

DISPLAY, LIGHTING, SIGNAGE AND ACOUSTIC CEILING



PRODUCT SOLUTIONS CATALOGUE

ISSUE 1



THE QUEEN'S AWARDS
FOR ENTERPRISE:
INTERNATIONAL TRADE
2019



STRENGTH | SUSPENSION | STYLE

A FUSION OF ENGINEERING AND DESIGN



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ABOUT ZIP-CLIP

WHO IS ZIP-CLIP?

We are manufacturers and designers of high-spec wire suspension systems for all your Lighting, Signage or Acoustic Ceiling requirements.

WHAT IS IT?

A zip-clip is a device that allows you to join a wire rope to a desired fixing or anchor point. The zip-clip is manufactured from a high quality zinc alloy. The oil impregnated sintered metal wedge is designed to offer the best locking solution. The stainless steel spring ensures the wedge engages first time. The galvanised high tensile wire rope supplied offers you a better SWL than those found on the market. All our engineered suspension products are designed with quality and safety in mind.

TESTED?

All our products are independently tested by SATRA Technologies, MELBTEST, Lloyds British, UKAS and Apave and all Zip-Clip locking devices are UL certificated.

For copies of our test certificates please contact our offices.



TECHNICAL INFORMATION

What are the advantages of using a Zip-Clip wire system?

Using a wire rope suspension system provides many advantages:

- Key free release system – No tools required for height adjustment
- Easier to transport
- 100 metre coil is equivalent to 30 x 3 metre lengths of threaded rod
- Easier to handle
- Cold cut, no hot work permit required
- Vibration reduction
- Reduced labour cost
- Reduced risk of injury
- Aesthetics – Low visual impact
- Reduces individual components (i.e. nuts, washers, square plates, rod...)
- Reduces impact on the environment – Less embodied carbon

Where can I use a wire system?

- Lighting systems including luminaires or tracks
- Signage – linear or stand alone
- Secondary light supports
- Acoustic ceilings
- Audio systems
- Bracing

For specialist applications, please contact our technical department on 0044 1686 623366.

Manufacturers Recommendations?

Zip-Clip's unique system is designed to support static loads only. Dynamic and shock loadings can greatly increase the overall weight of the product being suspended and therefore can compromise the Safe Working Load of the suspension.

- To ensure integrity and safety of the systems only Zip-Clip cable should be used
- Do not exceed the Safe Working Load of the product
- Do not use coated cable
- Do not paint or apply any other coating
- Do not apply lubricant
- Do not use for lifting
- Remove any frayed cable end prior to inserting into the clip
- Do not shock load
- Do not overload
- Do not use in a corrosive environment *
- Do not use in a chlorinated environment *
- Do not use for dynamic loads/installations

All stated Safe Working Loads and certifications are based on the product being used in conjunction with our high tensile Zip-Clip wire.

Zip-Clip are not able to guarantee the Safe Working Load of a product used with a non Zip-Clip wire and cannot support projects where non Zip-Clip wire has been used.

Pay attention to the nature of the situation.

Certain installations will result in dynamic forces. If this is the case, look to install robust wire supports at certain intervals.

*For specialist applications such as corrosive environments, please contact our technical department on 0044 1686 623366.

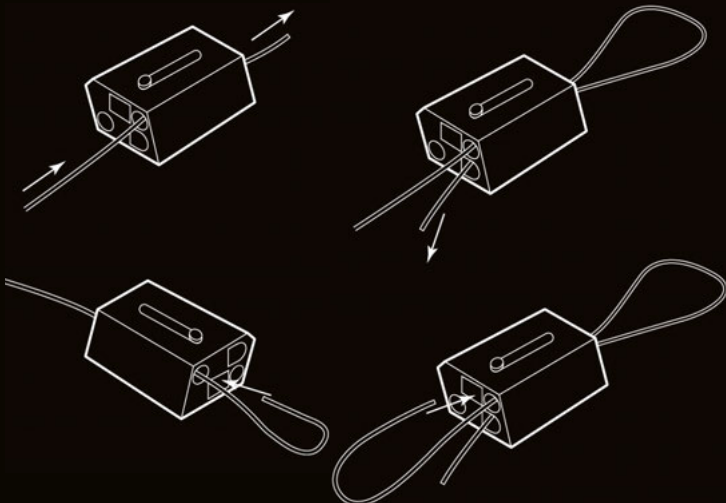
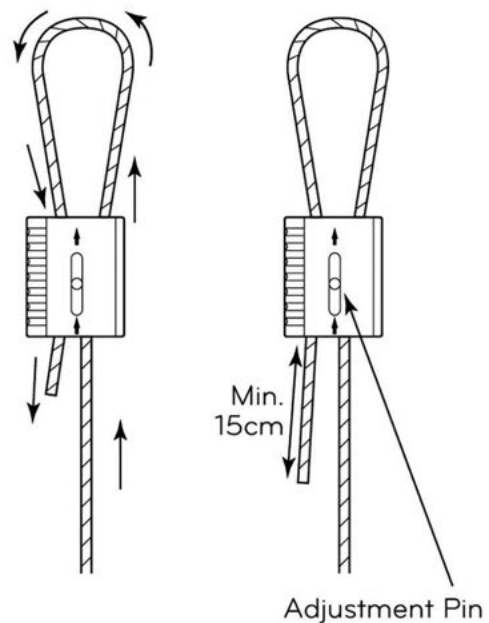
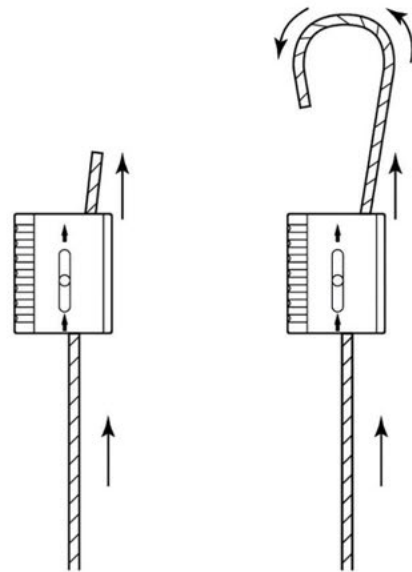


HOW IT WORKS

- Pass the wire through the zip-clip
- Loop the wire through or around the anchor point
- Pass the wire back through the zip-clip allowing 15cm of wire protruding
- Apply tension
- Always confirm engagement of the zip-clip on the wire by pushing the pin in the opposite direction of the arrows indicated on the zip-clip
- To adjust, take the load off the wire support and pull the tail slightly to disengage the wedge, then release using the adjustment pin – no tools required

The KL200 can be used to make a figure of eight suspension, using one clip:

- Pass the wire into the “through hole” in the KL200 and then around your fixing or anchor point. Pass the wire end through the locking channel in the KL200 and pull through 15cm of free wire
- Pass the other end of the wire through your bracket or around your anchor point and back through the locking channel allowing 15cm of free wire through the clip
- Always confirm engagement of the zip-clip on the wire by pushing the pin in the opposite direction of the arrows indicated on the zip-clip
- Prior to load being applied, the wire can be adjusted in either direction
- With the load off the wire, push the release pin in the direction of the arrow on the zip-clip. This will release the locking wedge and allow the wire rope to be moved freely in either direction. After a load has been applied, it may be necessary to pull the cable slightly to disengage the teeth on the wedge. Be sure the load is fully supported before attempting adjustment



DIFFERENT FORMS OF SUSPENSION:

Due to the unique way in which a zip-clip is formed, each device can be utilised to perform a number of different functions.

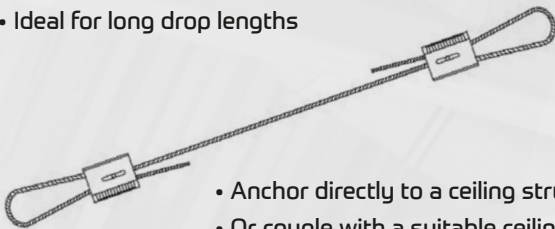
The internal channels within a zip-clip work independently of each other.

This allows a zip-clip to be used in a variety of different ways.

Clip Top and Bottom

Zip-Clip's RIZE system offers the flexibility to customise your own drop lengths.

- A zip-clip is used to anchor to the soffit
- Another is used to attach to the fixture
- Ideal for long drop lengths

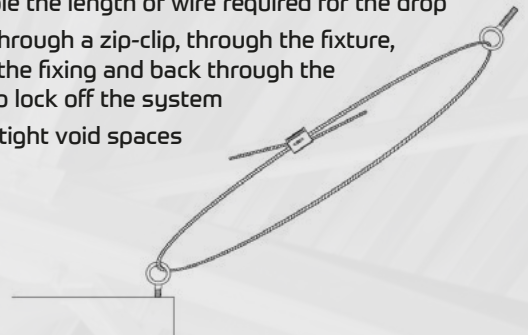


- Anchor directly to a ceiling structure
- Or couple with a suitable ceiling fixing of choice

All-Round Loop

A zip-clip can be used to create an all-round loop. This can be incorporated with a fixing of choice in order to create one full suspension.

- Cut double the length of wire required for the drop
- Thread through a zip-clip, through the fixture, through the fixing and back through the zip-clip to lock off the system
- Ideal for tight void spaces



As a Stop-End

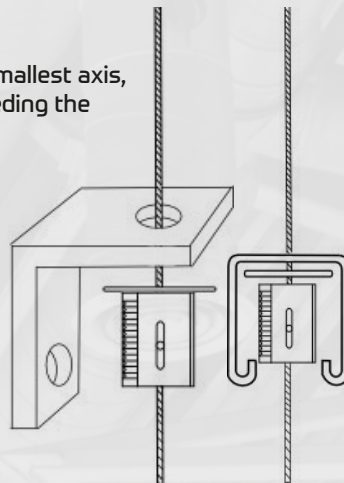
Because each zip-clip has a flat side across its smallest axis, each device can be used as a stopper unit by feeding the wire through just one channel.

By incorporating a penny washer above each zip-clip, the supporting surface area can be increased.

Adjustment can be made by the key free release mechanism.

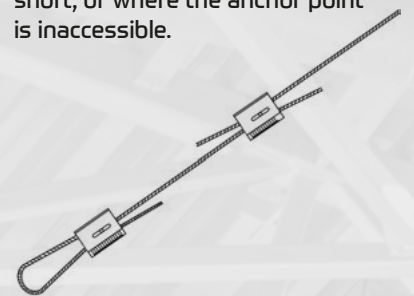
This method is ideal for offering a quick, cost effective and simple solution.

The use of a penny washer is optional but not essential.



In-Line Joint

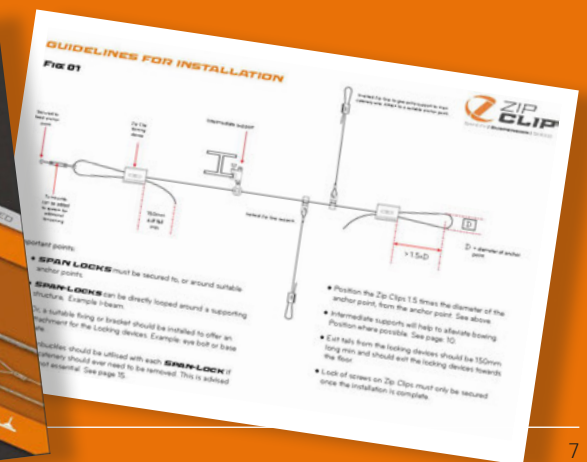
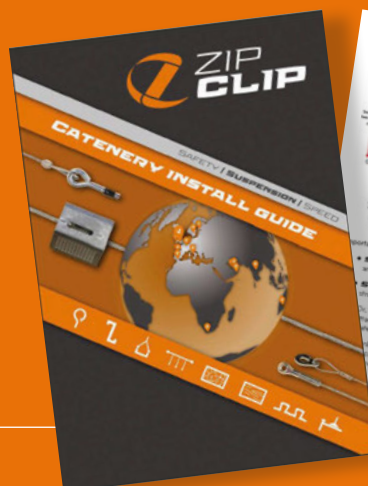
By following the arrows on each side of the zip-clip, an in-line joint can be created. This can be used to extend a drop length that is too short, or where the anchor point is inaccessible.



Catenaries

Catenary wires can offer a great method of suspension if no available anchor point exists overhead.

For more in depth information on catenaries ask Zip-Clip for the Catenary Install Guide.



SUSPENDING SIGNAGE

Signage applications can exist in many different formats, however the most popular signage encountered and referenced in this guide is.

- Individual signage
- Continuous signage

In all cases it is important to select:

1. The correct anchoring system for the ceiling type
2. The correct wire suspension to safely support the intended load
3. The correct connection method of the wire suspension to the sign

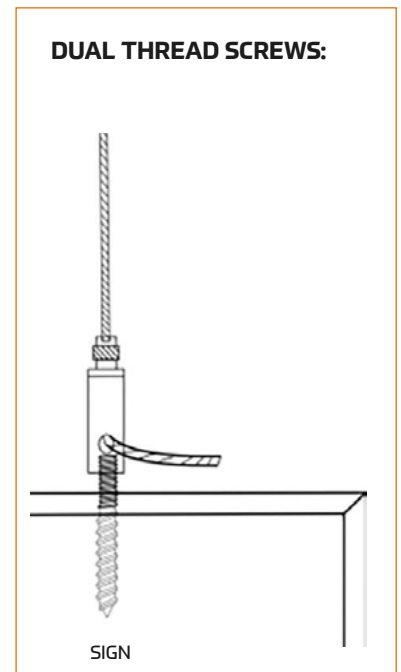
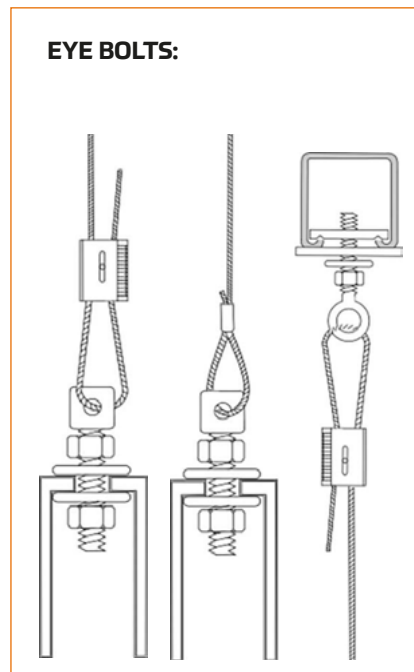
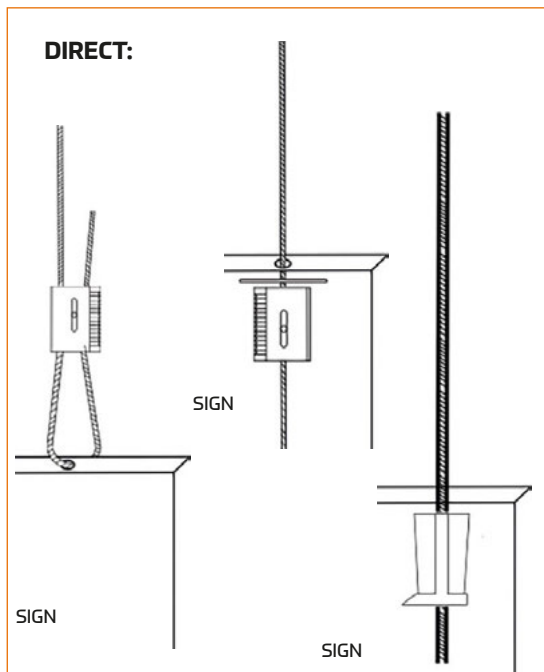
This guide shows a few methods that can be utilised to build signage supports when using Zip-Clip products.

See: DIFFERENT FORMS OF SUSPENSION – Page 7



CONNECTION METHODS TO SIGNAGE:

- Direct
- Eye bolts
- Toggles
- Strut-Lock
- Dual threaded studs
- Carabiners
- Thread-It
- Plus on Wire
- 90 Degree brackets



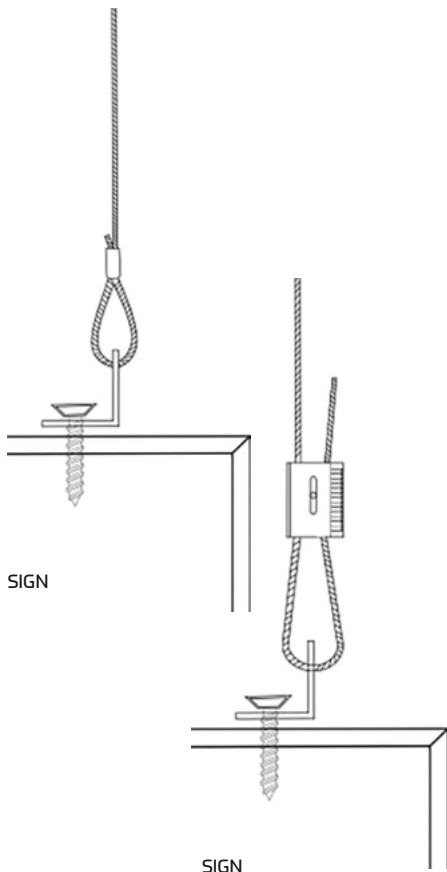
SUSPENDING SIGNAGE



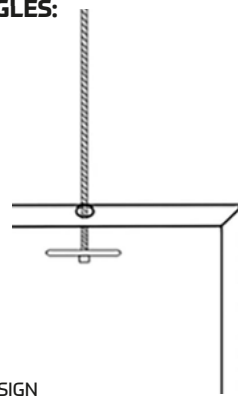
Some Do's and a few Don'ts:

- Zip-Clip supports are designed for static loads only. Any dynamic loading should be avoided
- Always follow the signage manufacturer's recommendations on approved methods of suspension
- Suspensions should be typically "one use only". If new signage is being installed or replaced it is advised to install new suspensions
- Pay attention to the load and ensure that wire suspensions are not used beyond the recommended Safe Working Load (SWL)
- Make sure the fixing or anchor utilised is suitable for the intended base material and the required load
- Swaying must always be avoided. The use of additional bracing should be considered
- External locations or installations near open doors could be subject to wind loadings and should be designed appropriately
- Ensure wire exit tails are 150mm in length. Tails can be tied to the main wire rope using cable ties
- Frayed wire ropes must always be replaced
- Always remove the weight from the suspension before adjustment. This will allow for ease of adjustment and prevent pig tailing of the wire rope – which should be avoided
- Do not mix Zip-Clip components with other manufacturers products
- Carry out regular inspections and maintenance

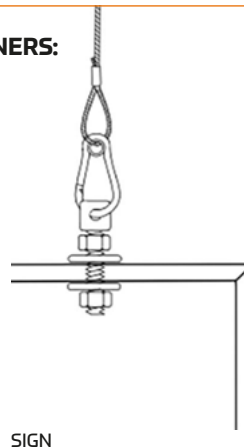
90 DEGREE BRACKETS:



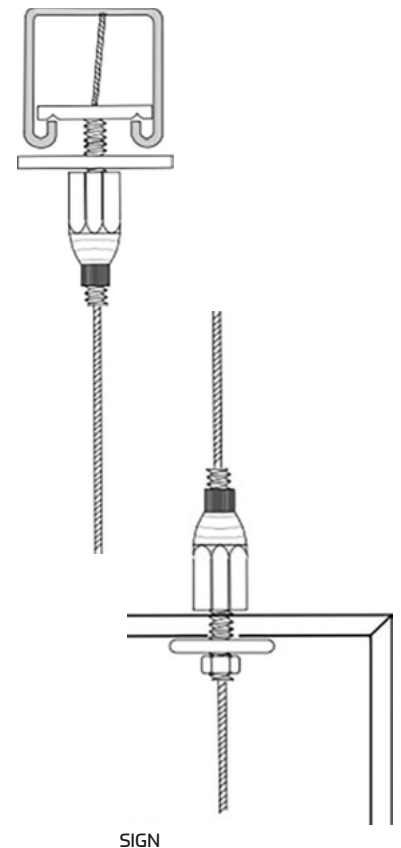
TOGGLES:



CARABINERS:



STRUT-LOCK:



SUSPENDING LIGHTING

Lighting and signage applications both have similarities in their nature with the main two formats being:

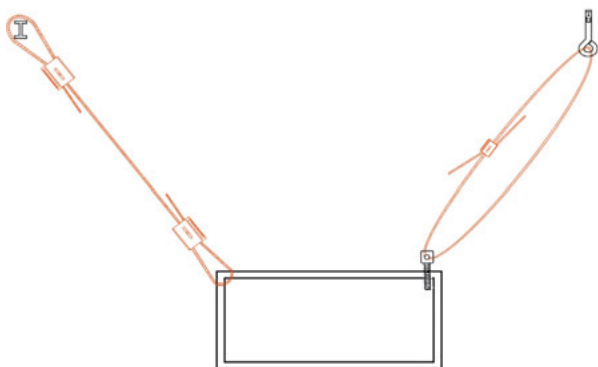
- Individual lighting – such as high bays
- Linear lighting – such as track or bus bar

Attachments:

Many different forms of attachment to lights exist, and manufacturer’s guidelines should always be followed with recommended methods of suspensions.

Utilise proper fixing points that have been provided by the lighting manufacturer – for example: through holes or ring eyes.

Where through-holes or side brackets exist, a zip-clip device can be used to directly link a light to a wire support:



Where threaded connections points are available Zip-Clip provide an array of eye bolts which can be fitted to give neat secure points of attachment for the wire suspension.

Similar best practise should be applied with regard to:

1. The correct anchoring system for the ceiling type
2. The correct wire suspension to safely support the intended load
3. The correct connection method of the wire suspension to the lighting

These can also be retro fitted to any stirrups that accompany lighting track. See SELECTING THE EYEBOLT on page 11.

Individual lighting systems may be recessed into a false ceiling or be stand-alone units. In both cases the available fixing points should be confirmed and test CONNECTION FIXES SHOULD BE TRIALED TO CONFIRM THE RIGHT ATTACHMENT.

Secondary light supports:

The Zip-Clip RIZE system lends itself to being used as a fail-safe solution. By utilising an all-round loop all forms of lighting can be secured against collapse.

See: DIFFERENT FORMS OF SUSPENSION – Page 7

Ball Strikes:

Areas such as Sports Halls present issues such as ball strikes to light fittings. This has the knock on effect of creating shock loads that are transferred to the suspension. Where the likelihood of this occurring is high it is advisable to use heavier duty suspensions.

For guidance on the best suspensions for the application contact Zip-Clip technical department on **0044 1686 623366**.

Some Do’s and a few Don’ts:

- Zip-Clip supports are designed for static loads only. Any dynamic loading should be avoided
- Always follow the lighting manufacturer’s recommendations on approved methods of suspension
- Always use the manufacturers anchor points to connect the lighting to the wire suspension
- Pay attention to the load and ensure that wire suspensions are not used beyond the recommended Safe Working Load (SWL)
- Make sure the fixing or anchor utilised is suitable for the intended base material and the required load
- Vibration – it is not advised to support lighting from anything that causes vibration
- Swaying must always be avoided. The use of additional bracing should be considered
- External locations or installations near open doors could be subject to wind loadings and should be designed appropriately
- Ensure wire exit tails are 150mm in length. Tails can be tied to the main wire rope using cable ties
- Frayed wire ropes must always be replaced
- Always remove the weight from the suspension before adjustment. This will allow for ease of adjustment and prevent pig tailing of the wire rope – which should be avoided
- Do not mix Zip-Clip components with other manufacturers products
- Carry out regular inspections and maintenance

SUSPENDING LIGHTING

BEST PRACTICE

Utilise components such as stirrups or brackets which accompany trunking in order to connect a wire suspension to the services.

The important element is the method of securely fixing to the trunking or the bus bar.

The best way to achieve this is with Zip-Clip adaptor eye bolts:



Round head version
(offering longer thread lengths)

Square head version
(offering aesthetics)

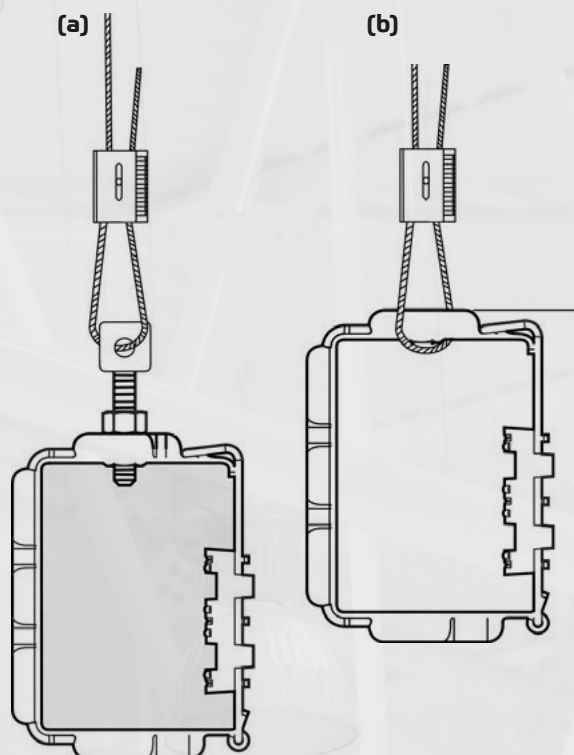
Selecting the Eyebolt:

CODE	HEAD TYPE	THREAD LENGTH	SYSTEM COMPATIBILITY
UNI1	Square	20mm	G & S
UNI2	Square	45mm	G & S
UNI3	Square	25mm	S & Y
UNI6M60	Round	60mm	G & S
UNI8M60	Round	60mm	S & Y
UNI10M60	Round	60mm	P & N

* 5:1 Safety Factor

The Installation

- Utilise an eye bolt adapter to join the wire support to the trunking stirrup (a), or directly loop any available through-holes that may be in the bracket or stirrup (b)
- Install Zip-Clip adaptor eye bolt into stirrup, either:
 - Screw into available female thread
 - Utilise integral nut washer to clamp onto through hole
 - Utilise larger washer to span through hole if required
- Anchor the Zip-Clip wire suspension of choice to the ceiling and join wire rope to eye bolt adapter using zip-clip locking device



Zip-Clip adaptor eye bolt installed into through-hole offering point of attachment for wire suspension.

Note: nuts and washers have been utilised to clamp available through-hole.



Image showing example of stirrup which accompanies trunking.

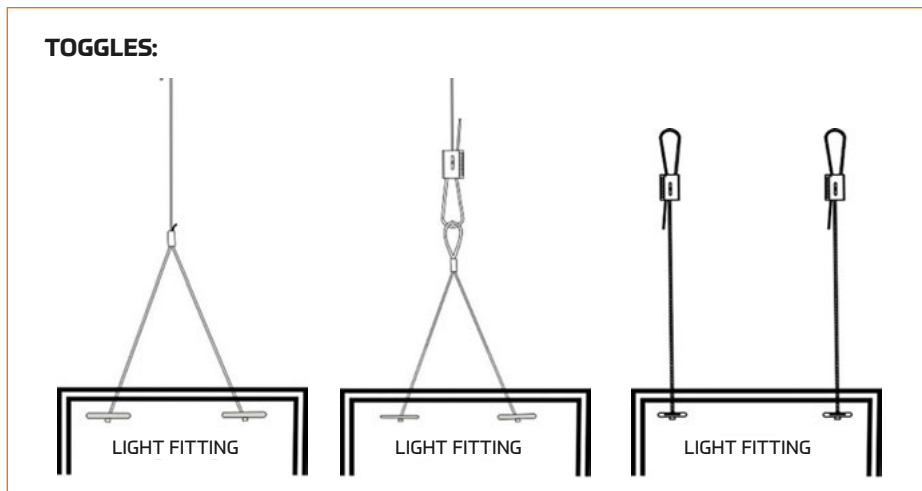
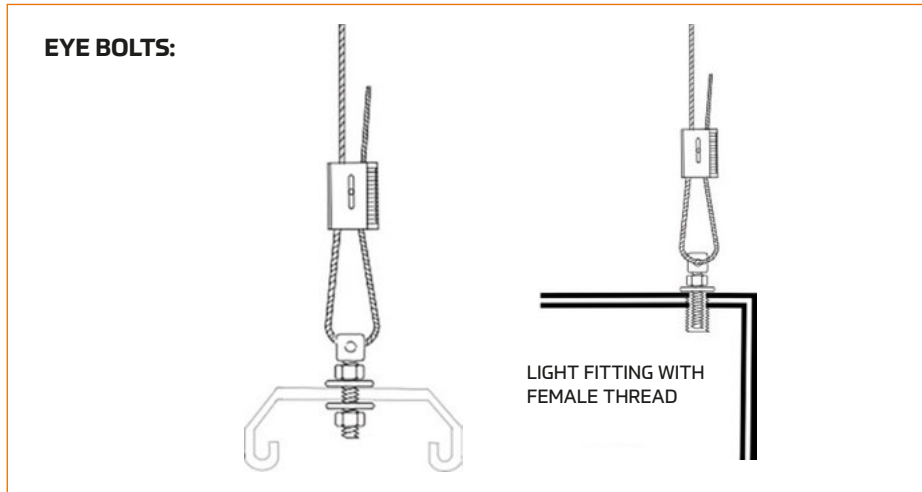
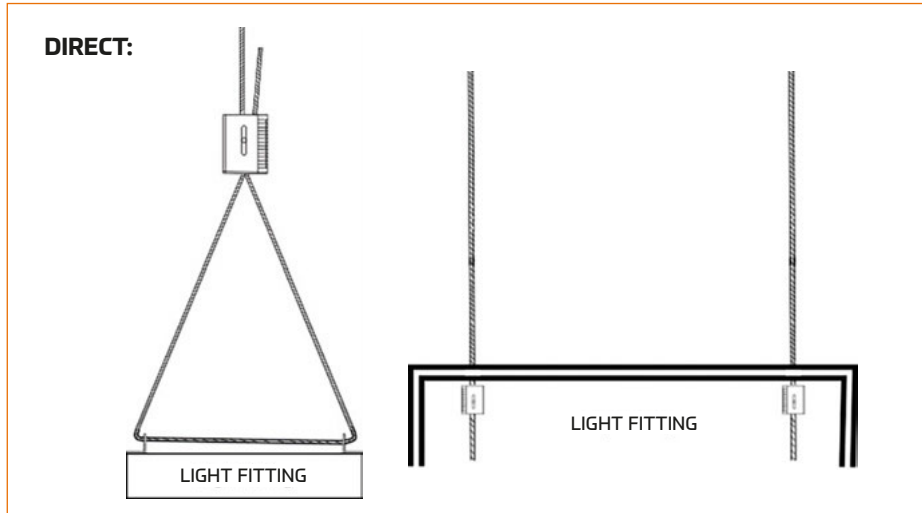


Image displaying adaptor and wire suspension in-situ, offering a mechanical fix to the services which are secure and level.

SUSPENDING LIGHTING

CONNECTION METHODS TO LIGHTING:

- Direct
- Eye bolts
- Toggles
- Carabiners



SUSPENDING ACOUSTIC BOARDS

Acoustic islands and baffle boards offer a lightweight system that will enhance the working environments of any office space.

Zip-Clip can offer a bespoke lightweight suspension system to match these boards.

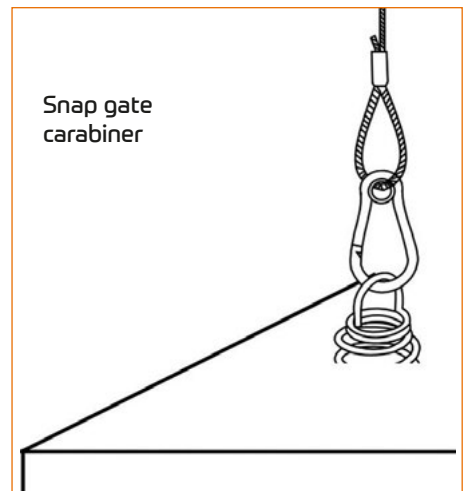
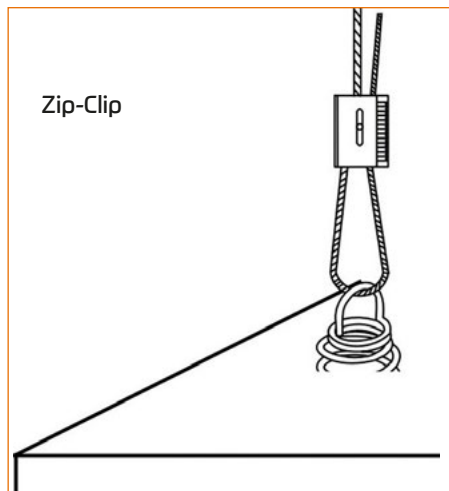
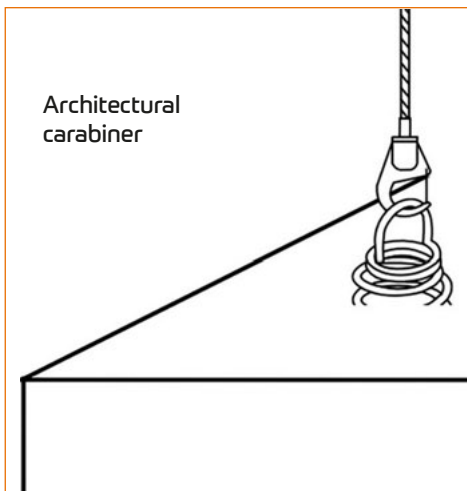
Zip-Clip is compatible with the following systems:

- Acoustic Islands
- Acoustic baffles

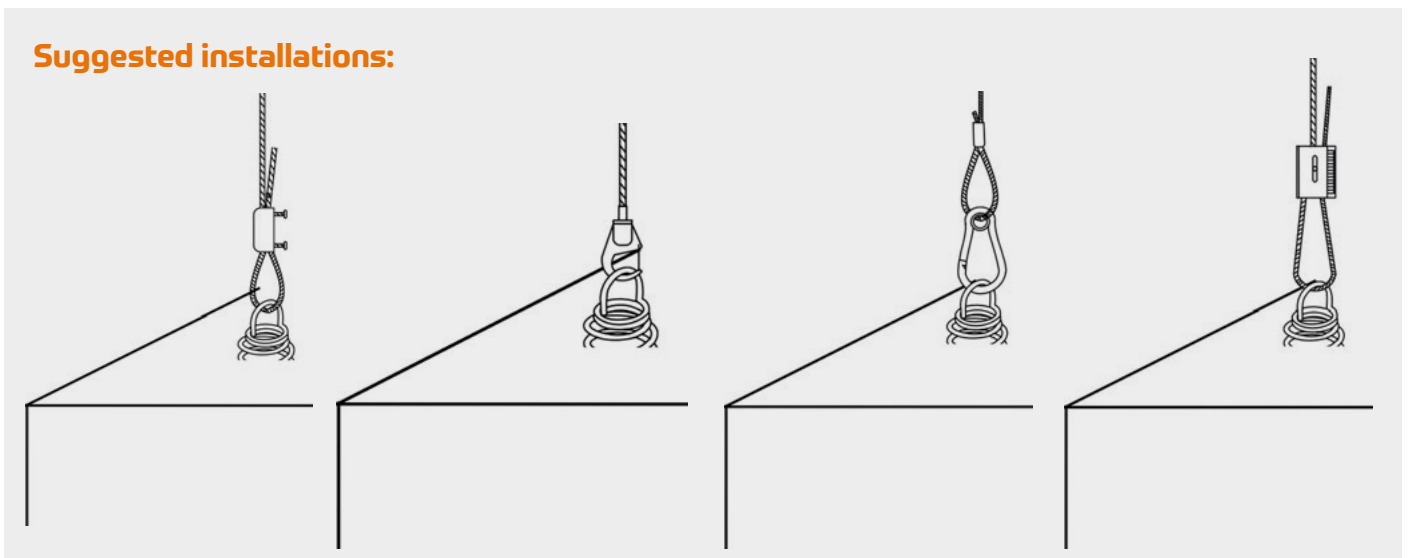
The Zip-Clip spiral anchor had been designed for the installation of acoustic panels and baffles.



Suggested fixing methods



Suggested installations:



ACOUSTIC SYSTEMS

Zip-Clip offers a range of methods for fixing acoustic systems to the soffit

WRAP AROUND



- **Use Loop-It:**
Forms a choke knot

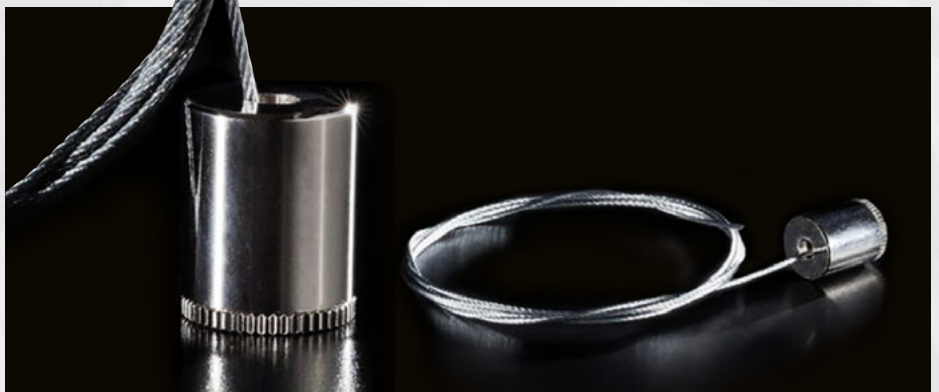
CONCRETE

- **Use Con-Lock:**
M6 – Drill – Drive – Done!
- **Use Anchor-It:**
M6 – Drill – Drive – Done!
- **Use Thread-It:**
M6/M8 available – Set Drop
in anchor, screw eyebolt!



ARCHITECTURAL

- **ACSL0M6 or ACBPLATE ceiling attachments:**
Combine with a woodscrew, concrete screw, plug screw or dual thread screw

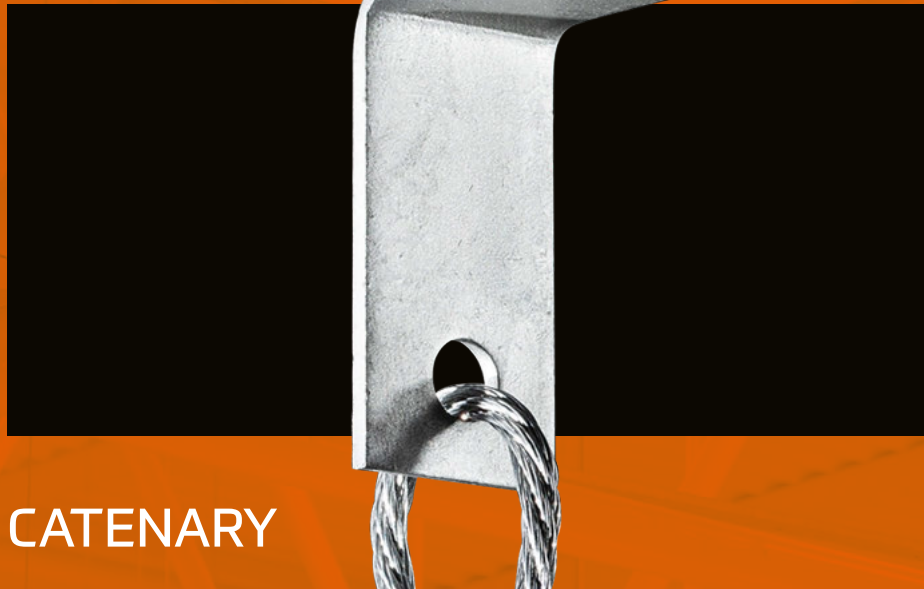


THIN-TIN AND PLASTERBOARD

- **Use Toggle-It:**
Drill hole – slot through



UNIVERSAL



- **Use Uni-Lock:**
Combine with a concrete screw, wood screw, plug screw or tek screw

CATENARY

- **Use Zip-Grip:**
Suspend from Span-Lock catenary wire



SPECIFICATIONS

CALCULATION SERVICES

Zip-Clip are able to offer a free of charge drawing calculation service

Step 1: E-mail your drawing to info@zip-clip.com

Step 2: Our technical department will contact you with a few simple questions

Step 3: A full recommendation and quotation will follow. A unique project drawing number will be issued for reference.

The Zip-Clip Drawing Calculation Service is proving to be a big success with contractors.

ON-SITE PULL TESTS: Proof Loaded Testing:

To add peace of mind to our already independently tested systems we offer an on-site pull test which will be validated and certified by CFA. With so many variants in concrete (i.e. flint, pebbles...), this unique free service is very reassuring.

Brace Bracket:

This bracket can be used as a primary installation or as a retrofit solution. The brackets can be used in conjunction with a choice of anchors.



SPECIFICATIONS

WIRE ROPE

Galvanised Wire

WIRE CODE	SWL OF WIRE	CONSTRUCTION	TENSILE STRENGTH
G	15kg	7x7 (6/1) RHRL	1960N/mm ²
S	50kg	7x7 (6/1) RHRL	1960N/mm ²
Y	120kg	7x7 (6/1) RHRL	1960N/mm ²
P	300kg	7x19 (6/1) RHRL	1960N/mm ²
N	500kg	7x19 (6/1) RHRL	1960N/mm ²

*5:1 Safety Factor

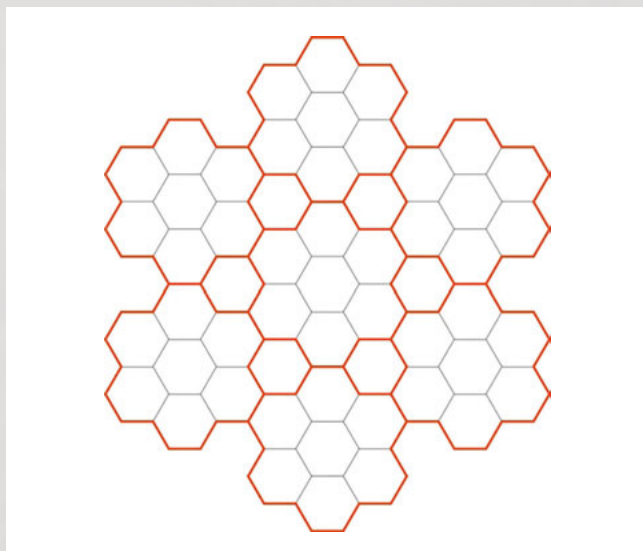
Angular Performance

The table below shows the effect on the Safe Working Load when working at an angle from the vertical.

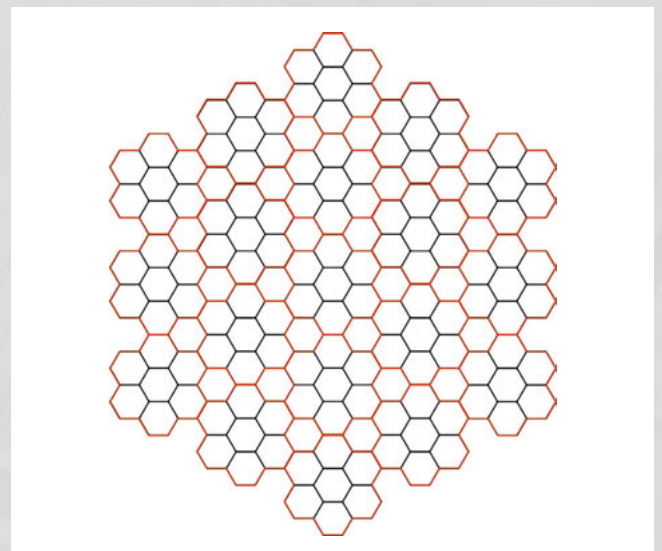
WIRE CODE	VERTICAL	15°	30°	45°	60°
G	15kg	14.40kg	12.90kg	10.50kg	7.50kg
S	50kg	48kg	43kg	35kg	25kg
Y	120kg	115.2kg	103.2kg	84kg	60kg
P	300kg	288kg	258kg	210kg	150kg
N	500kg	480kg	430kg	350kg	250kg
LOAD	100%	96%	86%	70%	50%

*5:1 Safety Factor

The diagram below shows the construction of the 7x7 wire braids



The diagram below shows the construction of the 7 x 19 wire braids



Stainless Steel Wire

WIRE CODE	SWL	GRADE
G	8kg	AISI316
S	45kg	AISI316
Y	100kg	AISI316
P	200kg	AISI316
N	450kg	AISI316

The high tensile wire we supply is galvanised and manufactured to the highest standards incorporating a 7 x 7 and 7 x 19 construction, meeting the BSEN 12385 standard.

BSMA 29/1983 standard also meeting the AISI 3136 requirements

SPECIFICATIONS

ZIP-CLIPS

PHYSICAL PROPERTIES

Density	6,700kg/m ³ at 21°C
Solidification Shrinkage	1.17%
Casting Shrinkage	0.6% (pressure diecasts)
Freezing Range	-381 to -387°C
Melting Point	400 to 420°C
Specific Heat Capacity	418.1 J/kg/°C at 20 to 100°C
Thermal Expansion	27 10 (-6) linear per °C at 20 to 100°C
Thermal Conductivity	108.9 W/m/hr/m ² /°C at 70 to 140°C
Electrical Conductivity	26% IACS
Electrical Resistivity	6.5359 um ohm cm at 20°C

MECHANICAL PROPERTIES

	As Cast	Aged
Tensile Strength (MPa)	328	269
Shear Strength (MPa)	262	-
Elongation (% in 51mm)	7	13
Hardness (Brinell – 500kg)	91	80
Impact Strength (Energy, Joules)	65.1	54.2
Fatigue Strength 5 x 10 cycles (MPa)	56.5	-

TYPICAL ANALYSIS – ALLOYING ELEMENTS

Aluminium	4%
Copper	1%
Magnesium	0.05%

TYPICAL ANALYSIS – IMPURITIES

Iron	< 0.01%
Lead	< 0.003%
Cadmium	0.003%
Tin	< 0.001%
Nickel	< 0.001%
Silicon	< 0.01%



ENVIRONMENTAL POLICY

Zip-Clip Ltd recognizes that its activities impact on the environment at local, regional and global levels and acknowledges a responsibility for the protection of the environment and of the health and safety of its employees and the wider community.

ZIP-CLIP LTD IS COMMITTED TO:

- Promoting the protection of the environment and minimizing the impact of all its activities upon each of the local, regional and global environments both directly and through its influence on others
- Contributing to a sustainable and healthy future by conserving natural resources and by minimizing avoidable waste and pollution
- Reducing the use of fossil fuels through improvements to energy efficiency and the substitution of renewable energy resources
- Developing effective waste management and recycling procedures and using recycled and recyclable materials where possible
- Increasing awareness of environmental responsibilities amongst staff

TO ACHIEVE THESE GOALS WE WILL:

- Educate and train staff in environmental matters as appropriate.
- Progressively reduce the amount of waste generated.
- Market products, which create a minimum environmental damage, and use its purchasing to influence to:
 - Promote production of such products
 - Ensure that all public communications are true and unambiguous
 - Respect the interests of neighbours and the world community
 - Review our policies as an ongoing matter





STRENGTH | SUSPENSION | STYLE

A FUSION OF ENGINEERING AND DESIGN

*YOU'RE IN GOOD COMPANY...
ALFA ROMEO, AMAZON, ASDA,
B SKY B, B&Q, DALLAS COWBOYS
STADIUM, FERRARI, HARRY
POTTER STUDIOS, HITACHI,
IKEA, JAGUAR/LAND ROVER,
JOHN LEWIS, KPMG, LONDON
2012 OLYMPICS, MALL OF THE
EMIRATES, MARKS & SPENCER,
MORRISONS, NATURAL HISTORY
MUSEUM, PRETTY GREEN, ROLLS-
ROYCE, ROYAL LONDON HOSPITAL,
SELFRIDGES, SKI DUBAI, TESCO,
TOPMAN & WAITROSE.*

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