

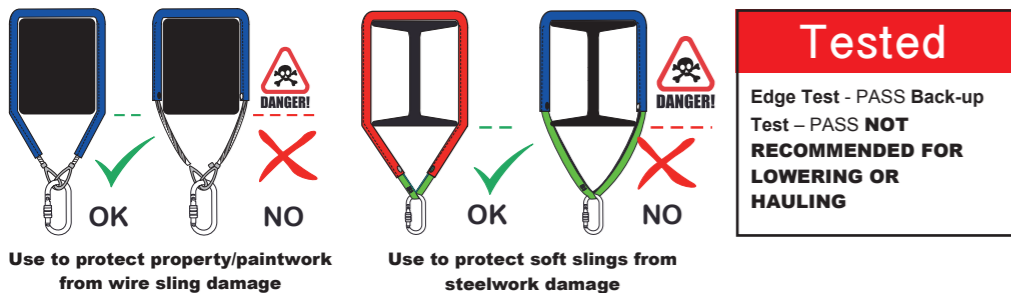
Pro-Tube & Pro-Tube Twin Product codes: PT & PTT

Available to special order only - Recommended length to be 50mm shorter than anchorage slings .

Pro-Tube – two layers of Heavy Duty Proofed Natural Fibre Canvas without the potential for side opening. Wide enough to thread both nylon or steel/wire slings - including karabiners. Used to protect nylon from light abrasion without lateral movement, where rigged ropes cross and other pre-threadable mid-rope applications. Use to protect from dirt or equipment becoming contaminated with rust etc. Also used to protect structure from rope rub and where rigging equipment is in contact with painted surfaces etc.

Pro-Tube Twin is the same specifications as the Pro-Tube with has two parallel tubes to allow independent threading. Single or multiply slings can be threaded through each Tube dependent on application - users must ensure that ropes are not crossed inside and that the positioning system will remain effective if either rope was to fail.

USE: Thread ropes or slings through Pro-Tubes and Install around anchor points – ensure full protection. See panels 5 to 12 for additional essential user information.



WARNING

Due to hidden ropes it is critical that loaded ropes are not lowered or hauled through Pro-Tubes

Pro-Wear Sheet Product code: PWS

Replacement Wear Sheet for Pro-Pad+ - Two layers of Heavy Duty Proofed Natural Fibre Canvas to be fitted to Pro-Pad+ Includes large alignment connection eyes. Only for use with ProPad+

Pro-Guard & Pro-Guard Light Product codes: PG & PGL

The **Pro-Guard** is a PVC protector designed only for protecting ropes from contamination. The Velcro closure allows it to be fitted around rope/s and the two connection eyes provide securing options. The effects of Contaminants on PVC should be verified prior to use. The protection is limited to the area covered by the PVC and may not prevent 100% protection from contaminants.

The **Pro-Guard Light** are Nylon devices to protect form light dust and water based contaminants.

It is essential that the PVC and Nylon devices provide effective barriers from contamination materials RopePro recommend that verification tests are performed. Test patches available on request. RopePro can undertake tests and provide reports verifying suitability.

Pro-Guard & Pro-Guard Light are only available to special order to specified lengths. Can be made to cover tools, rigged equipment or property. Send your specifications to our design team.

WARNING

Pro-Guard & Pro-Guard Light are not suitable for protection of ropes and equipment from abrasion or general wear and should not be installed between ropes and contact points

Emergency Use

If operational planning chooses lowering or hauling techniques as a standard requirement RopePro recommend a device designed specifically for such use. The ProPad+ is designed for the regular deployment and retrieval of ropes and loads of less than 15kg. Lowering of persons or loads in excess of 15kg should only be carried out as an emergency procedure.

Following any Emergency use: Back-up Deployment, Lowering or Hauling all protectors must be removed from service.

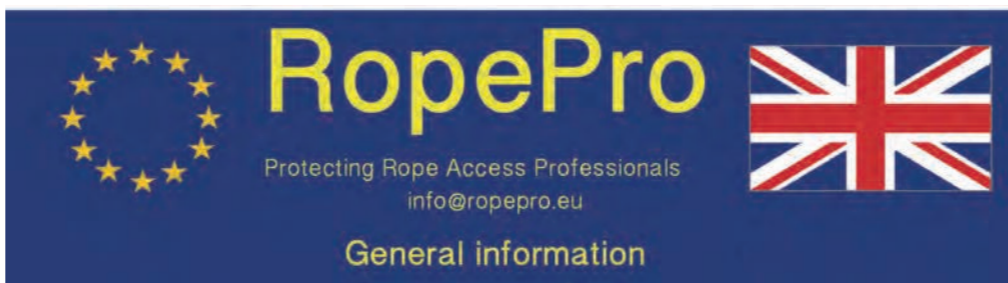
INSPECTIONS

Protection Devices are a crucial part of the safety system and require proper visual and tactile inspection prior to each use together with *Thorough Inspections* at least every 6 months (recorded) and interim inspections (recorded) where required. Check for signs of material thinning and holes (different coloured material showing), contamination and embedded metal sharps/swarf. Consider that some contaminants may not damage the RopePro protectors but may still damage ropes or other equipment. Check hook and loop closures faces for detritus and function. Check material around eyelets for signs of separation. Check eyelets for security and deformities. Where fitted check the attachment and integrity and function of tie- cords. Remove all damaged/failed items from service for replacement or repair. Inspections provide

Re-proofing & Fire Proofing

Re-proofing: Canvas protectors can be re-proofed (water-proofing) using any product specifically available for the water re-proofing of cotton canvas. Contact RopePro for further advice.

Fire Proofing: Recommend the use of a Natural Fibre Flame Proofing Treatment for all planned operations where cutting/grinding sparks may occur. Not suitable as protection from heavy/long term exposure to cutting/grinding sparks, burning torch, other or direct flame sources. Contact RopePro for further advice. Not suitable as protection from Electrical sparking or to be used for insulation from electrical sources.



INSPECTIONS

Protection Devices are a crucial parts of the safety system and require proper visual and tactile inspection prior to each use together with *Thorough Inspections* at least every 6 months (recorded) and interim inspections (recorded) where required. Check for signs of material thinning and holes (different coloured material showing), contamination and embedded metal sharps/swarf. Consider that some contaminants may not damage the RopePro protectors but may still damage ropes or other equipment. Check hook and loop closures faces for detritus and function. Check material around eyelets for signs of separation. Check eyelets for security and deformities. Where fitted check the attachment and integrity and function of tie-cords. Remove all damaged/failed items from service for replacement or repair. Inspections provide important information for performance evaluations – essential to all professional users.

Following any Emergency use - Back-up Deployment, Lowering or Hauling protectors must be removed from service.

Cleaning: Hand wash with a solution of domestic washing up liquid using a scrubbing brush on heavily stained areas. Rinse thoroughly in clean water and dry in well-ventilated area away from direct sources of heat. It is possible to wash some protectors in a washing machine (not ProPad or ProPad+), use warm water cycle with domestic detergent and undertake a full clean rinse cycle after main wash.

Chemical: All chemical products, industrial dirt/substance or environmental substance must be assessed for the effects on RopePro materials. Users must also be aware that substances which may not damage RopePro materials yet may damage ropes etc. Test patches are available on request.

Disinfection: Disinfect using a general purpose disinfectant in sufficient quantities to be effective. Soak the product at dilutions recommended for the disinfectant. Rinse thoroughly in clean water.

Re-proofing: Canvas protectors can be re-proofed (water-proofing) using any product specifically available for the water re-proofing of cotton canvas.

Fire Proofing: Recommend the use of a Natural Fibre Flame Proofing Treatment for all planned operations where cutting/grinding sparks may occur. Not suitable as protection from heavy/long term exposure to cutting/grinding sparks, burning torch, other or direct flame sources. Contact RopePro for further advice. Not suitable as protection from Electrical sparking or to be used for insulation from electrical sources.

Storage: Store unpacked in a cool, dry, chemically neutral environment away from corrosives or other possible causes of damage. Do not store dirty, damp or wet.

Maintenance and Servicing; Repairs must be carried out by a competent repair company using professional equipment. By undertaking repairs the product owner and the repair company accept responsibility for the consequences of any loss of performance. RopePro offer a repair service. Tie cords are replaceable with 3mm accessory cord - recommended length 70cm per tie.

Lifespan: Dependant on use, heavy users should replace more frequently. Lighter users may only need to replace every 10 years. Nonetheless, damage or excessive wear may occur on first use. Manufacturing defects are covered by our 3 year warranty. warranty excludes user damage through wear or abuse.

Obsolescence: A protector may become obsolete before the end of its expected lifespan. Reasons for this may include changes in applicable standards, regulations, legislation, development of new techniques, incompatibility with other equipment etc.

Disposal: Ensure that all failed items can no longer be used and are disposed of according to local disposal requirements.

USERS MUST READ AND FULLY UNDERSTAND THESE INSTRUCTIONS FOR USE

RECORD OF PERIODIC THOROUGH INSPECTIONS			
User	ID	1 st Use	
Date	Inspector	Result/Findings	



Protect your **PPE** - protect yourself

RopePro = Fit for Purpose ©

Rope Protection is vital to ensure the integrity of PPE – without protection, ropes and other safety equipment can be easily damaged.

The *RopePro Flex Range* provides a range of solutions. Designed to assist users satisfying the requirements of the **National Working at Height Regulations** and the **IRATA International Code of Practice**.

RopePro devices are designed and tested to the RopePro *Standard for Devices used to Protect Safety Ropes** to provide the protection users need.

- 1. Protect Ropes from damage**
- 2. Protect Property from rope damage**
- 3. Protect ropes and safety equipment from operational contamination & hazards**

Use: Rope Access, Rope Rescue, Safety Ropes Systems, Abseiling and Adventure Activities.

TESTED

Standard for Devices used to Protect Safety Ropes

- Test 1- Edge - lateral movement of loaded rope
- Test 2 - Dynamic Back-Up – dynamic loading due to working rope failure
- Test 3 - Emergency Lowering & Hauling – using loaded ropes -100kg+

Competence in anchor selection, rigging and risk management are essential for all users. Use must be risks assessed, planned and supervised. Rigging techniques are the primary way to avoid rope damage caused by contact with obstacles. Where rigging cannot prevent contact, each point must be assessed and rigging or sufficient protection installed. It is essential that users are fully proficient in the use of the type of protectors that they use and are fully aware of device limitations and the methods of positioning and securing. Where 100% safety cannot be guaranteed rope activities should not be undertaken. Training is recommended – contact info@ropepro.eu for training providers.

*The RopePro *Standard for Devices used to Protect Safety Ropes* has been developed by Rope Pro working with industry experts and operational teams to develop devices to provide protection for a range of uses. This is currently the only Standard available for rope protection devices. Contact info@ropepro.eu

RopePro Flex Range

Product code	Pro-Pad+ (plus) Pat. pending	Based on the original ProPad but better.... Includes a replaceable double thickness Heavy Duty Proofed Natural Fibre Canvas Wear Sheet
DP	Double-Pro Pat. pending	A flexible system utilizing the combined benefits of the K-Pro and the B-Pro to increase protection and keep ropes safe
KP50 KP80	K-Pro available in 500mm or 800mm	Includes an Aramid/Kevlar mid-layer to increase protection with a 100% back-up barrier - without additional bulk - double securing system
BP50 BP80	B-Pro available in 500mm or 800mm	Basic Protector - Double thickness Heavy Duty Proofed Natural Fibre Canvas, designed to last and be easily secured
PT	Pro-Tube	For Pre-threading applications – all round protection - eliminates the need for Velcro. Available to special order – to customers length and girth specifications
PTT	Pro-Tube Twin	Allows multiple anchor slings to be protected or individually threaded. Available to special order – to customers length and girth specifications
PG	Pro-Guard	PVC protectors – only for use as barriers to contamination – test patches available – NOT FOR GENERAL ROPE PROTECTION
PGL	Pro-Guard Light	Nylon protector – only for the lightest levels of contamination – test patches available NOT FOR GENERAL ROPE PROTECTION
PWS	Pro-Wear Sheet	Replacement Double thickness Heavy Duty Proofed Natural Fibre Canvas wear sheet for the Pro-Pad+

RopePro canvas is water proofed and can be re-proofed and fire retardant treated. All customer specials – minimum quantity x 10 per size. Military Orders - all products available to special order in single colours Black or Olive.

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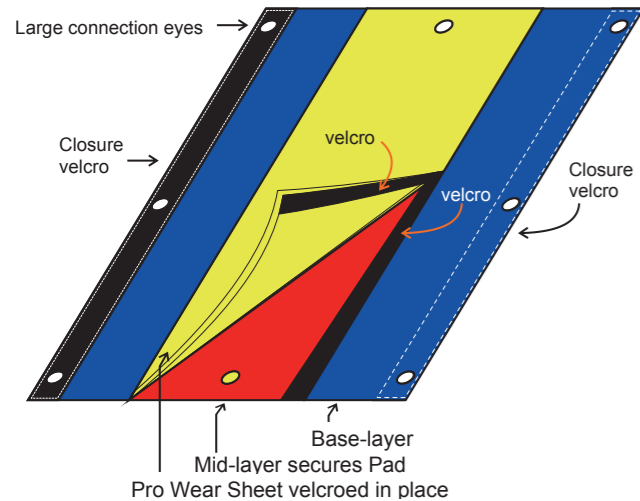
These instructions are for use of RopePro products only. Duplication of all or any part of this document requires written permission - info@ropepro.eu

Pro-Pad + (plus)®

Product code PP+

The Top Standard of Flexible Protection Pat. pending

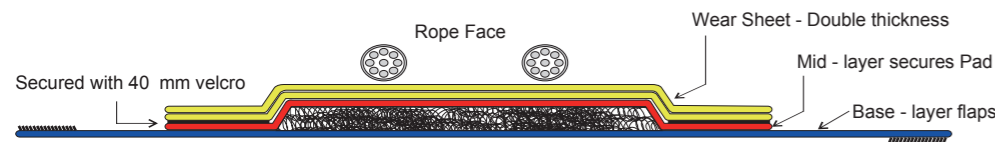
The essential protection device for all serious professionals. The Pro-Pad+ is designed for daily use, especially those operations that require ropes to be lowered and pulled back up time after time. The replaceable Pro-Wear Sheet is secured with 40mm Velcro strips. Four layers of Heavy Duty Proofed Natural Fibre Canvas and an 15mm inner pad of natural fibre (pat. pending) laminated with a flexible latex membrane. This multi-layer device protects ropes and property, increasing the edge radius ensuring smooth rope movement and edge loading to protect building fascia, cladding and paint coatings. Use on all but razor sharp edges. A total of 9 large connection eyes provide many securing options. 40mm Closure Velcro allows the side flaps to be secured and align the connection eyes to allow direct clipping with a karabiners - when closed the eyes align to allow clipping through all three simultaneously. The replaceable Pro-Wear Sheet makes them ideal for Training Centres.



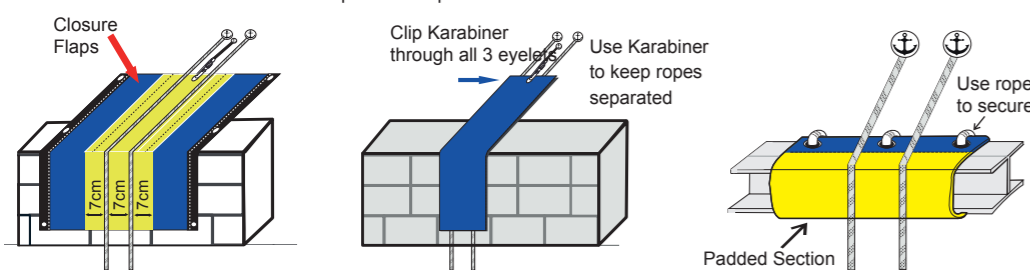
Tested	
Edge Test - PASS	
Back-up Test - PASS	
Lowering & Hauling Test - PASS	
Rated	
Emergency Lowering*	
200kg - 100m	
280kg - 50m	
Emergency Hauling*	
*200kg - 30m	
280kg - 15m	
* on an equally loaded double rope system	

Use: Position over hazard area and secure to avoid movement or loss. Check all dangers are covered. Lower ropes over the padded section. Check position and check that the method of securing will maintain effectiveness throughout activities. *Descent:* using a controlled method descend over the edge keeping ropes on the ProPad+ and minimum of 7cm from the edges of the padded section. If used for two ropes the ropes should be 7cm apart. Where required, close the side flaps and ensure that the Velcro is fully engaged. **Do not allow ropes on the side flaps.** Where required install a suitable safety back-up connection through-out the manoeuvre. *Ascent:* climb up to the ProPad+ ensuring that the protector remains effective, open the Velcro and climb up and over using a controlled method. Where required, reach beyond the protector and install a suitable safety back-up connection. When one protector is used to protect more than one rope it is vital that the protection will remain in position and effective if either rope was to fail. Use multiple devices for large contact areas. Always check that the Pro-Wear Sheet is correctly positioned and that all Velcro is fully engaged. See panels 5 to 12 for additional essential user information.

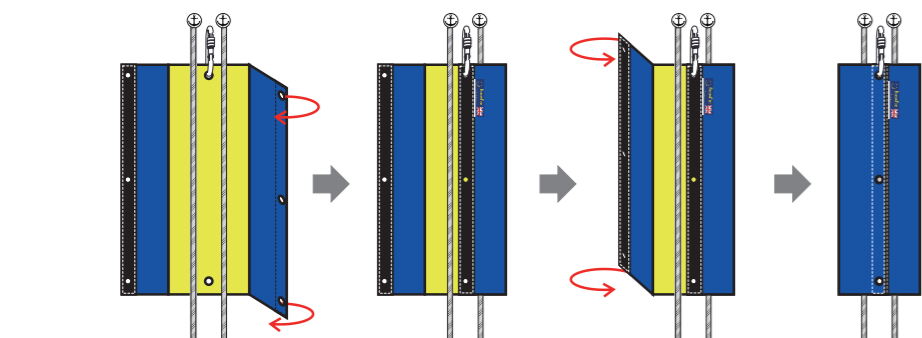
Protection section



Do not allow ropes onto flaps



The ProPad+ can be used open or closed depending on application and stability of the loaded ropes. When closed - all connection eyes align to allow full through connection using karabiners or threaded rope. Can be secured direct to beams and other mid-rope obstacles - use 6mm -11mm rope.



RopePro

Protecting Rope Access Professionals info@ropepro.eu



Pro-Pad + (plus)®

Product code PP+

Features

- Tested and Rated
- Heavy Duty Proofed Natural Fibre Canvas
- Large Brass Connection Eyes for long life and easy clipping or threading with 6-11mm rope
- Minimum of two securing points
- Full Length Velcro Closure
- Detailed User information

Canvas products can be re-proofed and Flame Retardant treated.

6mm to 12 mm rope/cord

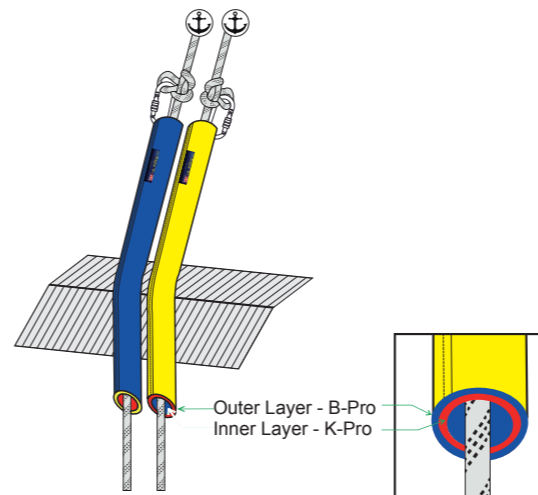
Double-Pro

*Patent pending

Standard lengths 50cm and 80cm
Product code DP500/DP800

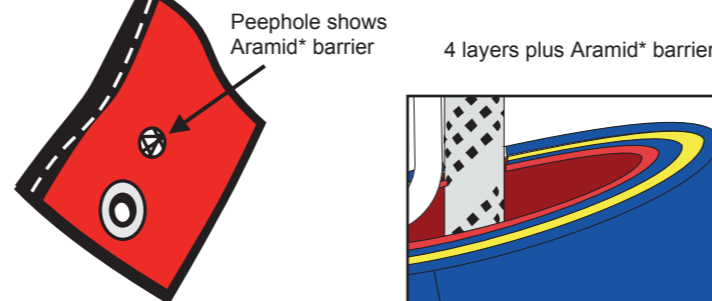
The Double-Pro is a unique system combining the protection of the K-Pro and B-Pro to provide excellent levels of protection. Four layers of Heavy Duty Proofed Natural Fibre Canvas with a cut resistant Aramid* barrier providing an effective second level of protection with little increase in weight or bulk. Can be used to protect rigging slings and where rigged ropes cross. Used to protect ropes from dirt or becoming contaminated with rust or heavy grease. Also used to protect structure from rope rub and where rigging equipment is in contact with painted surfaces etc. For use on areas of abrasion and limited controlled lateral movement. Not for use on sharp edges: less than 2mm edge radius. Each unit has a full length continuous Velcro - providing double closure and large connection eyes at each end to ensure effective protection and double position fixing. Supplied with two 3mm cord ties. See panels 5 to 12 for additional essential user information.

Tested	
Edge Test - PASS - 300% better than no protection	
Back-up Test - PASS	
Lowering & Hauling - PASS	
Rated	
Emergency Lowering*	
200kg - 25m / 280kg - 10m	
Emergency Hauling*	
200kg - 10m / 280kg - 5m	
*on an equally loaded double rope system	



Each Rope has double Protection Including *Aramid Resistance

USE: Wrap the K-Pro around the rope - align and engage the Velcro fully - wrap the B-Pro around the K-Pro - align and engage the Velcro fully - align the connection eyes and position in the desired position - secure in position - see Securing section for suggested methods. For rope protection 1 x Double-Pro for each rope is recommend. Where used to prevent light contamination or to protect structural paint etc. 1 x Double-Pro may be suitable - for two ropes - users must ensure that ropes are not crossed inside and that the positioning system will remain effective if either rope was to fail. For contamination issues - use Pro-Guard over Double-Pro - following tests:



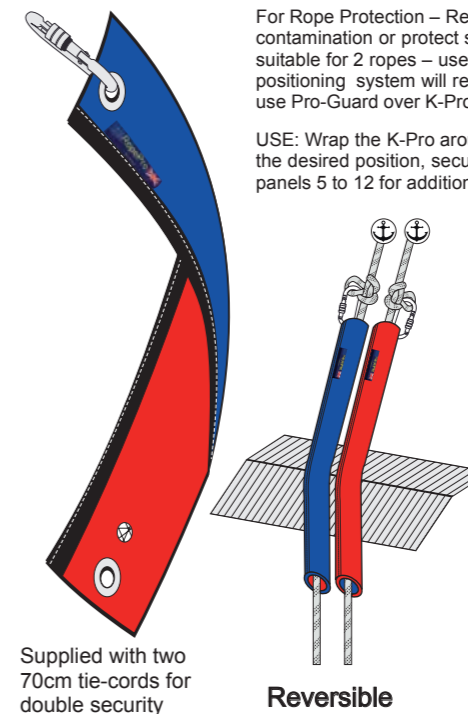
K-Pro

Pat. Pending

K-Pro

Standard lengths 50cm and 80cm
Product code KP500/KP800

The K-Pro is a standard design using two layers of Heavy Duty Proofed Natural Fibre Canvas with an additional Aramid*/Kevlar layer in-between - check peep-hole. This Aramid* layer provides a back-up barrier with little increase in weight or bulk. For use on areas of moderate abrasion and minimal lateral movement. Can be used to protect rigging slings and where rigged ropes cross. Used to protect ropes from dirt or becoming contaminated with rust or heavy grease. Also used to protect structure from rope rub and where rigging equipment is in contact with painted surfaces etc. Not for use on sharp edges: less than 3mm edge radius. Full length continuous Velcro and large connection eyes at each end to ensure effective protection and double position fixing. Supplied with two 3mm cord ties. Reversible Red & Blue Canvas combination with Aramid* Peep-hole.



Reversible

Use to protect soft slings from steelwork damage	Use to protect paintwork from wire sling damage

Tested	
Edge Test - PASS - 200% better than no protection	
Back-up Test - PASS	
Lowering & Hauling Test - PASS	
Rated	
Emergency Lowering*	
200kg - 10m / 280kg - 5m	
Emergency Hauling*	
200kg - 5m / 280kg - 2.5m	
* On an equally loaded double rope system	

B-Pro

Standard lengths 50cm and 80cm
Product code BP500/BP800

The B-Pro is RopePro basic model using two layers of Heavy Duty Proofed Natural Fibre Canvas. For use on areas of light abrasion without lateral movement. Used to protect structures from rope rub and where rigging equipment is in contact with painted surfaces etc.

Not for use on sharp edges >5mm. Full length continuous Velcro and large connection eyes at each end to ensure effective protection and double position fixing. Supplied with two 3mm cord ties. Reversible Yellow & Blue Canvas

For contamination issues - use Pro-Guard over B-Pro.

USE: Wrap the B-Pro around the rope, align and engaging the Velcro fully and position in the desired position, secure in position. See panels 5 to 12 for additional essential user information.

For Rope Protection - Recommend 1 x B-Pro for each rope. Where used to prevent very light contamination or protect structural paint etc from rope-rub damage 1 x B-Pro may be suitable for 2 ropes - users must ensure that ropes are not crossed inside and that the positioning system will remain effective if either rope was to fail.

Supplied with two 3mm tie-cords for double security

Reversible

Tested	
Edge Test - PASS - 100% better than no protection	
Back-up Test - PASS	
NOT RECOMMENDED FOR LOWERING OR HAULING	

Elongation

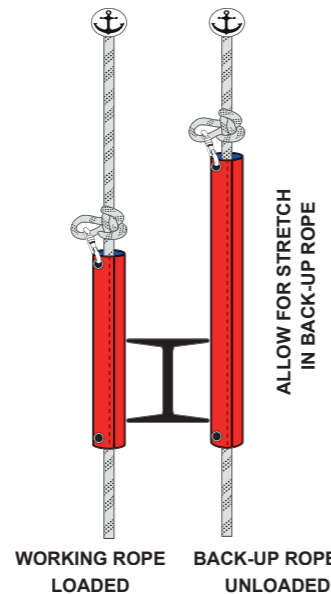
When protectors are to be secured to the rope which they are intended to provide protection it is essential that users fully understand the implications of rope elongation – rope stretch.

Working Ropes: When secured to a loaded working rope, the positioning is generally stable and the protectors will generally maintain position. When working ropes are unloaded the rope will contract - affecting the position of protection. If ropes are to be re-loaded it is essential that effective protection is verified prior to re-loading. Always check that protection is provided when both loaded and unloaded.

Back-Up Ropes: When secured to unloaded back-up ropes users must anticipate and allow for rope stretch. Back-up ropes stretch considerably when subjected to emergency loading. Elongation of the Back-Up rope will be approximately 10% of the amount of the rope above the protector. This should be allowed for when selecting the length and type of protection required. Friction with structure may cause adverse loading of the securing system and Velcro. It is important that users verify the elongation properties of the ropes they use. It is preferable to secure Back-Up rope protection to the structure. It is important that the securing system will be sufficient to resist any friction-pull caused by any dynamic movement of the rope.

Dynamic Rope: Elongation will be considerably more with these ropes and this must be allowed for on both working and back-up ropes. It is preferable to secure protection to the structure.

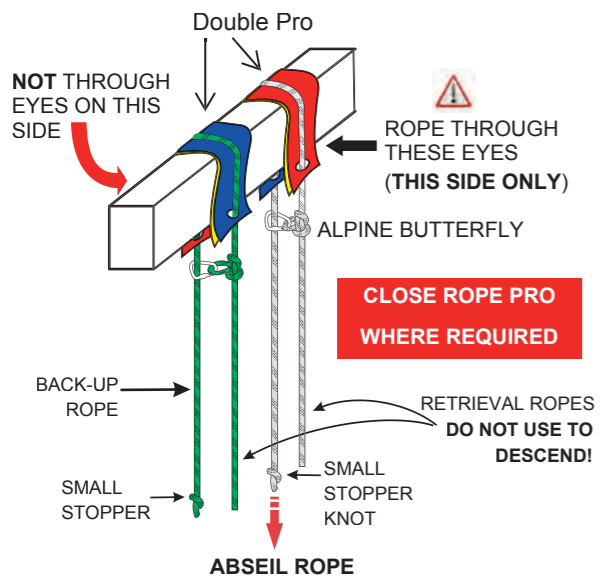
Other factors can affect the positioning of rope protection measures. These include: the effects of wind and changes of rope path during rope manoeuvres; passing re-anchorage, rope to rope, passage along tensioned ropes, emergency loading of horizontal safety ropes and during lead climbing etc. Planning must assess these and all other influencing factors and implement adequate controls prior to starting operations



ALLOW FOR STRETCH IN BACK-UP ROPE
Example – Protection attached to Back-up ropes may need to be longer than that for working ropes to allow for dynamic rope stretch. E.g. where 5m of Low-Stretch rope is deployed above an obstacle - allow for min of 0.5m of stretch in Back-Up rope – use longer RopePro.

Pull Throughs - Remote Retrieval of Evacuation Ropes

These techniques should only be undertaken following a planned procedure by competent operatives working under direct control of a qualified rope access supervisor. Only use 'Pull Throughs' to evacuate from a high position where no safer alternative exists. DO NOT use these techniques for emergency evacuation of one or more persons, due to the potential for miss-use under pressure, delays and the serious consequences of errors.



DO NOT ATTACH RopePro to retrieval knots

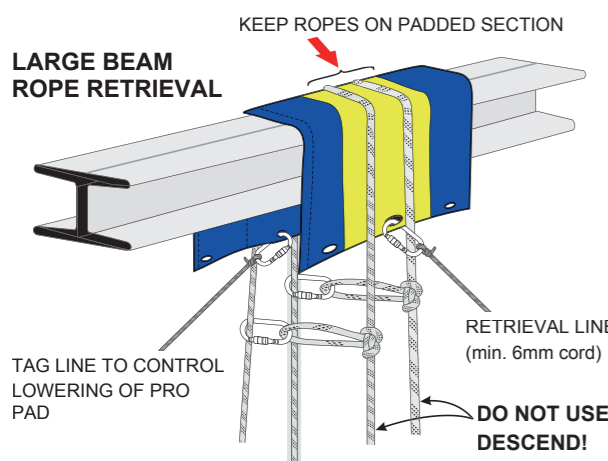


Not recommended

Do not attempt to retrieve rope protectors by attaching the protector to the choking knot and then pulling down with this knot. This method will stress connection eyes resulting in damage to the protector. Ropes are then left unprotected during the majority of the retrieval. Unprotected ropes that are pulled over bare structure can become damaged or contaminated and cause rope rub damage to paint and coatings.

RopePro recommend that all protectors are retrieved with a separate system or using threaded Connection eye method.

Examples using Double-Pro and ProPad+



WARNING

Never use PVC or Nylon protectors during the remote retrieval of ropes

RopePro

Protecting Rope Access Professionals
 info@ropepro.eu

Pre-installation of Mid-Rope Protectors during Abseil descent

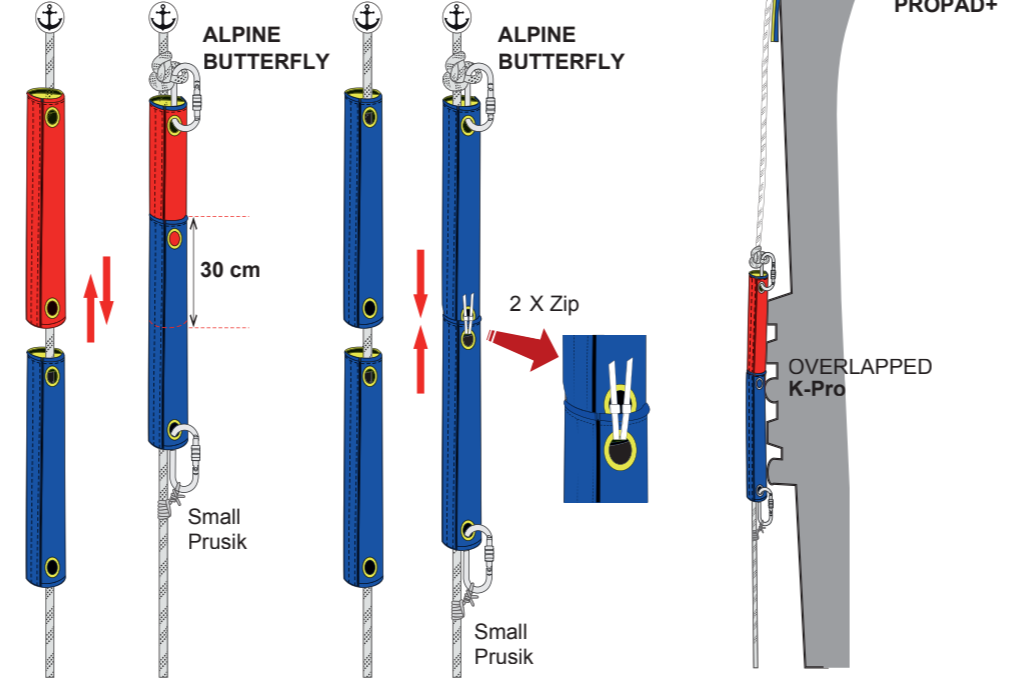
This technique can provide protection to ropes on reaching obstacle/potential abrasion point. Pre-fitting a suitable protector around each rope and sliding them down during descent can provide instant protection and reduces exposure time on reaching problem areas and make positioning more accurate.

Example:

- Fit a 80cm K-Pro around the working rope above your descender. Fit another on to your back-up rope above or below the Back-Up device (depending on the type of device used- if below attach temporarily with cord to the back-up device connector).
- Descend bringing the protectors down with you, as the obstacle is reached - they automatically provide protection and are ready for final positioning and securing.
- Secure to top and/or bottom connection eye using a suitable method.

Oversized & Multiple Protectors

Where rope contact is extensive it is possible to use multiple standard RopePro devices overlapping or joined securely. Protectors must overlap by a minimum of 30cm or be secured with 2 x Cable/Zip-ties per set of jointing connection eyes. It is essential that users verify effectiveness and ensure that protection is maintained. **RopePro can supply over-sized versions of most models to special order.**



Where edges are more severe and rigging can not achieve clearance it is possible to 'Wrap' or 'Stack' RopePro devices to provide multiple layers of devices.

'Wrap' – e.g. use 2 x Double-Pro inside a closed ProPad+
 'Stack' by layering two ProPads on a narrow rough edge - the connection eyes assist in holding devices together.

CHOOSE THE BEST PROTECTION	[Icons representing various protection scenarios]									
	Heavy Use	90° Edge edge radius limits	Secured to structure	Controlled Contact with structure	Controlled Lateral Movement	Pull Through Retrivable Rigging	Emergency Lowering	Emergency Hauling	Contaminants Only after tests	Occasional Grinding Sparks** Flame Proofing
Pro-Pad +	***	***	***	***	***	***	*** ≤100m	*** ≤30m	**	***
Double-Pro	***	*** ≥2mm	*** ≥2mm	*** ≥3mm	*** ≥3mm	*** ≥2mm	*** ≤10m	*** ≤5m	**	**
K-Pro	***	*** ≥3mm	*** ≥3mm	*** ≥3mm	*** ≥3mm	*** ≥3mm	*** ≤5m	*** ≤2.5m	*	*
B-Pro	X	* ≥5mm	* ≥5mm	* ≥5mm	* ≥5mm	* ≥5mm	X	X	*	X
Pro-Tube	X	* ≥5mm	* ≥5mm	* ≥5mm	* ≥5mm	* ≥5mm	X	X	*	X
Pro-Tube Twin	X	* ≥5mm	* ≥5mm	* ≥5mm	* ≥5mm	X	X	X	*	X
*Pro-Guard (PVC)	X	X	X	X	X	X	X	X	***	X
*Pro-Guard Light (Nylon)	X	X	X	X	X	X	X	X	**	X

WARNING

* PVC/Nylon - Both the UK's Health And Safety Executive 2001 Research (Report 364/2001) and the IRATA International Code of Practice detail the failings of man made fabrics for use in rope protection measures. RopePro do not recommend that PVC or Nylon for the protection of ropes against anything but controlled contamination. Working ropes that are rigged to lower must not contact any PVC or Nylon.

**For operations where cutting/grinding sparks is planned RopePro recommend the use of Steel lanyards or suspension systems. For short duration/low levels of grinding - Canvas Protectors should be treated with a Flame Proofing product specific for use on Natural Fibres. Contact info@ropepro.eu for advice. No protectors are suitable for protection from Electrical sparking or to be used for insulation from electrical sources. PVC & Nylon protectors not suitable.

Serial/Batch Numbers Each Rope Pro product is individually inspected and has a batch/serial number. Company/User Identification can be marked on labels.

Made in the UK Serial No. PP+0000

Company/User ID

Features

- Tested and Rated
- Heavy Duty Proofed Natural Fibre Canvas
- Large Brass Connection Eyes for long life and easy clipping or threading with 6-11mm rope
- Minimum of two securing points
- Full Length Velcro Closure
- Detailed User information

Canvas products can be re-proofed and Flame Retardant treated.

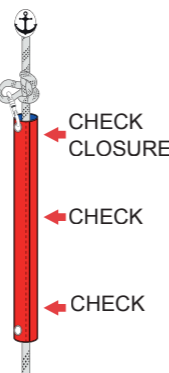
6mm to 12 mm cord

User information – all models

The effect of the positioning and securing of protectors must be verified prior to use. Where protectors are to be left in position for multiple descents, the selection of protection devices and securing them must allow for increased wear and the protection must be re-secured at appropriate intervals and prior to use.

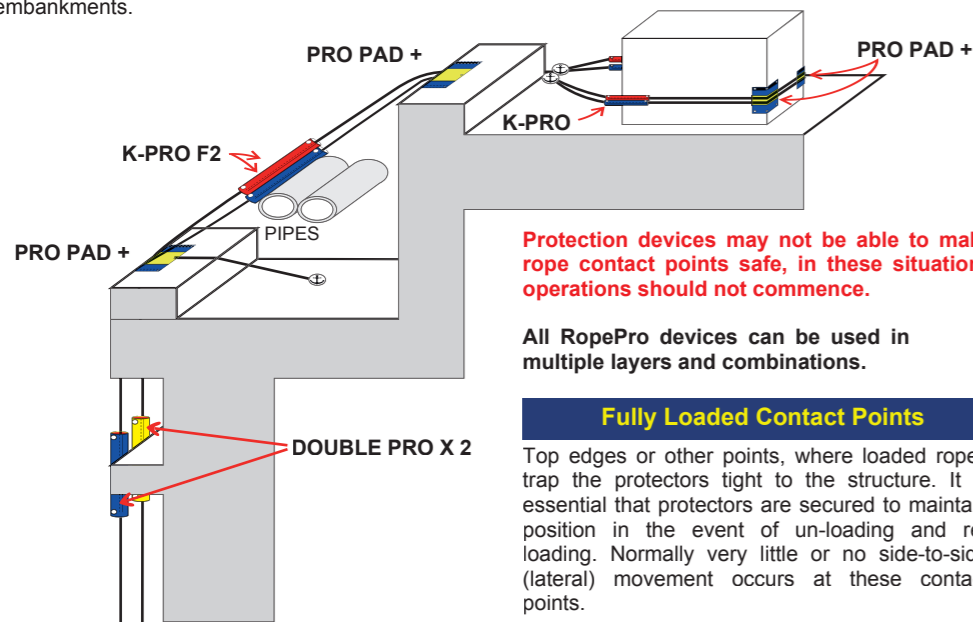
Velcro: During installation the Velcro must be closed and remain so with both faces fully engaged. Nothing should be allowed to affect this closure. If movement shows signs of affecting the Velcro closure, operations must cease until a solution is implemented. In some applications e.g. fully loaded top edge contact points or when protectors are lashed to beams the Velcro may not be required - no lateral rope movement must occur.

Compatibility: RopePro products are for use with any diameter of rope or size of sling that allows the Velcro to be fully closed. Steel/Wire slings must be inspected to ensure that no damaged or sharp strands are allowed to contact and damage the materials. Connection eyes are compatible with any diameter rope or connectors that can be easily rotated within the eye.



Contact Points

Where possible alternative rigging should be installed to prevent contact points. RopePro provide a range of Protectors to assist in the various problems associated with ropes contacting edges and obstacles along the rope path. All contact points should be assessed to ensure that they will support the loading of deviated ropes. All contact points will need protection unless the surface is both smooth and curved with large radius 10mm+. Protection will also be required at any contact point where the ropes may rub and cause damage to the structure – painted surfaces etc. The ProPad+ is designed to spread loadings and help prevent deformities to cladding, copings and stop ropes cutting in to soft ground at the top of cliffs and embankments.



Protection devices may not be able to make rope contact points safe, in these situations operations should not commence.

All RopePro devices can be used in multiple layers and combinations.

Fully Loaded Contact Points

Top edges or other points, where loaded ropes trap the protectors tight to the structure. It is essential that protectors are secured to maintain position in the event of un-loading and re-loading. Normally very little or no side-to-side (lateral) movement occurs at these contact points.

Partial Loaded Contact Points

Mid-rope points where the rope path is deviated and the rope traps the protector tight to the structure. It is essential that the protectors will maintain position and provide protection in the event of side-to-side (lateral) movement or during any un-weighting and re-loading.

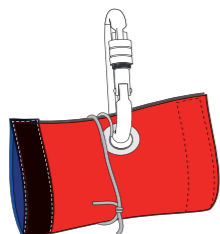
Variable Loaded Contact Points

Points at which the rope is not always in contact with the structure but may make contact. Also points at which the rope will become in contact as users descends. It is essential that protection is installed ready for any periods of contact.

Carrying - Transportation

Roll-up and tie with a connection tail. Always secure to a prevent dropping using a karabiner attached through a connection eye.

ProPads – always carry a red using a minimum of 2 connection eyes



WARNING

Never use to support any load - Never connect both ends for use as an anchor!

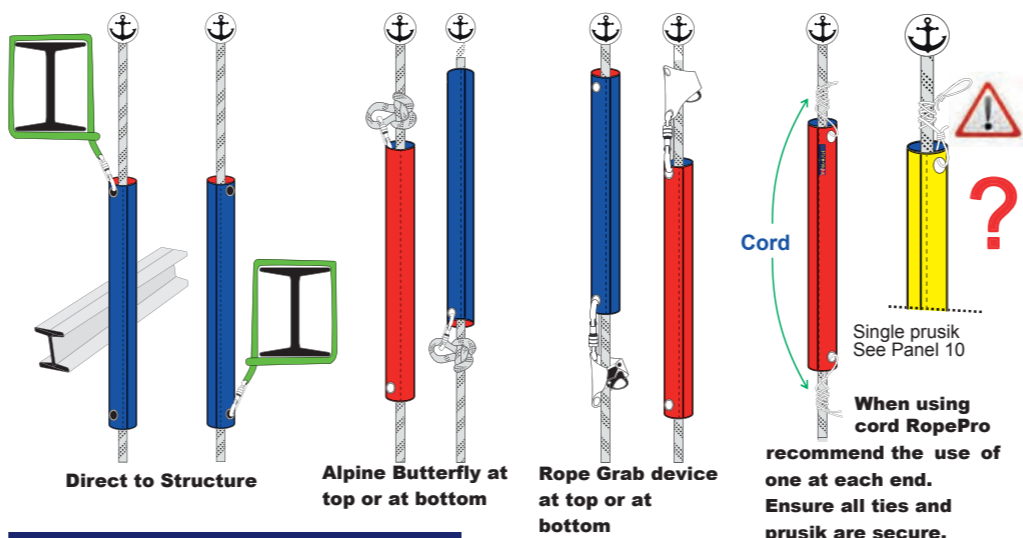
Positioning and Securing

It is essential that rope protectors are secured in position using a method that ensures that they remain effective. When used for a loaded working rope the positioning is generally easily determined. When used for un-loaded back-up rope or horizontal safety line or during lead climbing the positioning and method of securing must be assessed so it functions during normal non-emergency use yet also be effective for potential emergency loading of the back-up rope. Elongation and other movements must be assessed and allowed for in both the choice of rope protection system and the method used to secure in position. During installation and de-rigging always secure RopePro to avoid them from dropping.

RopePro recommend a selection of methods to secure protection. Users must select a suitable method for each situation and assess effectiveness prior to continuing operations.

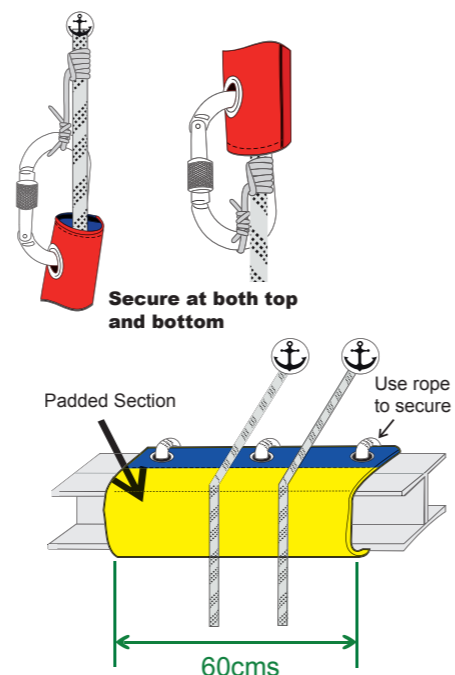
- **Secure direct to structure**
- **Secure to knots in the rope**
- **Secure to Rope Grab devices attached to ropes**
- **Secure at each end using 3mm tie-cords**

These methods all allow for operatives to pass an obstacle without fully removing the protector. E.g. On ascent; remove lower securing system - partially open protector - move ascenders in to the open section - re-secure the lower securing system - continue ascent- re-closing lower sections - opening higher section - remove top securing system - continue ascent - once fully passed re-close and re-secure top system - check and continue ascent. At all times ensure that the ropes are clear of the contact point and associated dangers. When one protector is used to protect two ropes it is vital that the protection will remain in position and effective if either rope was to fail. Double-Pro, K-Pro & B-Pro are supplied with two 3mm x 70cm tie-cords.



Double Short Prusik Connection

Use the two 70cm lengths of 3mm cord (supplied with K&B Pro) to form small prusik slings using double fisherman's knots. Use these with 3 or 4 pass-thro's to make small prusik hitches. Secure each protector using two Prusiks, one at each end - double security essential to overcome unexpected unwanted slippage or movement.



DANGER!

NO

OK

Warning Take Care!

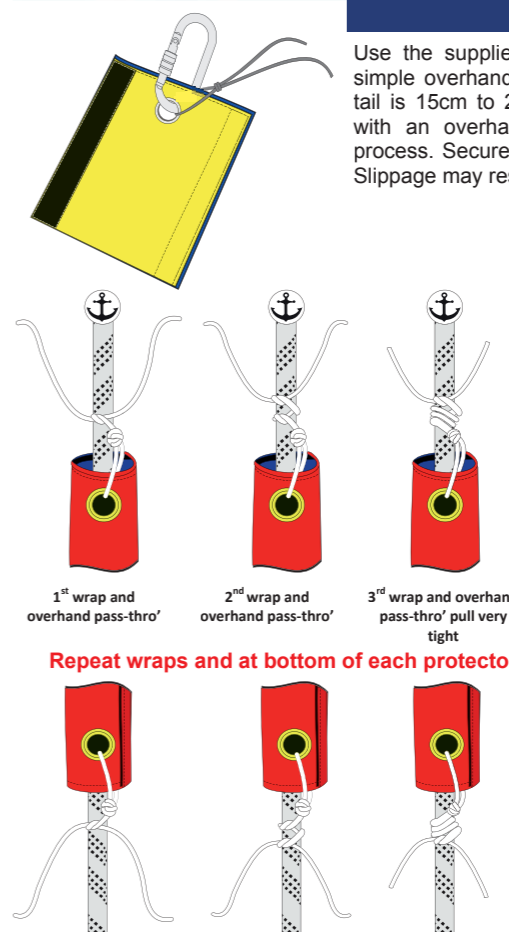
When securing to a structure ensure that the the path of the rope is not deviated by the protector –because this would cause the Velcro to be pulled open when the rope is loaded.

Secure to structure

ProPad+ – Use 6mm – 11mm rope to secure to structures. Ensure that lateral rope movement does not exceed 50% of the width of the Protectors Protection Section (padded area). Always keep ropes 7cm apart and a minimum of 7cm from the edges of the padded protection section.

Connection Tails - Tail Knots

Use the supplied 3mm cords to attach tails at each end using a simple overhand knot in the mid-point of the cord. Ensure the each tail is 15cm to 25cm in length. Use a minimum of 3 x wraps, each with an overhand pass-thro'. Tighten each overhand during this process. Secure both ends for double security and prevent slippage. Slippage may result in loss of effective protection.

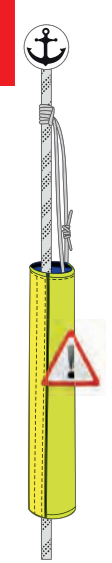


BE AWARE of the problems when using a Single Prusik hitch:

The use of a single Prusik hitch attached to the top of protectors is not recommended for most applications due to the known foreseeable failure/slippage of this method. This method requires a large prusik sling (approx.. 30cm loop). To form the hitch roll up the protector and pass through the prusik sling a minimum of 3 times.

Problems: the Prusik hitch will be high above the top of the protector which makes the tightening and adjustment to position difficult. These problems and the positioning failures that have occurred are sufficiently foreseeable for RopePro to not recommend this method as the sole technique used to secure protectors.

WARNING during installation, ropes may be exposed to edge wear or other hazards!!



Watch out!
Single prusik can be too high, making positioning, securing and full Velcro closure difficult.

Secure each system separately

OK

DANGER!

NO

Protect Nylon Slings from structural damage

Protect structure from wire sling damage