

Permanent Horizontal Systems

Guide

CHECKLINE  SAFETY BY DESIGN

**“sometimes, if you go back to the
beginning and rewrite the rules
the ending is even better”**

CHECKUSOUT

www.checkmateuk.com



CHECKMATE
LIFTING & SAFETY

lifeline innovation

OVERVIEW

Our latest 8mm Permanent Horizontal Lifeline system is packed with new innovations, Patented features giving increased functionality and simpler installation.

- ▼ *Checkline II* is the second generation system retaining the core features of *CheckLine* but with a series of technically advanced performance improvements and installation aids.
- ▼ Whether working on exposed roof edges, catwalks, servicing roller coasters or maintaining cranes, *Checkline II* adapts to ensure you are always kept safe.
- ▼ Our systems are placed in challenging environments all over the world.
- ▼ The posts have patented rubber damper technology which allows installers to fix directly to the top layer of most roofing panels. Our posts don't "topple" they progressively absorb and thus do not increase the energy input but more effectively dampen the input load.
- ▼ If through fixing is required, we have an unlimited range of brackets, adaptors, weather seals, thermal foam filled posts and fasteners to suit all roof types.

new features

- ▼ **Ambi-sided Ball Trolley**
- ▼ **Standard Trolley**
- ▼ **Overhead Trolley**
- ▼ **New End Brackets**
- ▼ **Modular Corners**
- ▼ **Top Fix Posts**
- ▼ **Riser Posts**
- ▼ **NEW ultrafix
Base Plates**



design principles

PLANNING YOUR SYSTEM

Understanding how to use all the system components is the key to a safe, professional and effective solution. We have broken the system design principles down into two clear approaches:

- ▶ All fall arrest systems are unique and the variables - such as span, number of users, ground clearance, structure to be fixed to, fixing method - are vast.
- ▶ Because of this it is impossible to test every different layout or application and we recommend that detailed calculations are performed for each solution.
- ▶ External verification should be sought from a qualified structural engineer to confirm suitability of structure.

system options

TopFix

Systems that are mounted using our *TopFix* damper posts, these are normally connected on the top of a roof surface without the need for bolting to structural members through the roof.

InLine

These systems always have an InLine loadcell and damper but do not need the *TopFix* post system to reduce energy. The system manages dynamic loadings via the InLine Damper System (IDS) and are usually bolted directly to steel, brick or concrete.

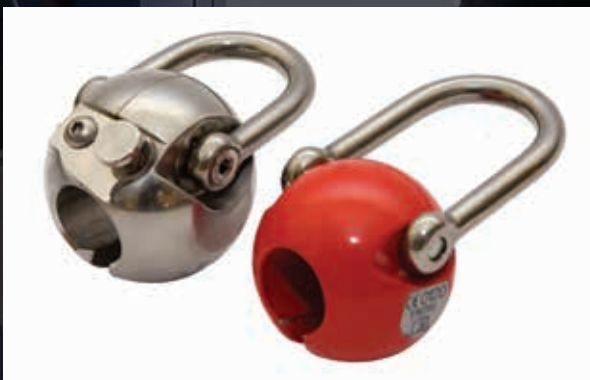
checkball

Attachment Devices

The smooth transition through intermediate and corner brackets has taxed lifeline designers for decades. When we set out to create a new attachment device, we knew we had to do something not only novel and functional but also revolutionary. Our new CheckLine Ball Trolley has all the answers.

- ▶ The ultra compact CLB CheckLine Ball Trolleys have a unique stainless steel ball bearing design with a swivel handle allowing the device to be pulled as close to the centre line of the cable as possible. This stops the device from twisting and ensures it passes intermediates smoothly.
- ▶ The device is Ambi-sided and can be used on either side of the lifeline.
- ▶ The removable model opens by a simple two movement button and can be fitted to the line at any point.
- ▶ The fixed model enters the system via an inline spring loaded gateway which can be fitted at the end of the system or along the lifeline as required, or simply left permanently installed.

▶ Removable Trolley



▶ Fixed Trolley

Fixed Trolley on InLine gate ▶

▶ Removable Trolley Open

“we challenged the ordinary, pushed the boundaries and raised the benchmark.”

checktrolley

Overhead Attachment Device

In the past using traditional lifeline shuttles overhead has limited many systems. So using heavy fall arrest blocks or SRLs for instance was a big no no, the height of the line was restricted and the ability to run smoothly over intermediates and seamlessly around corners unheard of.

But at last there is a solution that actually works. Developed using a unique formula of synthetics, stainless steel and low friction roller bearings. The triple-wheeled device can pass directly over intermediate brackets and travel freely around 90° corners whilst connected to large and heavy devices. This gives a truly two dimensional system.

- ▶ Capable of running up to 9m spans between intermediates.
- ▶ Allows the connection of large fall arrest blocks up to 18m.
- ▶ Passes over intermediate brackets freely.
- ▶ Travels around up to 90° corners.

▶ Overhead system



▶ CheckTrolley



- ▶ OVERHEAD TROLLEY SYSTEM IS ONLY COMPATIBLE WITH 8MM 1X19 STAINLESS STEEL WIRE ROPE

checkline mpb

Multi-purpose Bracket

Unique one piece electropolished stainless steel casting with perfectly formed tapers, this enables a smoother transition from cable to bracket and up to 180° rotation.

- ▶ Intermediate brackets can rotate through 180° and lock in position via a simple slotted reversed form in the casting. The bracket is then secured in place with an M10 stainless steel bolt.
- ▶ Because the bracket can be rotated it allows installers to position it at the exact angle for optimum tracking, independent of roof slopes.
- ▶ The MPB can be mounted directly on to the TopFix post or installed directly to any suitable structure when used in conjunction with our InLine damper system.

- ▶ Removable Trolley passing over Intermediate Bracket



Intermediate Bracket ▶



checkline epa

Extremity Post Anchors

Drop forged from stainless steel, both types of anchor give the system high strength and performance characteristics.



TopFix End Post

TopFix End Post

- ▼ The only TopFix post on the market that does not pivot at the base and topple over. This is because our Patented Energy Absorbing Posts are progressive and dampen loads rather than allowing more force and energy into the system by the extra slack created during a post toppling over.
- ▼ Cast from 304 stainless steel, electropolished and nine stage powder coated for ultimate corrosion protection.
- ▼ Packed with rubber dampers and energy deforming star washers. The entire post is clamped together via an M16 forged 316 stainless steel polished eyebolt.
- ▼ The post is simply connected to a range of baseplates with M8 nuts.
- ▼ Our new ultrafix baseplate will suit most common roof types from composite panels to standing seam, PVC, Green roofs and Concrete covered in bitumen.

InLine End Bracket

- ▼ Forged from 316 stainless steel, polished and with a short M16 eyebolt.
- ▼ The bracket is designed to ensure up to three bolt locations in any orientation.
- ▼ The bracket is suitable for all installs using the InLine principles.
- ▼ Supplied complete with a EPDM gasket, to seal from water ingress and prevents bi-metallic corrosion.



InLine End Bracket

checkline cop

Cross Over Post

Most systems require two end posts or end anchors to complete a system or change direction. With the new Cross Over Post and plate it is now possible to run two systems back to back even on corners. This reduces components, install time and cost.

Cross Over Post

- ▶ Investment cast 304 stainless steel post.
- ▶ Laser cut and electropolished 6mm stainless steel plate.
- ▶ A2 stainless steel M16 bolt.
- ▶ Can be used for corners or ends.



Cross Over Post ▶

▶ Cross Over Post on TopFix system



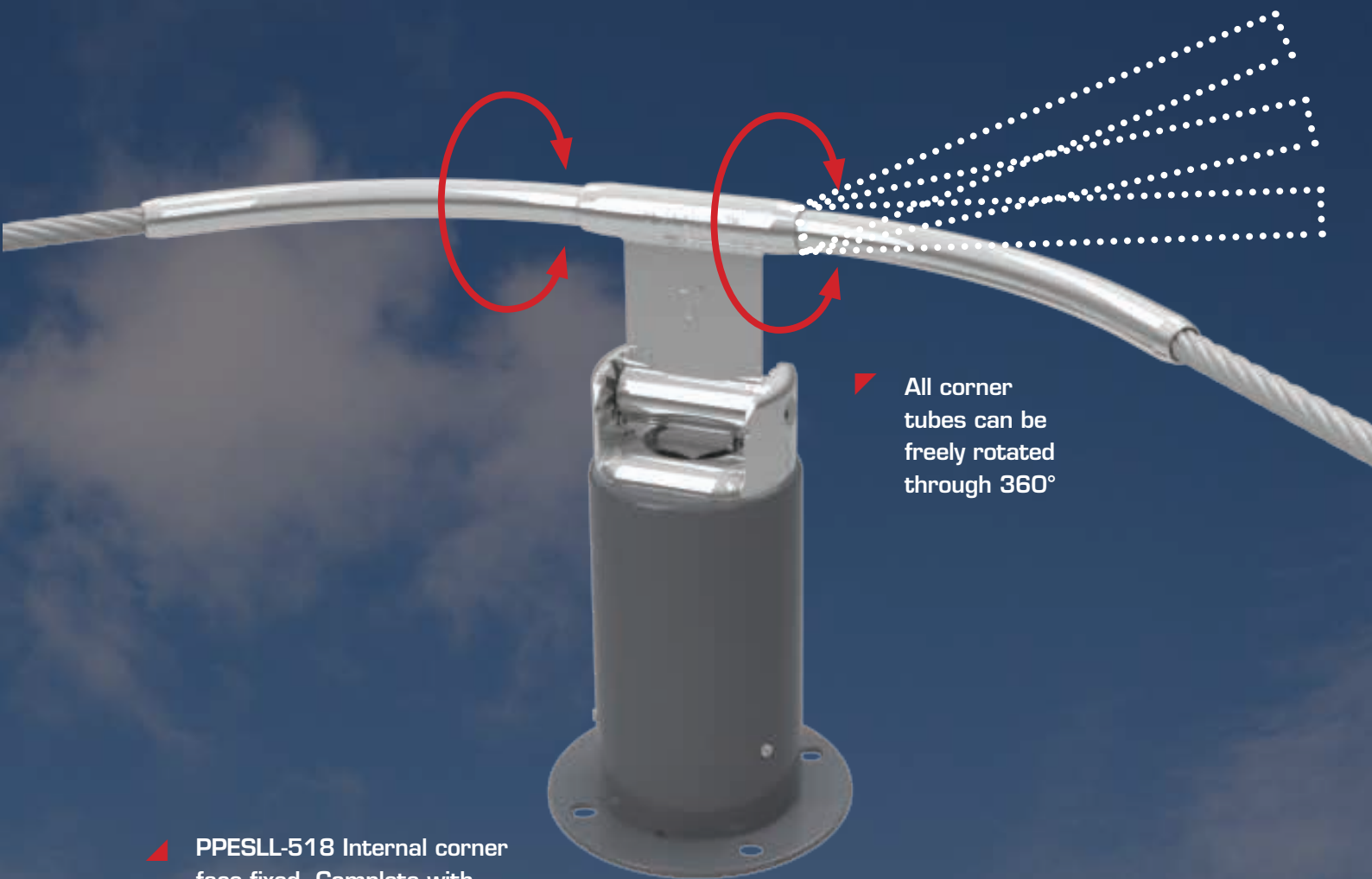
checkline mpc

Multi-purpose Corner

Modular, Innovative and Revolutionary
the MPC can adapt to suit almost any
turn, deviation or incline.

- ▼ A range of straight, 15° or 45° corner tube options are available, this allows up to a 90° corner to be formed from a pair of 45° tubes and various other angle permutations.
 - ▼ Installers can now tackle all manner of challenging corners including a transition from horizontal to incline.
 - ▼ The vertical support tube provides strength and stability, preventing the special rubber dampers from compressing under service loads.
 - ▼ In the event of a fall the support tube will allow the rubber dampers to move freely, deforming the energy absorbing star washer and reducing loads by up to 60%.
- ▲ PPESLL-509 External corner face fixed. Complete with 2 x 45° tubes PPESLL-307





▶ All corner tubes can be freely rotated through 360°

▶ PPESLL-518 Internal corner face fixed. Complete with 2 x 45° tubes PPESLL-307



2 x PPESLL-503 TopFix Corner Bracket. Each complete with 1 x 45° tube and 1 x straight tube PPESLL-328 ▶



checkline lcd

Load Control Device

All installed horizontal lifelines should be able to demonstrate by both calculation and test verification what the extremity peak loads are. Ultimately if you don't know what preload is being applied at the point of installation you are unable to control the output.

The LCD is designed to give a safe range of inline tensions and continuously maintains a constant range of inline forces even during thermal expansion and contraction.

Manufactured from stainless steel and electropolished.

- ▶ Our LCD calibrates the installation by telling the installer a safe cable tension range.
- ▶ This is shown clearly with a Green Scale.
- ▶ If the system is damaged or activated, the indicator will enter the Red Scale and visibly shows the system has been deployed.
- ▶ Calibrated compression spring continuously expands and contracts to ensure constant cable tension during installation and thermal movement of the structure.

Load Control Device ▶



▶ LCDs shown below are MKI variants and should NOT be used as a technical reference. See the TDS for more info.



checkline ids

Inline Damper System

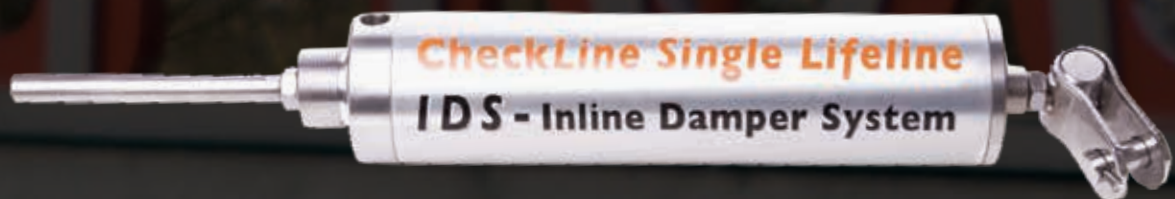
The Inline Damper System is required when fixing directly to brick, concrete or steel structures and TopFix posts are not being used.

It can also be used in addition to the TopFix post to reduce end loads further if required on fragile roof surfaces.

Manufactured from T6 hard anodised alloy and 304 stainless steel and packed with a special compound rubber.

The unique design can progressively reduce end loads by up to 40%.

▲ Inline Damper System



- ▼ Installed InLine with the CheckLine system, connected to end bracket using an adjustable toggle and crimped on to the 8mm cable using a special crimper.
- ▼ Can be used in conjunction with a TopFix End Post to reduce loads by over 60%. See our full technical data for further information.
- ▼ Every installation is different and end loads vary so it is important to seek professional engineering verification when proving the integrity of a structure.
- ▼ Checkmate can provide a range of force graphs to assist engineers in their calculations.



checkline posts & plates

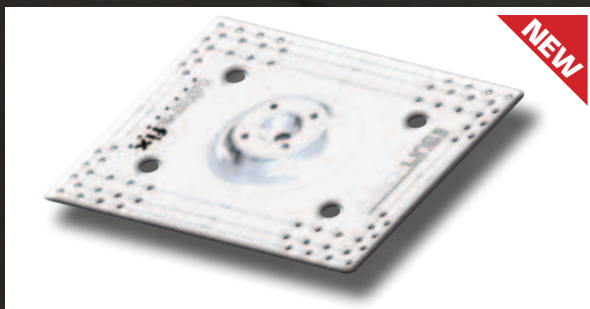
Base Plate Options

Whether your project consists of historic slate tiles and timber, concrete cover with bitumen, standing seam or composite roof panels, Checkmate has a solution to connect your system safely to the building or structure. And if we don't, our team of engineers will rapidly create a custom fit solution.

Pictured below are just some of the roofing posts and plates we offer, including our brand new adjustable roof plate.

Contact our technical or sales teams for further information.

NEW ultrafix PPESLL-411



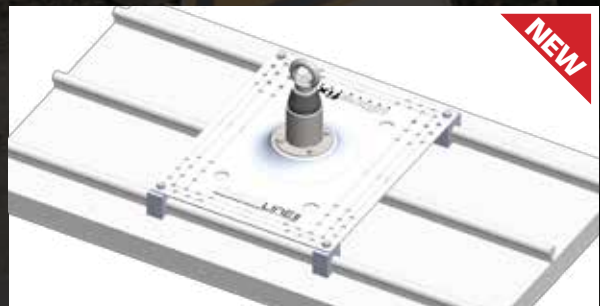
ultrafix with toggles PPESLL-537



NEW ultrafix with Rivets



NEW ultrafix with S-5-Z Mini Clamps



Green Roof Riser Post



Single Point Anchor



go green

Eco-friendly Roof Solutions

There is no doubt about it, green and eco-friendly building developments are on the rise.

So we have developed various solutions, including the U-rated thermo-filled Green Roof Riser Post.

This effectively eliminates any cold spots on the roof and ensures the thermal membrane is not broken.

For information on these custom solutions please speak with our technical team.



Green Roof Riser Post

fittings & install

Cable, Terminations & Accessories

A comprehensive range of end fittings, cables, roof clamps, fixings and installation tools complete the range.

Contact our technical or sales teams for further information.



End Terminations



Standing Seam Clamp

Battery Crimper



checkline parts guide

System Parts 1



Part Code	Material	MBL (kN)
PPESLL-110	Stainless Steel	38
Details	Toggle end / swageless (7x7)	



Part Code	Material	MBL (kN)
PPESLL-420	Stainless Steel	38
Details	Toggle end / swageless (1x19)	



Part Code	Material	MBL (kN)
PPESLL-111	Stainless Steel	38
Details	Toggle end swage adjuster (7x7/1x19)	



Part Code	Material	MBL (kN)
PPESLL-421	Stainless Steel	38
Details	Toggle end / swageless adjuster (1x19)	



Part Code	Material	MBL (kN)
PPESLL-112	Stainless Steel	38
Details	Toggle end adjuster	



Part Code	Material	MBL (kN)
PPESLL-113	Stainless Steel	38
Details	Toggle end swage (7x7/1x19)	

checkline parts guide

System Parts 2



Part Code	Material	MBL (kN)
PPESLL-114	Stainless Steel	38
Details	Loadcell (7x7/1x19)	



Part Code	Material	MBL (kN)
PPESLL-115	Stainless Steel/Alloy	38
Details	Inline Damper (7x7/1x19)	



Part Code	Material	MBL (kN)
PPESLL-420A	Stainless Steel	38
Details	Adjuster stud swageless (1x19)	



Part Code	Material	MBL (kN)
PPESLL-365	Stainless Steel	38
Details	Rope Joining Splice Tube (7x7/1x19)	



Part Code	Material	MBL (kN)
PPESLL-501	Stainless Steel	38
Details	TopFix intermediate post	



Part Code	Material	MBL (kN)
PPESLL-502	Stainless Steel	38
Details	TopFix end post	

checkline parts guide

System Parts 3



Part Code	Material	MBL (kN)
PPESLL-504	Stainless Steel	45
Details	End bracket c/w EPDM gasket	



Part Code	Material	MBL (kN)
PPESLL-505	Stainless Steel	38
Details	Intermediate bracket	



Part Code	Material	MBL (kN)
PPESLL-507	Stainless Steel	38
Details	TopFix stand alone post (large eye nut)	



Part Code	Material	MBL (kN)
PPESLL-514	Stainless Steel	38
Details	TopFix crossover post assembly	



Part Code	Material	MBL (kN)
PPESLL-516	Stainless Steel	38
Details	TopFix T-junction post assembly	



Part Code	Material	MBL (kN)
PPESLL-518	Stainless Steel	38
Details	Inline Internal 90° corner kit	

checkline parts guide

System Parts 4



Part Code	Material	MBL (kN)
PPESLL-532	Stainless Steel	38
Details	Overhead intermediate bracket	



Part Code	Material	MBL (kN)
PPESLL-503	Stainless Steel	38
Details	TopFix corner adjustable bracket	



Part Code	Material	MBL (kN)
PPESLL-509	Stainless Steel	38
Details	Inline corner bracket assembly	



Part Code	Material	MBL (kN)
PPESLL-511	Stainless Steel	38
Details	Corner bracket	



Part Code	Material	MBL (kN)
PPESLL-535	Stainless Steel	38
Details	Overhead corner bracket	



Part Code	Material	MBL (kN)
PPESLL-307	Stainless Steel	N/A
Details	Corner tube	

checkline parts guide

System Parts 5



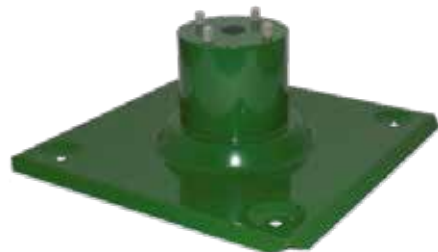
Part Code	Material	MBL (kN)
PPESLL-328	Stainless Steel	NA
Details	Straight tube	



Part Code	Material	MBL (kN)
PPESLL-345	Stainless Steel	NA
Details	Corner tube 15°	



Part Code	Material	MBL (kN)
PPESLL-411	Alloy	38
Details	ULTRAFIX Base plate	



Part Code	Material	MBL (kN)
PPESLL-384	Stainless Steel	38
Details	250X250 Green roof plate with 150mm riser foam fill	



Part Code	Material	MBL (kN)
PPESLL-387	Stainless Steel	38
Details	250X370 Green roof plate with 150mm riser	



Part Code	Material	MBL (kN)
PPESLL-124SQ	Stainless Steel	38
Details	250X250 TopFix base plate c/w EPDM gasket	

checkline parts guide

System Parts 6



Part Code	Material	MBL (kN)
PPESSL-124	Stainless Steel	38
Details	250X250 TopFix base plate c/w EPDM gasket	



Part Code	Material	MBL (kN)
PPESSL-388	Stainless Steel	38
Details	250x250 riser plate with M16 bolt	



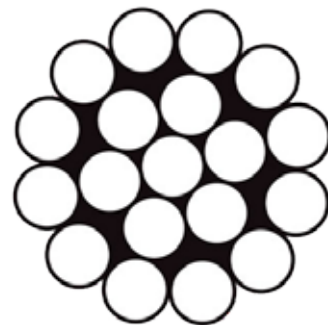
Part Code	Material	MBL (kN)
PPESSL-368	Stainless Steel	38
Details	100mm Riser Post	



Part Code	Material	MBL (kN)
PPESSL-323	Stainless Steel	38
Details	250mm Riser Post	



Part Code	Material	MBL (kN)
PPEC-8mm 7x7	Stainless Steel	39
Details	8MM 7X7 A4 CABLE	



Part Code	Material	MBL (kN)
PPEC-8mm 1x19	Stainless Steel	44
Details	8MM 1X19 A4 CABLE	

checkline parts guide

System Parts 7



Part Code	Material	MBL (kN)
PPESLL-131	Alloy	11
Details	S-5-Z roof clamp	



Part Code	Material	MBL (kN)
PPESLL-131 STD	Alloy	4.6
Details	S-5-Z MINI roof clamp	



Part Code	Material	MBL (kN)
PPELAB-03	Alloy	NA
Details	CheckLine Install System ID Plate	



Part Code	Material	MBL (kN)
PPESLL-512	Stainless Steel	12
Details	CheckBall trolley non removable	



Part Code	Material	MBL (kN)
PPESLL-515	Stainless Steel	12
Details	CheckBall trolley removable	



Part Code	Material	MBL (kN)
PPESLL-049	Stainless Steel	38
Details	Stud swage 100mm	

checkline parts guide

System Parts 8



Part Code	Material	MBL (kN)
PPESLL-049A	Stainless	38
Details	Stud swage 100mm	



Part Code	Material	MBL (kN)
PPESLL-513	Stainless	38
Details	Mid span gateway	



Part Code	Material	MBL (kN)
PPESLL-517	Alloy	38
Details	CheckLine Install System ID Plate	



Part Code	Material	MBL (kN)
PPESLL-395	Stainless Steel	38
Details	Crossover plate	



Part Code	Material	MBL (kN)
Tek-screws	Stainless Steel	NA
Details	6.3 x 25mm Tek screws c/w washer	



Part Code	Material	MBL (kN)
PPESLL-515	Stainless Steel	12
Details	CheckBall trolley removable	



Part Code	Material	MBL (kN)
PPESLL-537	Stainless Steel	NA
Details	150mm toggle anchor/sleeve/foam liner	



Part Code	Material	MBL (kN)
PPESLL-538	Stainless Steel	NA
Details	300mm toggle anchor/sleeve/foam liner	



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