KSTRONG®
UNRIVALED SAFETY.

IMPAX

AFF7500
VERTICAL WIRE
LIFELINE

USER INSTRUCTION MANUAL

MUST BE READ AND UNDERSTOOD PRIOR TO INSTALLATION

Disclaimer

The information provided in this User Instruction is based on the technical data that KStrong obtained under laboratory conditions and believes to be reliable. KStrong does not guarantee results and takes no liability or obligation in connection with this information. Since conditions of end-use are beyond our control, it is the user's responsibility to determine the hazard levels and the use of proper personal protective equipment. Persons having technical expertise should undertake evaluation under their specific end-use conditions, at their discretion and risk. Please ensure that this information is only to check that the product selected is suitable for the intended use. Any product that is damaged, torn, worn, or punctured should be discontinued from usage immediately.

CONTENTS

VERTICAL ANCHORAGE LINE SYSTEM

Know Your System

AFF7500 Vertical Anchorage Lifeline System

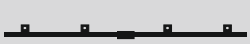
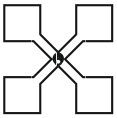
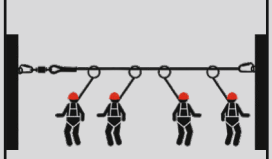
KStrong Vertical Lifeline Systems have been designed to ensure the user is safe whilst ascending or descending ladders that are fixed to high rise structures, telecom towers, wind towers etc. KStrong has designed the system that can be easily installed on a range of ladders and is suitable for a single user. The AFF7500 system consists of a stainless steel rope grab with built in shock absorption that moves along with the user on a vertical lifeline. The rope grab is connected to the attachment element of the user's harness. In the event of a fall, while the user is going up or down the ladder, the rope grab automatically locks against the wire rope thereby preventing the person from falling down. Not only does it restrict the fall of the user, it also reduces the impact force of the fall that would be imparted to the body of the user and structure.

Certified to EN353-1:2014+A1:2017. The AFF7500 when used with AFG805103 Rope Grab is certified by Technicka inspekcia, a.s. for ATEX to comply with use in potentially explosive atmosphere (as per Potentially Explosive Atmospheres Directive 94/9/EC) and conforms to Norms EN 13463-1: 2009 and EN 13463-5: 2003. The system is certified to be intrinsically safe, hence is an ideal choice for use in industries like Petroleum/ Petrochemical Plants without fear of causing explosion due to any spark.

AFF7500

AFF7500 with Extension Post

Standards

Standards		Description
EN 353-1		Guided type fall arresters including a rigid anchor line
EN 353-2		Guided type fall arresters including a flexible anchor line
EN 795 Type A		Anchor device requiring the fixing of one or more structural anchors
EN 795 Type B		Anchor device not requiring the fixing of one or more structural anchors
EN 795 Type C		Anchor devices using a horizontal flexible anchor line
EN 795 Type D		Anchor devices using a horizontal rigid anchor line
EN 795 Type E		Deadweight anchoring device
CEN/TS 16415:2013		Personal fall protection equipment - Anchor devices - recommendations for anchor devices for use by more than one person simultaneously
II 2G Ex h IIc T6 Gb EN 80079-36:2016 EN 80079-37:2016		The ATEX directives are two EU directives describing the minimum safety requirements for workplaces and equipment used in explosive atmospheres

Must be Read Prior to Use

- Prior to use, ensure all operating procedures have been read and properly understood.
- This fall arrest system is only to be used by competent persons who have experience and training in the safe use of the system and associated equipment.
- Ensure all local workplace OH&S requirements are identified and understood.
- A risk assessment with a safe work method procedure must be completed and approved by management prior to work commencing.
- The system requires periodic inspection and maintenance by the manufacturer or their authorized representative as per EN365 of the PPE Regulation 2016.
- The system MUST NOT be used if the service date is overdue.
- A rescue plan must be formulated and ready for implementation prior to using any fall arrest system.
- Authorisation to access any risk area must be obtained from the person in control of the workplace.
- Only approved full body harness, lanyard and PPE certified either EN, ANSI or AS/NZS Standards are to be used with this system.
- Visually inspect the system for damage prior to use. The system must not be used if there is any deterioration or deformation of components or the structure to which the system is attached.
- If the safety system is damaged or has arrested a fall, discontinue use until it has been fully inspected and recertified by the manufacturer or their authorized representative.
- Ensure all fixings, fittings and components are securely attached. Any tightening, adjustment or replacement of components must be carried out by a competent person.
- Users must not be allowed to work alone in fall arrest situations in case emergency rescue assistance or first aid is required.
- All applicable EN Standards, Local OHS Acts & Regulations, and Codes of Practice & Guidelines must be read and obeyed when using this safety system.

Instructions for Periodic Examinations

- As per EN 365 of PPE Regulation 2016, it is necessary to carry out regular periodic examinations. The safety of the users depends upon the continued efficiency and durability of the equipment.
- The personal protective equipment shall be examined at least every 12 months.
- For corrosive/harsh environments, every 6 months. (more frequent inspection may be required).
- The periodic examination can only be carried out by the manufacturer or their authorized representative.
- The comments should be included in the check card of the equipment. After the periodic examination, the next due date for periodic examination will be determined.
- During periodic inspection, it is necessary to check the legibility of the equipment marking.
- To check metals for sharp edge, burs, corrosion, bent profile distortion and opening & closing or such mechanisms for which that is intended for.

Remove from Service

- In case that it has been used to arrest a fall, the equipment must be withdrawn from use.
- Labels have been removed, are missing or illegible
- Excessive abrasive wear has occurred
- Broken fibres, tears, cuts, snags and splinters are present
- Deterioration or stretching has occurred
- Parts and mechanisms are not moving freely or are corroded
- There is excessive contamination not removed by approved cleaning methods

Job Safety Analysis

Before commencing the job, it is recommended that the service technician / installer completes a JSA form, to identify hazards at site and to decide the correct PPE they need to mitigate the hazard. Refer example below.

Section 1 Job details					
JSA title		Project name		Work order or PID No.	
		Principal contractor			
Location / address				Date/s of activity	
Prepared by		Date prepared		Signature	

Permits required				Isolations required	
□ Confined Space	□ High risk work rescue plan	□ High voltage access	□ Roof Access	□ Mechanical	□ Hydraulic
□ Work at height	□ Excavation and trenching	□ Energized work	□ Other (please specify)	□ Electrical	□ Pneumatic
□ Penetrating	□ Grid mesh, flooring and guard rail removal	□ Hot work		**Site access required**	□ YES □ NO

Section 2-Common hazards **(Each Hazard identified below must be assessed)**

Chemicals/hazardous substances		High-risk activities	
Name of chemicals or hazardous substance □ SDS available		□ Confined space	□ Work at heights
		□ Hot Work	□ Excavation, trenching or penetrations
Energy sources		□ Construction work	□ Scaffolding
□ Electricity	□ Pressure	□ Demolition	□ Structural alterations
□ Gas / Fuel	□ Water	Work location	
Plant and equipment		□ Sun	□ Working over, in or near water
□ Fixed Plant	□ Mobile Plant	□ Plants, Animals or Insects	□ Contaminated / Flammable atmosphere
□ Vehicles / boats	□ Hand Tools	□ Slips, trips and falls	□ Work occurring in other areas
Manual tasks		□ Biological hazards	□ Fire
□ Repetitive tasks	□ Heavy Lifting	People	
□ Awkward posture	□ Sustained posture	□ Remote or isolated work	□ Contractors
Facilities / built environment		□ Fatigue	□ Visitors / land owners / public
□ Buildings and fixtures	□ On/in or adjacent to roadways	□ Competency or training required	□ License required
□ Open pits, trenches or tunnels	□ Asbestos/ lead	Environment and water quality	
□ Overhead objects or services	□ Underground objects or services	□ Erosion & sediment control	□ Waste/ discharge
□ Lighting	□ Noise	□ Emissions (or air pollution)	□ Flora/ fauna/ weed management
□ On or near pressurized gas distribution mains or piping	□ On or near chemical. fuel or refrigerant lines	□ Release to drains/waterways	□ Water quality

Activity Lists the task required to perform the activity in the sequence they are carried out.	**Hazards** Against each task, list the hazards that could cause injury when the task is performed.	**Risk Control Measures** List the control measures required to eliminate or minimize the risk of injury arising from the identified hazard.	**Who is responsible?** Write the name of the person responsible (supervisor or above) to implement the control measures identified.

Workers Names	**Workers Signatures**	**Date**	We, the undersigned employees acknowledge that we have assisted in the development of this JSA and have read and understood its contents. We agree to perform the work required in accordance with the instructions provided, including but not limited to the use of all listed PPE

Remember: • Each JSA must be site specific. • Include all workers in the development of this JSA.

Customercare@kstrongasia.com

Receiving Structure

The receiving structure on which the system is to be installed should be strong enough to hold an impact load of more than 12 kN. KStrong shall not be held responsible in any failure arising out of the failure of the structure. It is hence essential to calculate the strength of the receiving structure before the installation. If there is any doubt, a competent person or a qualified structural engineer may study the drawings or visit the site and verify the adequacy of strength of the receiving structure.

The vertical fixed line system shall only be installed on ladders with an inclination not exceeding 15° from the vertical. Installation beyond this angle may compromise system performance and safety compliance. Ensure the ladder alignment is verified using a spirit level or inclinometer before installation.

AFF7500 Fall Arrest System Components

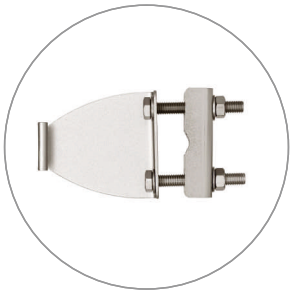
Certified EN 353-1:2014+A1:2017, the AFF7500 Fall Arrest System is an integrated solution designed to arrest the fall of a user when climbing up and down a ladder.

The Vertical Lifeline is made of stainless steel wire rope and is held in a rigid position using 2 mounting brackets - one at the top and other at the bottom.

The AFG805103 Stainless Steel Rope Grab moves freely up and down the anchorage line following the movement of the user who is connected to it.

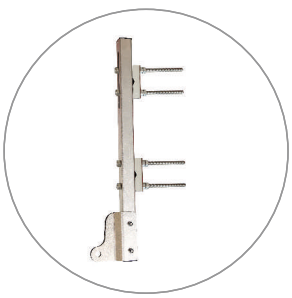
K-Lock Slotted Swagless Termination AFF111505

Top Extremity Mounting Bracket c/w 15kN Anchor Point AFF513756



Intermediate AFF513804

Rope Grab c/w Shock Absorber AFG805103



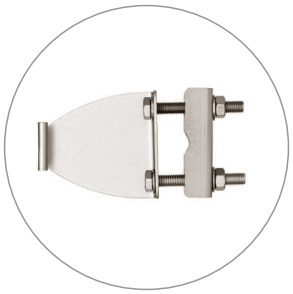
Bottom Extremity Mounting Bracket AFF513754

Tensioner AFF514000

AFF7500 Fall Arrest System with 1.8m Extension Arm Components

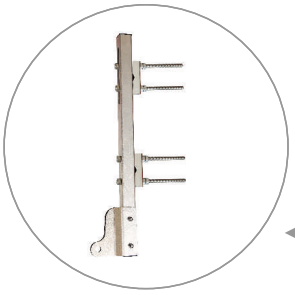
K-Lock Slotted Swagless
Termination AFF111505

Top Extremity Mounting Bracket C/w
15kN Anchor Point
AFF513755



Intermediate
AFF513804

Rope Grab c/w Shock Absorber
AFG805103



Bottom Extremity Mounting Bracket
AFF513754

Tensioner
AFF514000

Component Chart

The chart below shows all the components of the Vertical Lifeline Systems with their appropriate product codes and quantity required in a system.

Component	Code	Qty. Required
	Extremity Mounting Brackets, Stainless Steel	
Bottom & Top Extremity Mounting Braket, Stainless Steel	AFF513754	1 no.
Top Extremity Mounting Bracket c/w 15kN Anchor point, Stainless Steel	AFF513756	1 no.
Extension Mounting Bracket 1.8m c/w 15kN Anchor point (Optional), Stainless Steel	AFF513755	1 no.
	Cable Termination	
K-Lock Slotted Swagless Termination c/w Thimble & End Cap	AFF111505	2 sets top & bottom
	Wire Rope	
Wire Rope (7x19)	AFF518XXX(S)	Length of system
	Rope Grab	
Rope Grab	AFG805103	As per number of users
	Intermediate	
Intermediate	AFF513804	Space every 10m up to 30m, 30m and above, space every 5m
	AFF518XXXSL	
Wire Rope (7X19)	AF518XXX	Length of System
	Tensioner	
Tensioner c/w TFI	AFF514000	1 no.
	ID Tag	
ID Tag	AFF114100V	1 No.

VERTICAL ANCHORAGE LINE SYSTEM

Optional Extremity Posts & 1.8m Extension Arms

Extension Arm Mounting Bracket 1.8m c/w 15kN Anchor Point, ED Coated Steel	AFF513755(EC)	
Top Extremity Mounting Bracket c/w 15kN Anchor point, ED Coated Steel	AFF513756(EC)	
Bottom & Top Extremity Mounting Bracket, ED Coated Steel	AFF513754(EC)	

Optional Intermediates

Intermediate Retrofit	AFF513804	Space every 10m up to 30m, 30m and above, space every 5m
Intermediate Retrofit C/w Rubber Guide	AFF513806	Space every 10m up to 30m, 30m and above, space every 5m
Intermediate Pulley Type	AFF512002	Space every 10m

Intermediate Retrofit
AFF513805

Intermediate Retrofit C/w Rubber Guide
AFF513806

Intermediate Pulley Type
AFF512002

Recommended PPE

While working on a roof the user can select from a range of of PPE to work safely with either lanyards, rope lines or SRL's in conjunction with a full body harness.

Energy Absorbing Webbing Lanyard
AFL408612

Work Positioning Lanyard with Grip Adjuster
AFL405351

Rope Line with Shock Absorber
AFA951201

Twin Micron
AFS550102D

Full Body Roofers Harness
AFH300203

General Description of Parts

The installation of the system shall be carried out only by trained personnel authorized by KStrong and shall not be performed by the user. The installation steps given below provide only a brief indication of the procedure and are intended solely for user information. KStrong assumes no responsibility for any consequences arising from the installation of the system if it is performed without an authorized written recommendation from KStrong. It is essential to ensure the safety of the installer at all stages of installation through the use of appropriate PPE. It is also important to use the correct tools as recommended by KStrong for installation.

Pre-Installation Inspection of the Receiving Structure

The receiving structure on which the system is to be installed shall be strong enough to withstand an impact load greater than 12 kN. KStrong shall not be held responsible for any failure arising from the inadequacy or failure of the structure. It is therefore essential to verify the strength of the receiving structure before installation. If there is any doubt, a competent person or a qualified structural engineer should review the drawings or visit the site to verify the adequacy of the structure. The vertical fixed line system shall only be installed on ladders with an inclination not exceeding 15° from the vertical. Installation beyond this angle may compromise system performance and safety compliance. Ensure the ladder alignment is verified using a spirit level or inclinometer prior to installation.

Types of Mounting Brackets

AFF513754 & AFF513754(EC) Lower & Top Mounting Brackets

The brackets are installed between two ladder rungs with a diameter between 16mm - 52mm. The distance allowed between two rungs is from 250mm - 350mm.

AFF513756 & AFF513756(EC) Top Mounting Bracket c/w 15kN Anchor Point

The brackets are installed between two ladder rungs with a diameter between 16mm - 52mm. The distance allowed between two rungs is from 250mm - 350 mm.

AFF513755 & AFF513755(EC) 1.8m Extension Arm c/w 15kN Anchor point

The brackets are installed between two ladder rungs with a diameter between 16mm - 52mm. The distance allowed between two rungs is from 250mm - 350 mm.

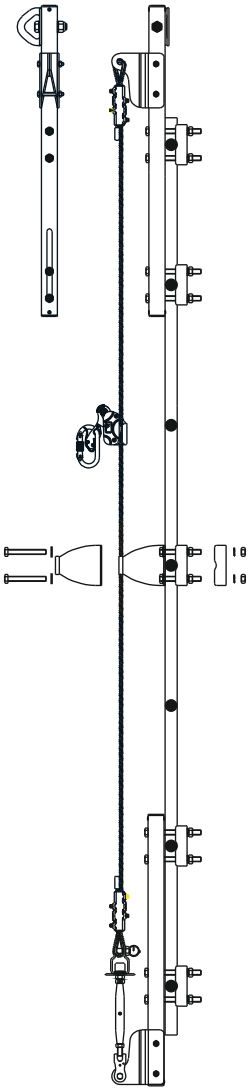
Installation of AFF513756 & AFF513756(EC) Top Mounting & AFF513754 & AFF513754(EC) bracket Bottom Mount Brackets

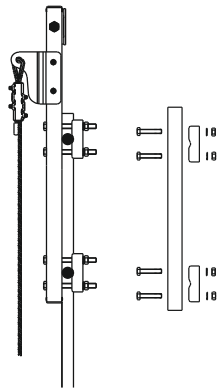
The top mounting bracket post can be installed on two ladder rungs by bolting the two plates directly over the rungs.

Position the mounting bracket post directly over the top two ladder rungs. Insert the bolts and washers through the mounting bracket, then into the backing plate. Add the washers and tighten the nuts securely.

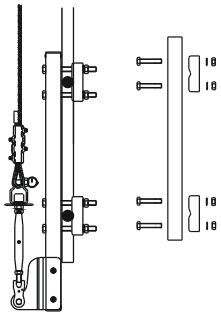
The bottom mounting bracket post can be installed on the bottom two ladder rungs. Insert the bolts and washers through the mounting bracket, then into the backing plate. Add the washers and tighten the nuts securely.

For square ladder rungs, simply reverse the plates to suit the rung profile.

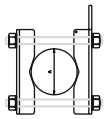
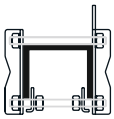
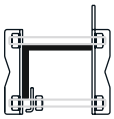
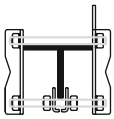
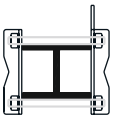




AFF513756 Top Mount Bracket



AFF513754 Bottom Mount Bracket

LADDER RUNG SECTION (16mm - 52mm Dia)	●	⊓	⌐	T	I
PROCESS					

Attaching the Wire Cable to Top and Bottom Mounting Post

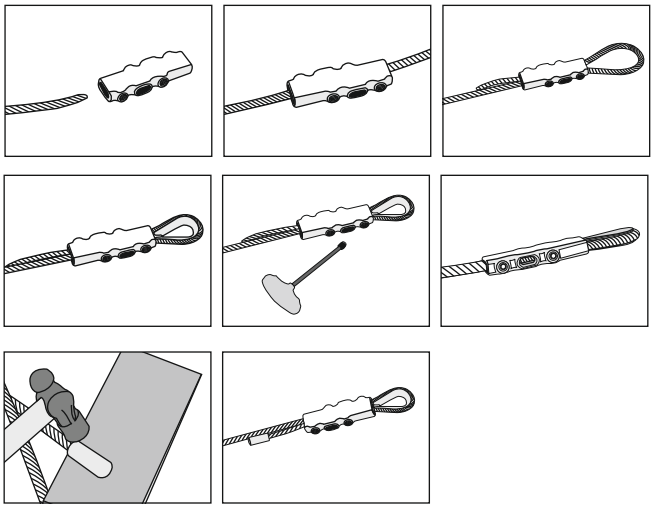
AFF111505 - KLOCK SLOTTED SS WIRE SWAGLESS TERMINATION C/W THIMBLE & CAPS:

Insert the wire cable directly through the eyelet of the mounting post. Pull the wire through and loop it over the thimble, ensuring that at least 300 mm of the wire cable is overlapping.

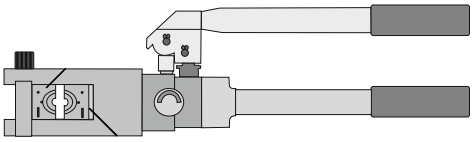
Insert the overlapped wire into the swage-less fitting. Loop the wire cable around the thimble, making sure it fits snugly in the groove of the thimble.

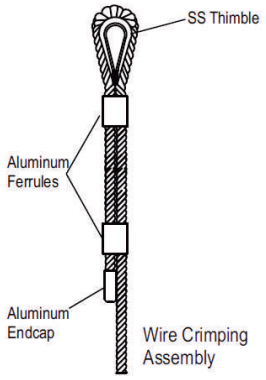
Insert the free end of the cable back through the termination fitting, forming a loop around the thimble. Use an Allen wrench to tighten the set screws in the swage-less fitting.

This locks the cable in place. Tap the cap into place using a hammer to finish the assembly.



AFF513801 - WIRE CRIMPING ASSEMBLY TO SUIT 8MM WIRE (1 Thimble, 2 Ferrules & 1 Wire Cap) Insert 2 ferrules in the wire.





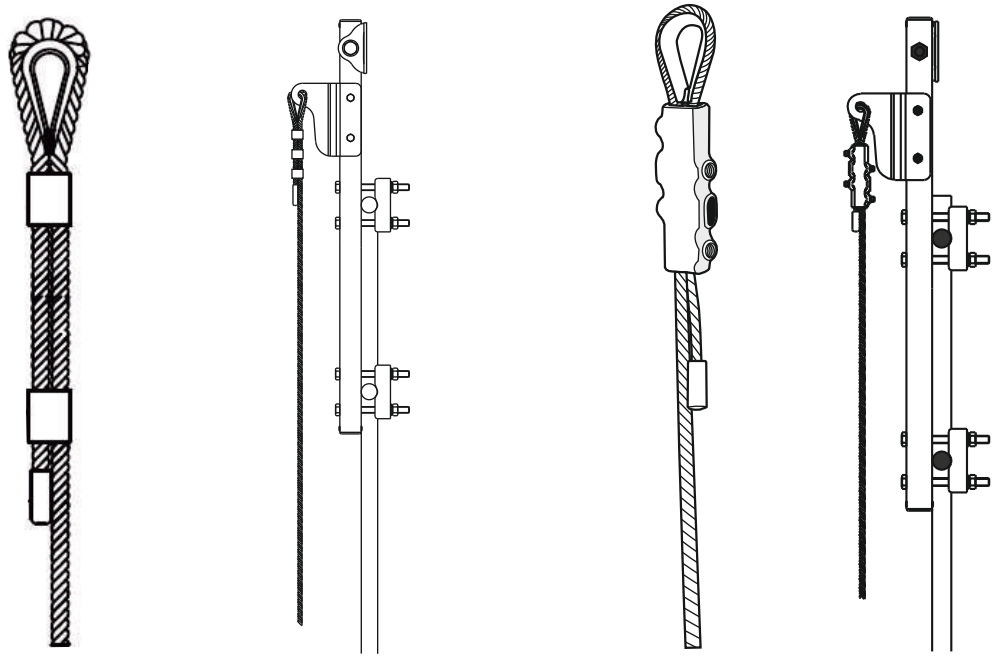
Loop the wire across the Stainless Steel Thimble.

Insert the end of the wire back into the Ferrule.

Crimp the Ferrule using a 20 Ton Hydraulic Crimping head and 300mm2 crimping dies.

Ensure that the first ferrule is as close as possible to the thimble, the next ferrule should be 50mm apart from the first one.

If it is necessary to cut the cable, insert aluminium cap in the free end of wire rope and crimp it.

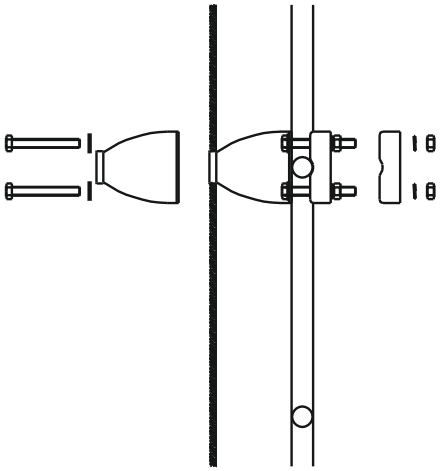


*If installing the AFF512000 Shock Absorber please refer to AFF6000 and AFF7000 UIM

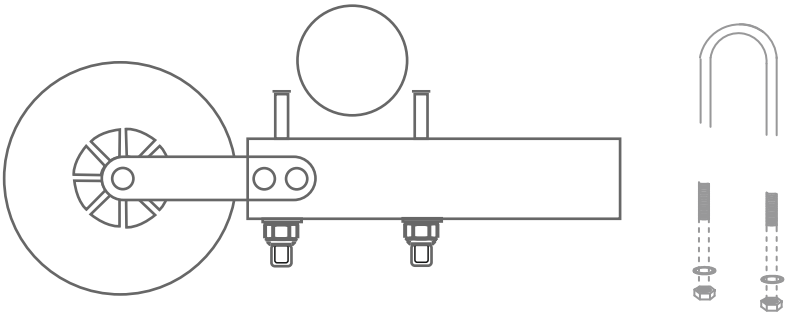
Installation of the Intermediate Cable Guides AFF513804, AFF513805, AFF513806 & AFF512002

Position the AFF513804 Intermediate to the appropriate rung of the ladder. Place the bolts and washer directly into the cable guide then insert thru the backing plate, add the washer and then tighten the nuts. If its a Square ladder rung reverse the backing plate so the flat surface is facing the ladder rung. Now repeat for AFF513805 & AFF513806.

Install the AFF512002 directly on the appropriate ladder rungs. Install the U-bolts with washers, and tighten the nuts to 35Nm
It is recommended to install an Intermediate at an interval of every 10 m up to 30m and them every 5m above 30m.



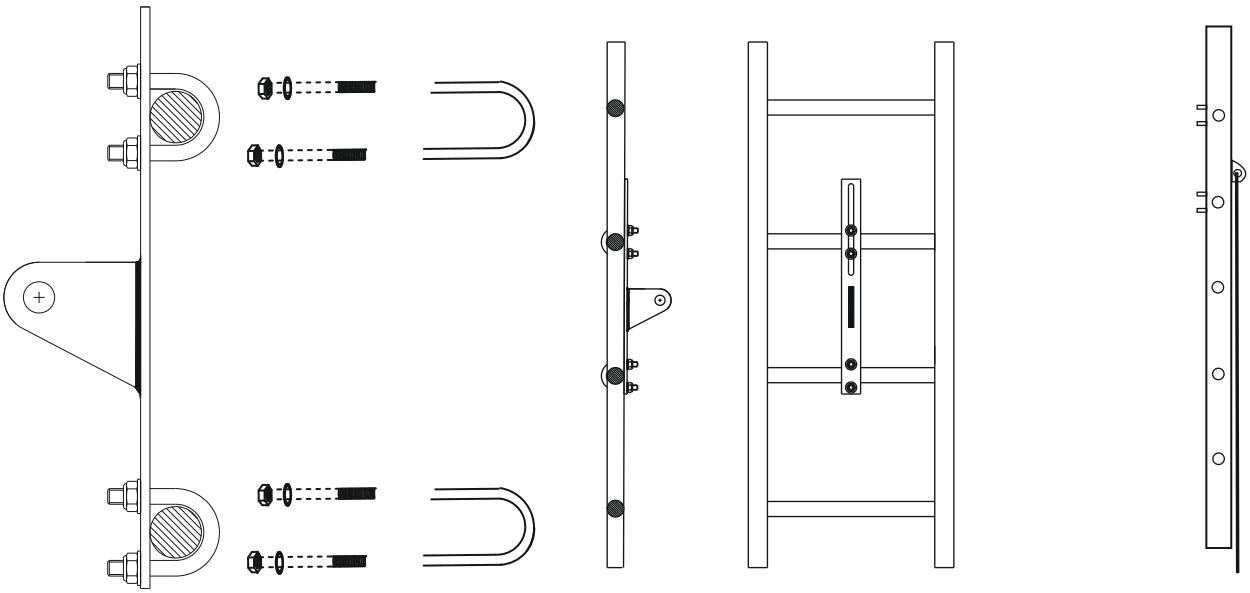
AFF513804



AFF512002

Installation of the Bottom Mounting Bracket AFF513700

Install the mounting bracket(AFF513700) directly on the bottom two ladder rungs. Install the U-bolts with washers, and tighten the nuts.

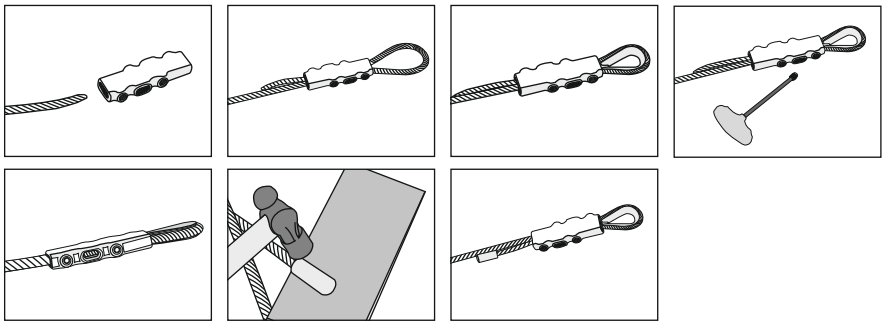


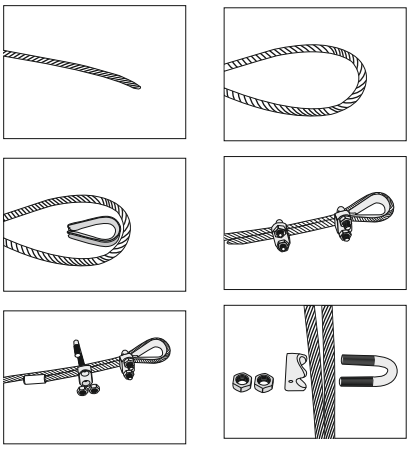
Installation of the AFF514000 Tensioner

- The Tensioner is installed at the bottom of the ladder system.
- Open the threads of extension rod of the tensioner from both ends. Ensure that 75% of the thread is open.
- Insert the eye of tensioner to the mounting bracket at the lower ladder rung.
- Insert the stainless steel locking pin so as to pass through the eye of the tensioner and the mountin brackets.
- Insert the pin ring in the locking pin to lock it.

FIX THE TENSIONER TO THE WIRE ROPE:

- Insert the tensioner 's locking pin thru both the wire eyelet and eye of the tensioner and secure with fastener and split ring.

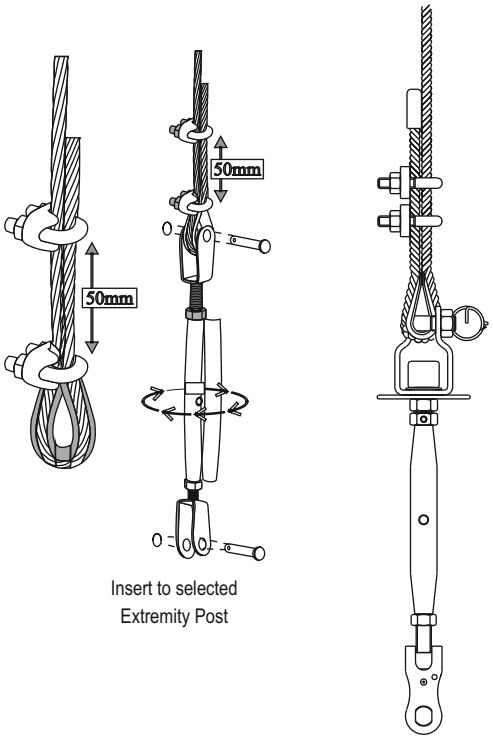


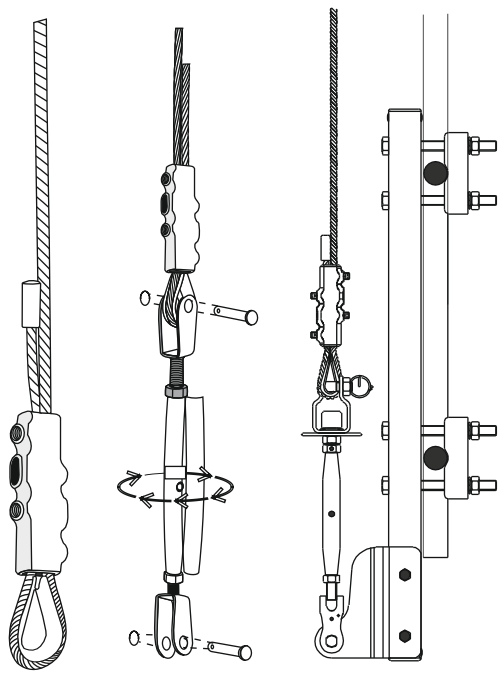


PROVIDING TENSION TO THE WIRE ROPE:

- Open both the chuck nuts and hold the tensioner eye.
- Insert a steel rod in the housing of the tensioner and rotate the tensioner in anti clock wise direction.
- Rotate it until reasonable tension is achieved in the cable and the tension indicator disc is free to rotate.
- Tighten both the chuck nuts.

Suitable cable termination may be selected according to the site condition, U-bolts, thimbles and K-Lock can be used for top and bottom termination.



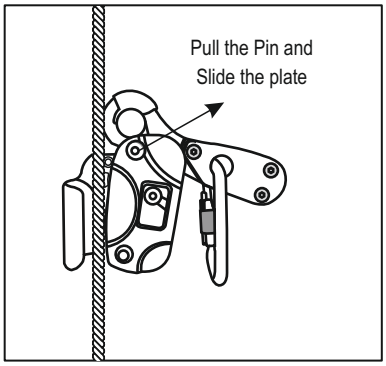


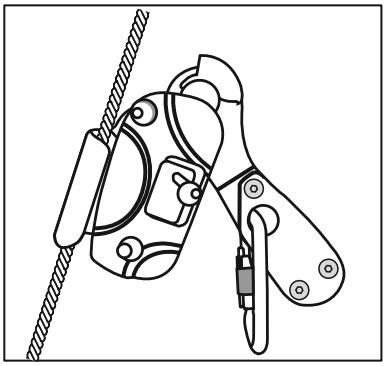
Installation of the Rope Grab

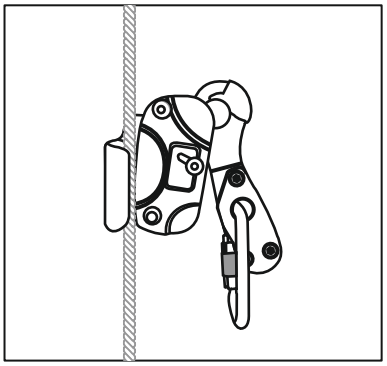
AFF805101,AFG805102 and AFG805103 - Hold the Rope Grab as shown in the figure.

Push the Rope Grab through the cable and rotate it counter clockwise. Ensure the arrow on Rope Grab points up wards. Insert the karabiner in the eye of the Rope Grab. Connect the other end of the shock absorbing lanyard to the harness of the user by the other Karabiner.

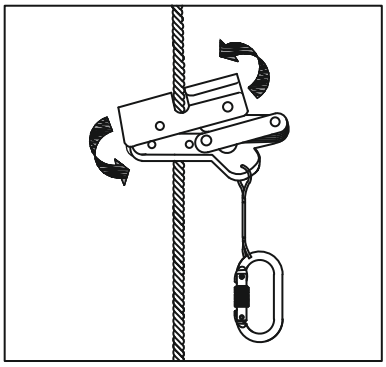
AFG805103 Suit AFF7500 System

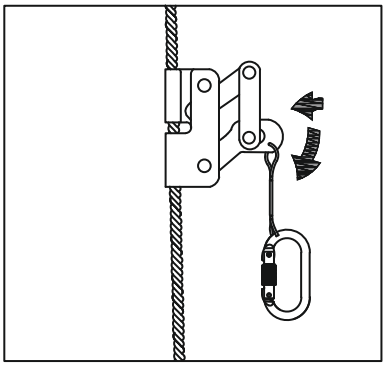


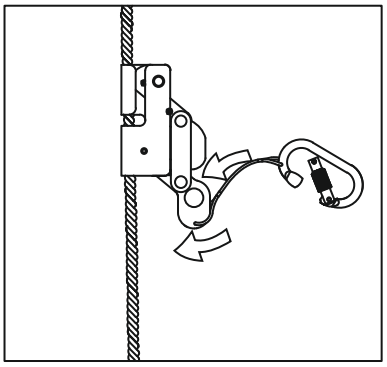




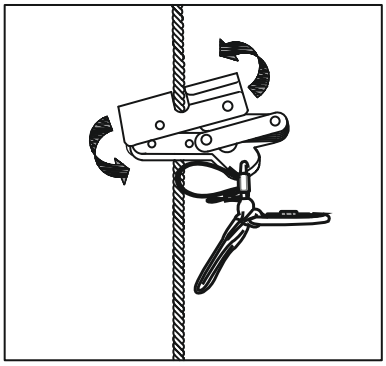
AFG805101 Suit AFF7000 System

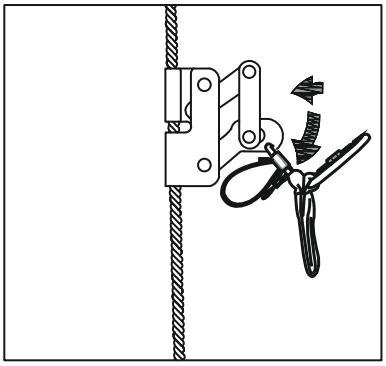


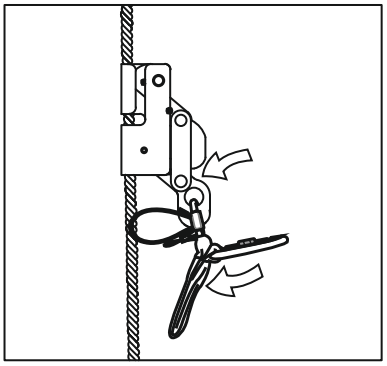




AFG805102 Suit AFF6000 System

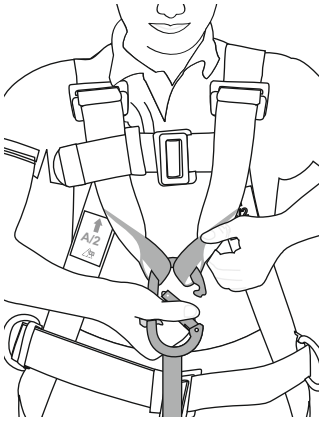






Connect the Harness to the Rope Grab

Check the harness that all the straps are connected and buckles are secured and the harness has been adjusted to give it a snug fit. Connect the Rope Grab to the front attachment point of the full body harness with the help of the Karabiner of the connecting lanyard Ensure that the gate of the karabiner is closed and locked properly.



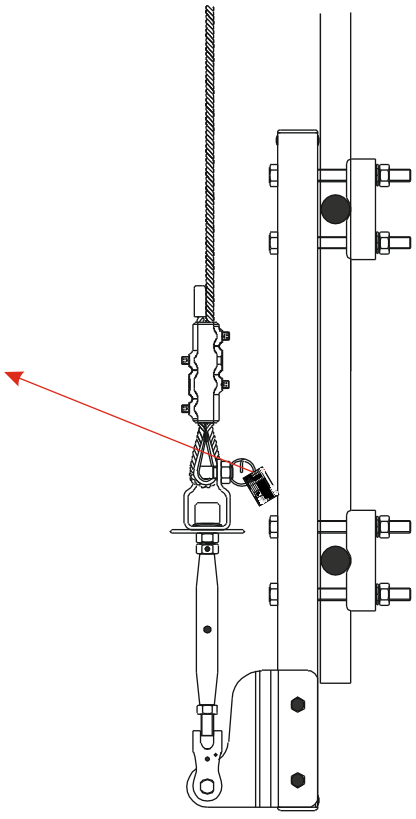
Installation of the Identification Plate AFF115100V

Fasten Identification Plate on to the lower rung of the ladder by inserting onto the circle locking clip.

KSTRONG UNRIVALED SAFETY
KS GROUP

II 2G
Ex h IIc T6 Gb

KStrong Vert1ical Lifelines			
	AFF6000	Vertical Lifeline on Stainless Steel Cable EN353-1:2017	
	AFF7000	Vertical Lifeline on Stainless Steel Cable EN353-1:2017	
	AFF7500	Vertical Lifeline on Stainless Steel Cable EN353-1:2017	
	AFF8000	Vertical Lifeline on Aluminum Rail EN353-1:2017	
	AFF9000	Vertical Lifeline on Aluminum Rail EN353-1:2017	
Date of Installation		QR Code	RFID TAG • I phone 9 or Later • Android with NFC • RFID
No. of users			
UID			
Line No.			
customercare@kstrongasia.com		www.kstrong.com/asia	

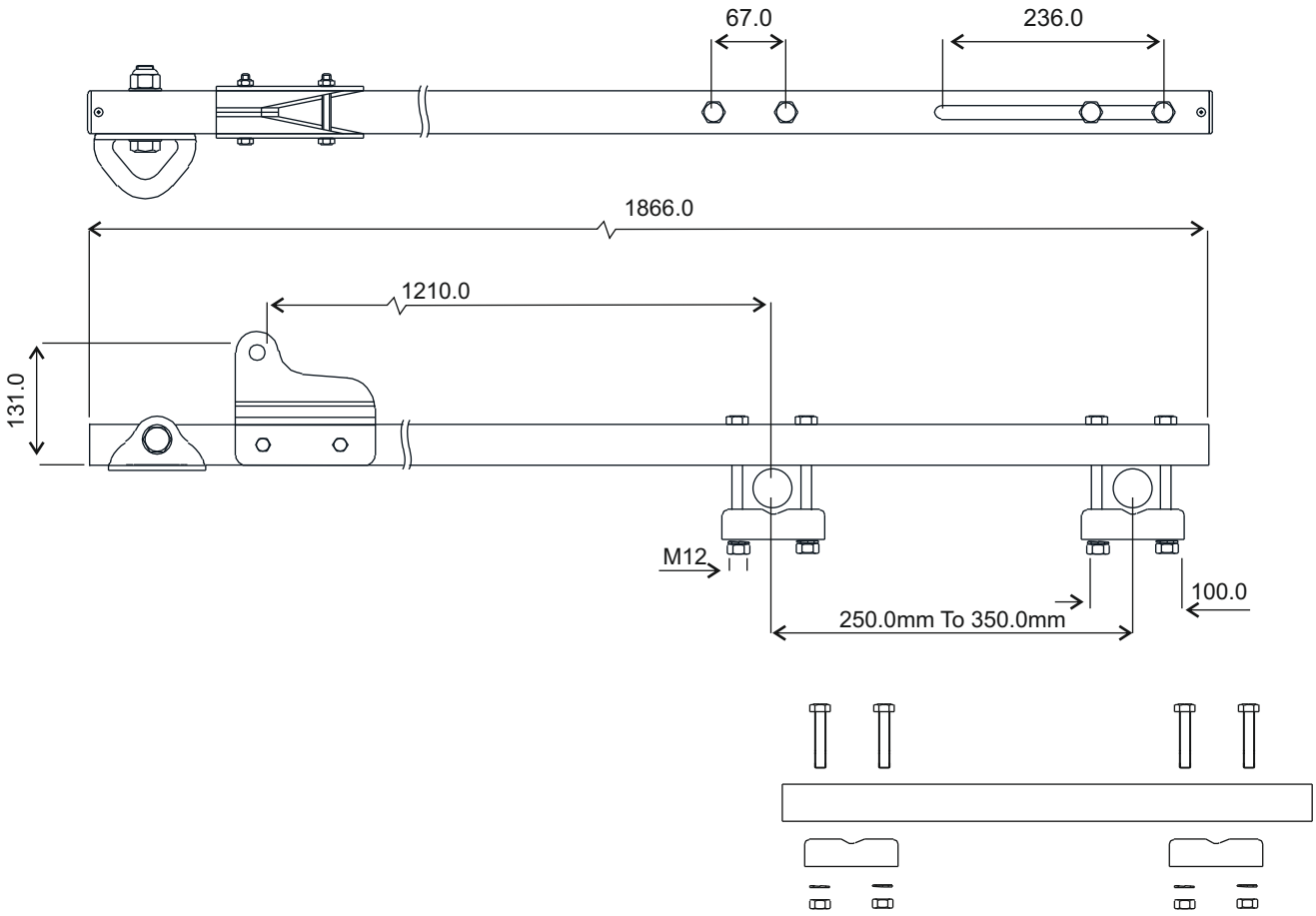


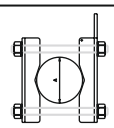
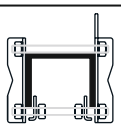
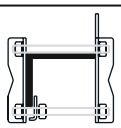
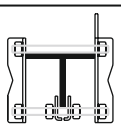
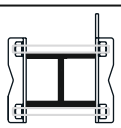
Installation of Optional Components

Installation of AFF513755 & AFF531755(EC) 1.8m Extension Arm

If the system has been provided with the Extension Arm, this shall be installed in place of Upper Mounting Bracket:
Post can be installed on two ladder rungs by bolting the two plates directly over the ladder rungs.
Position the mounting bracket post directly over the top two ladder rungs.

Place the bolts and washer directly thru the mounting bracket, then insert into the backing plate, add the washer and then tighten the nut. The drawings below illustrate the position of the plates. Simply reverse the plates to suit square ladder rungs.



LADDER RUNG SECTION (16mm - 52mm Dia)	●	⊓	⌐	T	I
PROCESS					

Recommended Torque

CHART						
Bolt size	M6	M8	M10	M12	M14	M16
Recommended Torque:	17 Nm	30 Nm	45 Nm	50 Nm	56 Nm	70 Nm

Pre-Use Checks and Precautions

Post Installation Inspection

- Once installed, it is important to inspect the complete line by moving the entire length of lifeline.
- It is mandatory for the Site Inspector/Supervisor and the actual users of the system to perform a thorough check of the system before carrying out work. KStrong conducts a brief training for all concerned personnel on the subject of Pre-Use Inspection of the system as per a defined guideline after the system has been installed by KStrong personnel. The following points are considered for the Pre-Use check.

Checking the receiving structure

- If the ladder or the receiving structure of ladder is found to be weak, do not climb.

Checking the System

- Clean the system from dust/dirt. Check for any mechanical defects.
- Check for wear and tear in all components or unusual bending or deformation.
- Check for any modifications done by the user.
- Check for any missing component.
- Check for any damages that may have been caused due to welding while maintenance of other equipment.
- Check the Identification Plate. The system needs to be put out of service if the label is not legible or missing.

Checking the Cable

- See that there is sufficient tension on the cable by gently pulling the cable by hand. If the cable is too loose, check whether they are properly passing through the Intermediates. If not, place them in the Intermediates.
- Check the condition of the cable. Report if strands are found broken.

Checking the Rope Grab

- Check the movement of the rope grab and its grip before climbing. Check the spring of the rope grab, it should move freely.
- Check for excessive wear and tear in the jaws of the rope grab. The Karabiner is connected to the rope grab through a sling

Check the Shock Absorber

- Check the bolt of the Energy Absorber. If the energy absorber is deployed, the red marking on would be visible. In case the energy absorber is deployed, put the system out of use.

Precautions needs to be considered for safe use of the system

The following points and precautions needs to be considered for safe use of the system

- The lifeline is for the purpose of fall protection while working on a vertical plane at height. A back up fall arrest system is required when transitioning on and off the lifeline system while working at height.
- The user should not suspend himself on the Rope Grab. The intended use of a rope garb is fall protection and not a work positioning device.
- Never disengage the fall arresting lanyard and the carriage body from the life line while working at height.
- Avoid using grease to lubricate the system. If any fall is reported put the system out of use. Contact the manufacturer for repairs and re-validation.
- Only certified full body harness with proper attachment anchorage points should be worn while using the system.
- Do not alter or misuse this equipment. Always take the advice from KStrong personnel while using this equipment in combination with components or subsystems other than those described in this manual. Usage of certain component/sub system may interfere with the proper functioning of this equipment and the system may not deliver or work as per its intended use. In such case KStrong may not be held responsible for any malfunction.
- The lifelines must be kept free from dust, grease etc., by periodic cleaning. The system can be cleaned by a soft dry cloth.

Hazards

- Hazards existing in immediate environment may require additional precautions to limit the possibility of injury to the user or damage to the equipment. Hazards may include but are not limited to, extreme temperatures, caustic chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, sharp edges, high velocity winds, etc.
- Do not expose the equipment to any hazard which it is not designed to withstand. Consult the manufacturer if in doubt.

Rescue Plan

It is recommended to ensure that the user shall have a rescue plan and means to execute it while using this equipment. The rescue plan needs to be project specific. The employees must be trained in self-rescue or alternative means shall be provided for prompt rescue in an event of a fall.
It is recommended to work in a pair to ensure that in an event of a fall your partner may help in rescue.

Annual Inspection & Revalidation

According to the requirement of EN 365 every PPE needs to be inspected at least once in a year. The KStrong COMPASS software maintains the data of the system for at least 20 years and reminds the client whenever the inspection is due. The KStrong Inspection team is trained to perform the inspection and provide a certificate each year at a nominal cost. The client may at any given moment of time extract the status of any of the lifeline installed anywhere in the world from the KStrong data base.

Environment

To protect the environment, KStrong follows a 100% paperless process. Unless specifically required, KStrong avoids printing it's reports and make it available to the client digitally.

Inspection Use and Maintenance

PPE Inspection and Revalidation

Fall Protection Equipment is a life saving product. As per the EN 365 of PPE regulations 425/2016, it is mandatory to have a 'Competent Authority' to inspect the Fall Protection Equipment at least once annually.
KStrong COMPASS Inspection Software helps takes care of the equipment for at least 20 years.

- Cloud based online as well as off line 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.

Infrastructure:

- Good quality equipment complying with international standards.
- 100% backward integrated manufacturing.
- Qualified Engineering Team.
- Sophisticated test equipment.
- Precise engineering software to understand the client requirement to provide a safe & optimum solution.
- Technical marketing team capable of understanding the client requirement & present the solution using engineering drawings (Auto CAD) & calculations.
- Force predictions on the system in an event of a fall and a testing facility to validate the force calculations.

Warranty

The system is produced with extreme precision. Should there arise a manufacturing defect within a period of 1 year of supply KStrong stands to repair the components or replace if necessary.
Warranty does not cover:

- Deficiency arising out of misuse of equipment.
- Malfunction due to faulty installation/wrong usage of product.
- This equipment is not user maintainable. The warranty stands void if an attempt is made to repair or open the equipment.
- KStrong does not provide a product functioning warranty; the warranty stands for the workmanship of the products only.
- KStrong systems are made of stainless steel grade 316, ED Coated Steel or Aluminum and are highly resistant to corrosion.
- KStrong systems are thus further warrantied for 20 years provided they are inspected once annually according to the requirements of EN365.

Tools required

RING SPANNER

DOUBLE END SPANNER

SOCKET SET

TENSIONER TIGHTENING TOOL

CRIMPING PLIER

BOLT CUTTER

ALLEN KEY

Machines

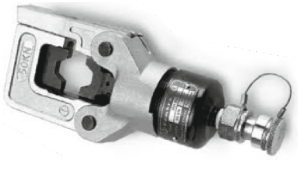
CORDLESS DRILL MACHINE

HAMMER DRILL MACHINE

CORDLESS IMPAXX WRINCH

HYDRA JAWS
LIFELINE TESTING

SWAGING TOOL



HYDRAULIC CRIMPING HEAD

POWER BIRD RIVETING MACHINE

VERTICAL ANCHORAGE LINE SYSTEM

Anchors

Measuring Tools

TAPE

DETECTOR

DIGITAL TORQUE WRENCH

DISTANCE METER

LASER TOOL

VERNIER

Consumables, Miscellaneous Tools

DUST PUMP

HOLE SAW CUTTER

HOT AIR GUN

SETTING TOOL

PAINT BRUSH

DRILL BIT

IMPAXX DRILL

BLOWER

CHEMICAL APPLICATOR

	WRENCH SIZE				
Hex Bolt	6	8	10	12	16
Wrench Size	10	13	16	19	24
Socket Size	10	13	16	19	24

ALLEN KEY SIZE				
Allen Bolt Size	6	8	10	12
Allen Key Size	4	6	8	10
Allen Grub Screw Key Size	3	4	5	6

Torque Chart (Maximum torque for standard bolts)

CHART						
Bolt size	M6	M8	M10	M12	M14	M16
Recommended Torque:	17 Nm	30 Nm	45 Nm	50 Nm	56 Nm	70 Nm

Proof loading Proof

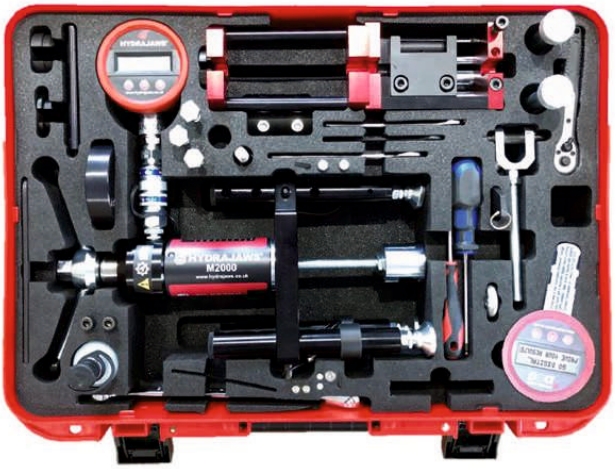
Process of Proof Loading of Horizontal and Vertical Lifelines

Proof loading of roof post (Non Destructive)

- Post installation at least 10% of the roof posts should be proof loaded by a load testing device .The posts should be subjected to a static load of 3kN for a period of 1 minute in accordance with EN 795 (4.4.1.1).The permanent deflection as a result of proof loading should not be greater than 10mm after the load is released

Proof Loading of termination (Non Destructive)

- Each cable end termination should be proof loaded by a load testing device, to a static force of 6kN.The force is held for 1 minute. The proof loading ensures that the end cable terminations are robust and will not release the cable in an event of a fall.



HYDRA JAWS LIFELINE TESTING

Inspection Log

EQUIPMENT RECORD		
Product		
Model & type/Identification	Trade Name	Identification number
Manufacturer	Address	Tel, Email
Year of manufacture	Purchase Date	Date first put into use
Other relevant information (eg. document number)		

PERIODIC EXAMINATION AND REPAIR HISTORY				
Date	Reason for entry (periodic examination or repair)	Defects noted, repairs carried out and other relevant information	Name and signature of competent person	Periodic examination next due date

KSTRONG®
UNRIVALED SAFETY.

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www.kstrong.com

USA	South America	Australia	New Zealand	Asia

KS GROUP