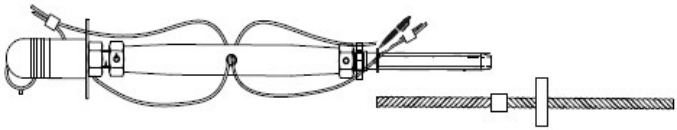
Step 1



Step 2



Step 3



Step 4

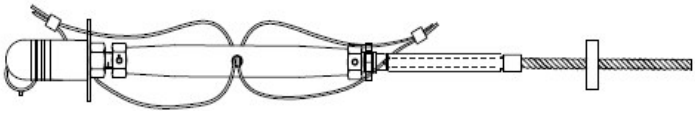
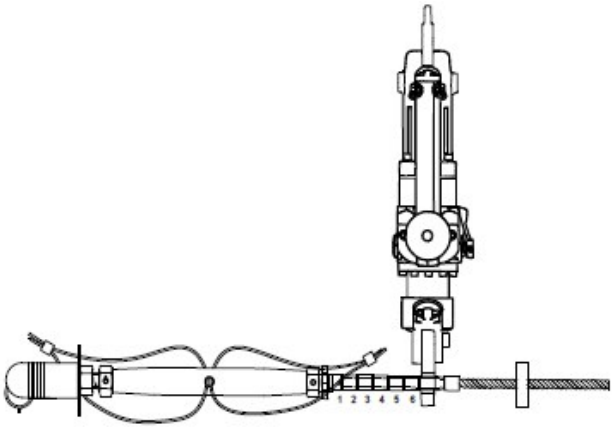
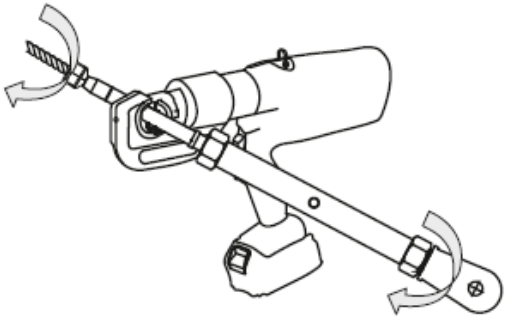


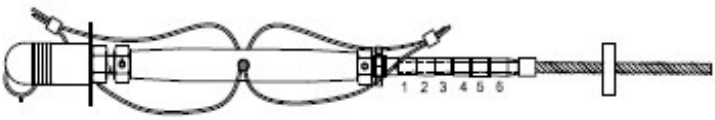
FIGURE 18 (Swaged Terminations & Tensioners) – continued

Step 5



Step 6





3.6.2. Swageless Terminations and Tensioners

! Only Ø8 mm 7×7 or 7×19 stainless steel cable is approved for use.

! Swageless fittings must NEVER be used in IMPAXX LONGSPAN systems.

1 Slide the Cable Stopper over the cable end, then pass the cable end through the Swageless Housing, starting from the narrow mouth end, towards the female threaded end, finishing about 100 mm clear of the threaded end.

2 Separate all cable strands, and identify the central core strand.

3 Insert the central core strand into the poke pin firmly.

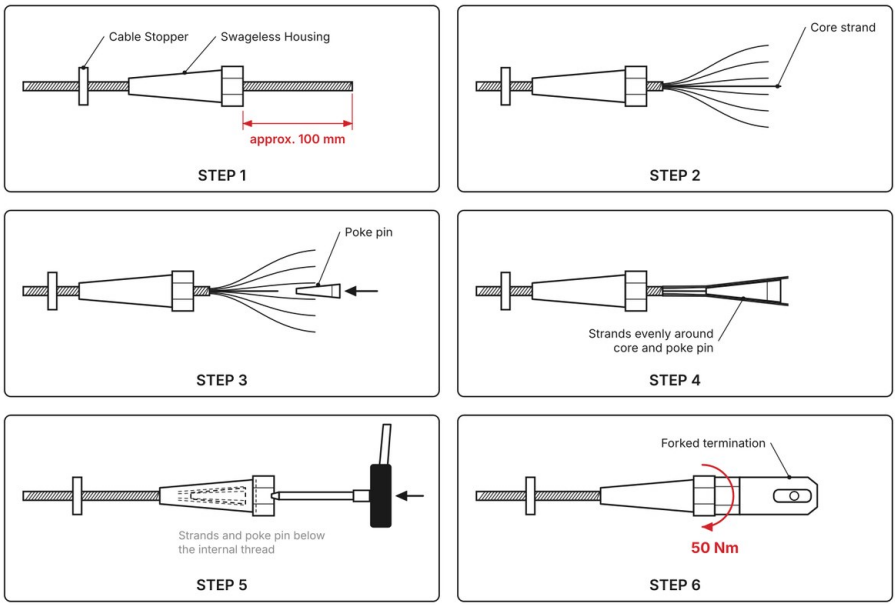
4 Evenly distribute remaining strands around the central core strand and poke pin.

5 Pull the cable back through the housing until the poke pin is almost fully seated within the housing, then use a centre-punch and hammer to drive the poke pin fully into position within the housing, ensuring all strands and the top of the poke pin sit below the internal female threads of the housing.

6 Screw the housing's female threads onto the male threads of the forked termination, and torque to 50 Nm.

! KStrong recommends proof testing all swageless fittings to 13 kN for 3 minutes, as part of the commissioning process.

FIGURE 19 (Swageless Terminations & Tensioners)



3.7. Joining Cable

! Only Ø8 mm 7×7 & 7×19 stainless steel cable is approved for use.

! Cable joining is NOT permitted within IMPAXX LONGSPAN systems.

1 Insert the cable fully into the Joiner Tube & mark the cable where it exits the tube mouth.

2 Withdraw the cable and confirm the mark on the cable is at least 84 mm from the cable end. Place the cable alongside the Joiner Tube, aligning the mark on the cable with the mouth of the Joiner Tube, then mark the position of the cable end on the Joiner Tube to create a depth line.

3 Reinsert the cable into the Joiner Tube.

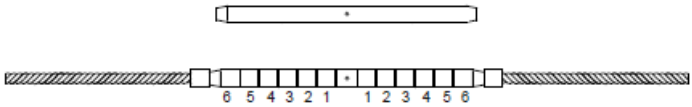
4 Perform the first swage operation 6 mm from the depth line, towards the mouth of the Joiner Tube.

5 Complete five additional swage operations, each spaced 6 mm from the previous, rotating the swaging die by 90° with every new swage, for a total of six swage impressions along the Joiner Tube.

6 Repeat steps 1–5 at the opposite end of the Joiner Tube.

! Each end must have six swage impressions, each measuring 11.1 mm ± 0.2 mm across the flat surfaces – inspect all twelve before the joint is put into service. Use only the Hexagonal Swaging Die specified in Section 3.6.1.

FIGURE 20 (Joining Cable)



4. WARRANTY

All KStrong products are manufactured under strict quality control and tested in accordance with relevant international standards to ensure reliability, durability, and user safety.

KStrong warrants that its products are free from manufacturing defects in material and workmanship for a period of two (2) years from the date of purchase, unless otherwise specified. This warranty applies under normal conditions of use, storage, and maintenance as described in the User Instruction Manual (UIM).

Warranty Conditions - This warranty is valid only when:

- The product has been used strictly in accordance with manufacturer guidelines and safety instructions.
- The product has been installed, maintained, and inspected by trained and competent personnel.
- The product has not been altered, modified, or repaired by any unauthorized party.
- The product has not been exposed to misuse, negligence, or abnormal conditions (e.g. chemical contamination, fire, impact, or excessive loading).
- The product is registered with KStrong at the time of purchase or installation, where applicable.

Exclusions - This warranty does not cover:

- Normal wear and tear resulting from regular use.
- Damage due to improper installation, storage, or maintenance.
- Products that have been subjected to a fall arrest or load event.
- Unauthorized modifications or repairs.
- Damage, corrosion, deterioration or system failure caused or contributed to by a failure to complete and document the inspection, cleaning and maintenance required by the site-specific risk assessment. The assessment must set an interval of one to three months based on environmental exposure, with earlier cleaning where significant contamination is found.
- Consequential or incidental damages arising from product failure.

Warranty Claims - To make a warranty claim:

- The client must notify KStrong or the authorized distributor in writing, providing full details of the issue, including proof of purchase, serial number, and system identification.
- The product must be returned to KStrong or its designated service centre for inspection and evaluation.
- If the defect is confirmed to be due to faulty materials or workmanship, KStrong will, at its discretion, repair or replace the product free of charge.

KStrong reserves the right to determine the validity of all warranty claims, and its decision shall be considered final and binding.

Warranty Disclaimer

This warranty is in addition to, and does not affect, the consumer's statutory rights under applicable local laws.

KStrong liability under this warranty is limited strictly to the repair or replacement of the defective product and does not extend to any indirect, incidental, or consequential damages

5. INSPECTION & CLEANING REQUIREMENTS

The end user must keep all fall protection equipment clean, serviceable and stored in accordance with the product's User Instruction Manual (UIM). This includes anchors, harnesses, lanyards, connectors, self-retracting lifelines, winches and installed systems.

Inspect equipment before each use, and annually by a competent person. Check for cuts, abrasion, burns, damaged stitching or wire strands, corrosion, deformation, loose fixings and correct operation.

Clean major dirt and deposits when found, using the method specified in the product's UIM. Clean accessible metal components with a soft cloth or soft nylon brush, clean water and mild soap/detergent. Rinse and dry them thoroughly. Clean textile components only as directed in their product UIM and allow them to dry naturally before storage. Do not immerse self-retracting devices or other enclosed mechanisms unless their UIM expressly permits it. Do not use abrasive tools, bleach, strong acids, alkaline cleaners or high-pressure washing. Do not dismantle equipment, loosen system fixings or release lifeline tension during cleaning.

Record scheduled inspections and cleaning, including the date, product or system identification, work completed, defects found and the person completing the work. Keep the records with the product or system history.

Remove any equipment that has arrested a fall, fails inspection or may have been weakened by contamination from service immediately. Follow its UIM for assessment and disposal. Cleaning does not replace required competent person inspections.

Furthermore where this product is used within environments where acid condensation, acidic vapours, chemical emissions, corrosive substances or elevated temperatures may be present, a documented site specific risk assessment must determine the inspection and cleaning frequency. Based on the assessed level of exposure, inspections and cleaning must be carried out at intervals of one to three months, and sooner if significant contamination is found. Each inspection and cleaning must be documented. Review the risk assessment and frequency if site conditions change.

6. LIFESPAN (GENERAL)

Products containing any textile component have a strict 10 year lifespan from date of manufacture. All-metal products, without any textile components, have a 10 year lifespan from date of purchase/commissioning/installation, which may be extended, year to year, conditional to annual competent person inspection. The following factors can reduce the lifespan of the product: intense use, contact with chemical substances, specially aggressive environments, extreme temperature exposure, UV exposure, abrasions, cuts, violent impacts, bad use or maintenance.

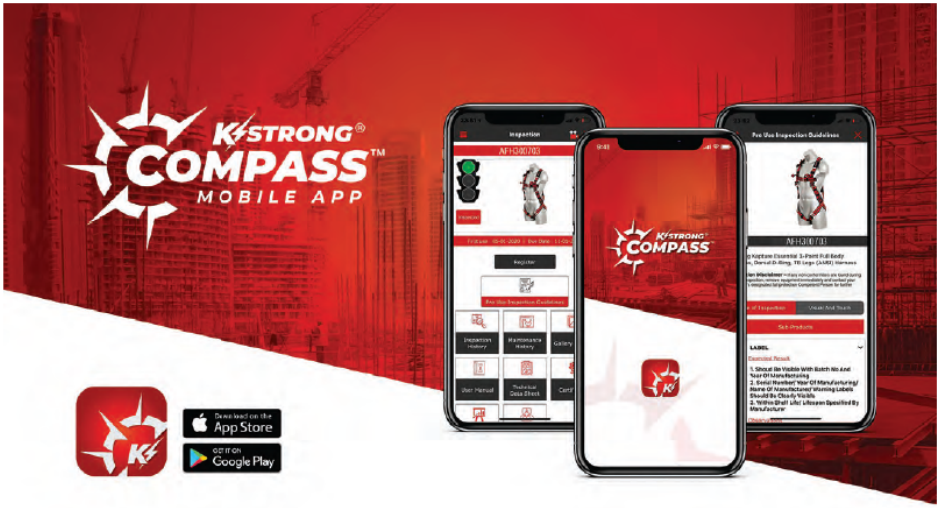
7. DISCLAIMER (GENERAL)

Prior to use, the end user must read and understand the manufacturer's instructions supplied with this product at the time of shipment and seek training from their employer's trained personnel on its proper use. Users are required to complete and record the pre-use inspection as outlined in this UIM. Failure to follow these inspection and usage requirements significantly increases the user's liability exposure, as improper or undocumented use may not be supported during an incident investigation and could affect warranty or service outcomes. The manufacturer is not liable or responsible for any loss, damage, or injury caused or incurred by any person due to improper usage or installation of this product.

COMPASS

KStrong COMPASS Inspection Software is a web-based system used to record, manage, and track inspection and compliance data for fall protection systems and PPE.

It stores equipment details and inspection records for a minimum of 20 years, provides automated inspection due notifications, and allows authorised users to view real-time equipment status and compliance documentation through a secure interface.



- Cloud based online as well as offline software
- Captures geo coordinates where the system is installed
- RFID / Bar code compliant
- Generates report in real time
- Reminds user of items due for inspection
- Captures images of components
- User customizable
- Can be integrated to client software
- Reports can be shared with multiple recipients in real time

INSPECTION RECORD

EQUIPMENT RECORD		
Product:		
Model and type/identification	Trade name	Identification number
Manufacturer	Address	Tel, fax, email
Year of manufacture	Purchase date	Date first put into use
Other relevant information (e.g. Document number)		

PERIODIC EXAMINATION AND REPAIR HISTORY

Date	Reason for entry (periodic examination or repair)	Defects noted, repair carried out and other relevant information	Name and signature of competent user	Periodic examination next due date

**Updates to the UIM are part of our regular revision cycle to keep the manual current and aligned with evolving best practices. While the UIM has always been compliant with the equipment's intended design and safety requirements, periodic updates are important to ensure continued clarity, accuracy, and optimal user guidance.*

Certification Body (IMPAXX CONSTEEL – EN 795:2012 Type C & CEN/TS 16415:2013):
ANCCP Certification Agency, www.anccp.eu (Certificate PPE 23826 AC 476)

Certification Body (IMPAXX LONGSPAN – EN 795:2012 Type C & CEN/TS 16415:2013):
Quintin Certifications, 825 route de Romans, 38160 Saint Antoine l'Abbaye, France (Certificate RQC2025-184/A1)

ATEX Certification Body (IMPAXX CONSTEEL – EN ISO 80079-36:2016 & EN ISO 80079-37:2016):
Technická inšpekcia, a.s., Tomášikova 64, 831 04 Bratislava, Slovakia (Certificate TI24ATEX 16980 X)

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