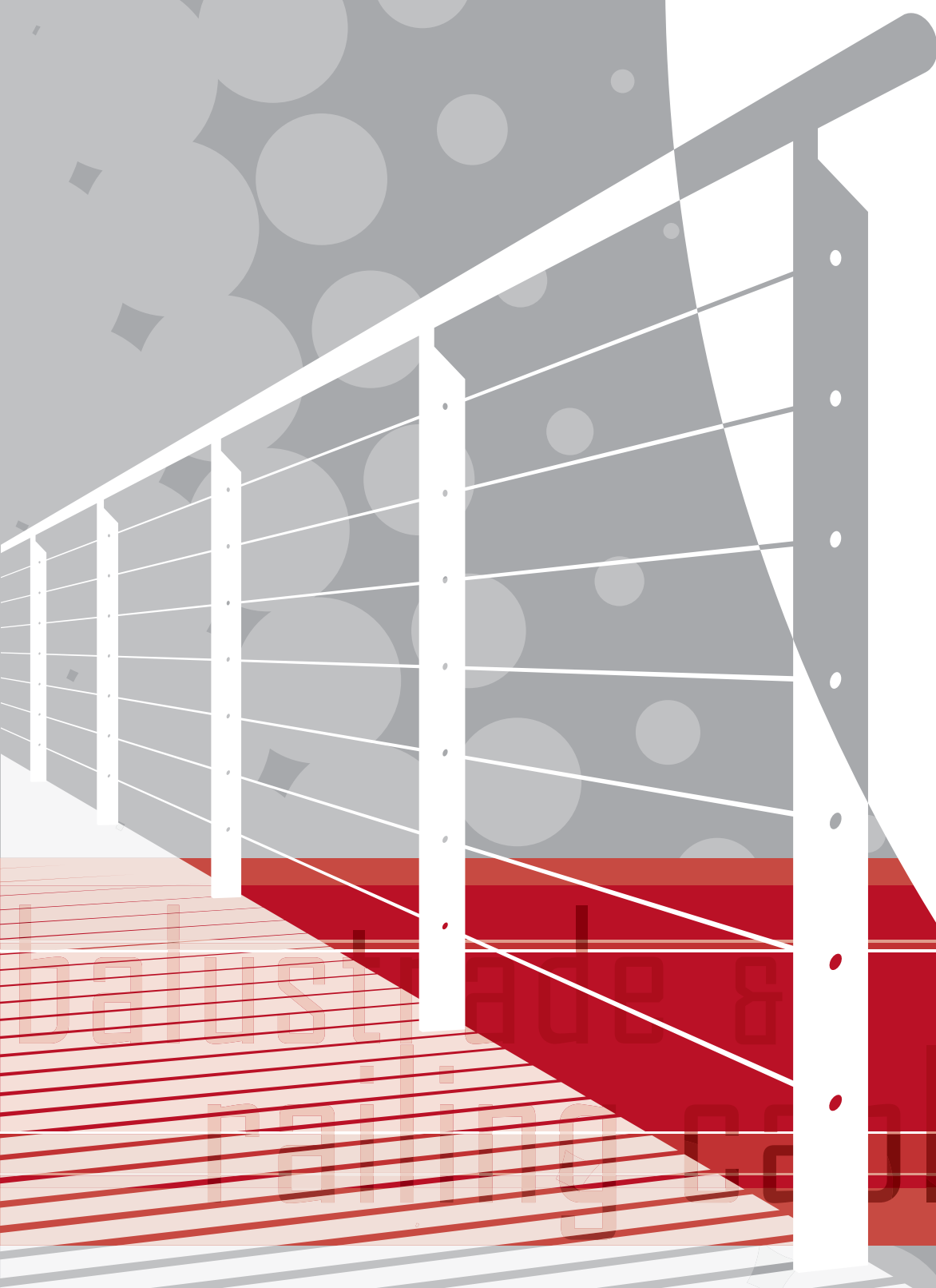




balustrade & railing cables



balustrade & railing cables



The Value of Experience

Combining precision and quality in a cable system is both an art and a science. Getting it right requires knowledge and experience. Ronstan is the world leader in the supply of tensile cable architecture. Fifty years of continual research and development means our cable systems come to you with a pedigree that is second to none.

Our facilities span Australia, USA, Denmark, New Zealand and the United Kingdom, and we bring our expertise to 55 countries.

Applications for Ronstan Balustrade and Railing Cable Systems:

- Outdoor decking
- Balconies, mezzanines and landings
- Interior staircases
- Railing and barriers
- Retail and commercial settings
- Public spaces

Selecting your system

Ronstan makes it easy to choose the right balustrade and railing cable system. Using the catalogue you can:

1. Determine your needs for cable construction, diameter and orientation
2. Select your terminations and cable systems
3. Choose the fixing methods and details.

The Total Solution

For complex jobs and needs Ronstan also offers:

- Design support
- Cable and fitting selection
- Cost estimation and budgeting
- Site supervision and installation



balustrade & railing

Cables give balustrades and railings a sense of elegance, space and style. With careful planning and design, they have the ability to totally transform the look. Their clean and simple lines create a sleek and modern aesthetic, while offering uninterrupted views. They're contemporary, low-maintenance and surprisingly easy and fast to install. Ronstan has been setting the standard for cable applications in balustrades and railings since 1988.

Making it easier for you

Our new balustrade and railing catalogue was designed to make life simpler for you. The process of researching and selecting the right system has been streamlined. We have five new complete cable systems, each one with an individual part number.

This means no more time-wasting and frustration selecting individual components. All the information you need is logically laid out, with clearly displayed diagrams and details. It's the definitive resource for balustrade and railing cables.

Services

Ronstan offers its wealth of knowledge and expertise in the many applications of cable systems.

Our services include; design engineering, project management, and installation.



ABS1

ABS2

ABS3

ABS4

ABS5



Vertical Balustrades, Railings and Barriers

Simple and elegant aesthetics meets the ultimate in functionality. The smart use of cables lets you express individuality, flair and sense of style with minimal fuss and stress.

Cables allow for creative freedom, their unobtrusive lines giving designers the ability to be flexible and creative. When cleverly used, they can become the ultimate non-climbable barrier.

We understand cables and have services available to help you realise your concept. Our support team have more than two decades of experience in balustrade and railing cables, so we know exactly what to do and how to do it.

Project: Best House
Location: Melbourne, Australia
Architect: Atelier Wagner
Cable: Ronstan
Photo: Shannon McGrath



Public Spaces

Ronstan cable systems are the only choice for high profile and public spaces. These areas need systems that combine superb aesthetics with durability and performance. Tamper resistant and fitted with antitheft mechanisms, they're the only cable systems you can trust.

We know that cables must perform at their best on two levels: structural integrity and aesthetics. That's why Ronstan designs them with both elements at the fore- neither at the expense of the other.

Project: Sydney University Footbridge
Location: Sydney, Australia
Architect: Taylor Cullity Lethlean
Cable: Ronstan
Photo: Martin van der Wal



Domestic

Ronstan's cable systems allow for a beautiful blend of functionality with minimal structure. The design of a home can shine with cables' clean lines and uninterrupted views. This allows for a distinctive and stylish feel, which doesn't compromise on security or strength.

Every house is different, and that's why the flexibility of cable systems is perfect. They can be applied with ease to the most complex and demanding architecture. Ronstan's wide range enables you to create your own solution.

Project: Walsh Bay
Location: Sydney, Australia
Architect: Mirvac
Cable: Ronstan
Photo: Mark Donaldson



Mesh

To make a bold architectural statement, it's often required to apply the philosophy that less is more. Flexible stainless steel wire mesh delivers the unique look that you are after, without interrupting the view.

Ronstan's X-TEND® mesh is flexible, corrosion resistant and aesthetically pleasing. It's completely tailor-made to fit the application and is the clear choice around the world for innovative structures. Specifiers and contractors swear by it because they trust Ronstan's experience and know-how.

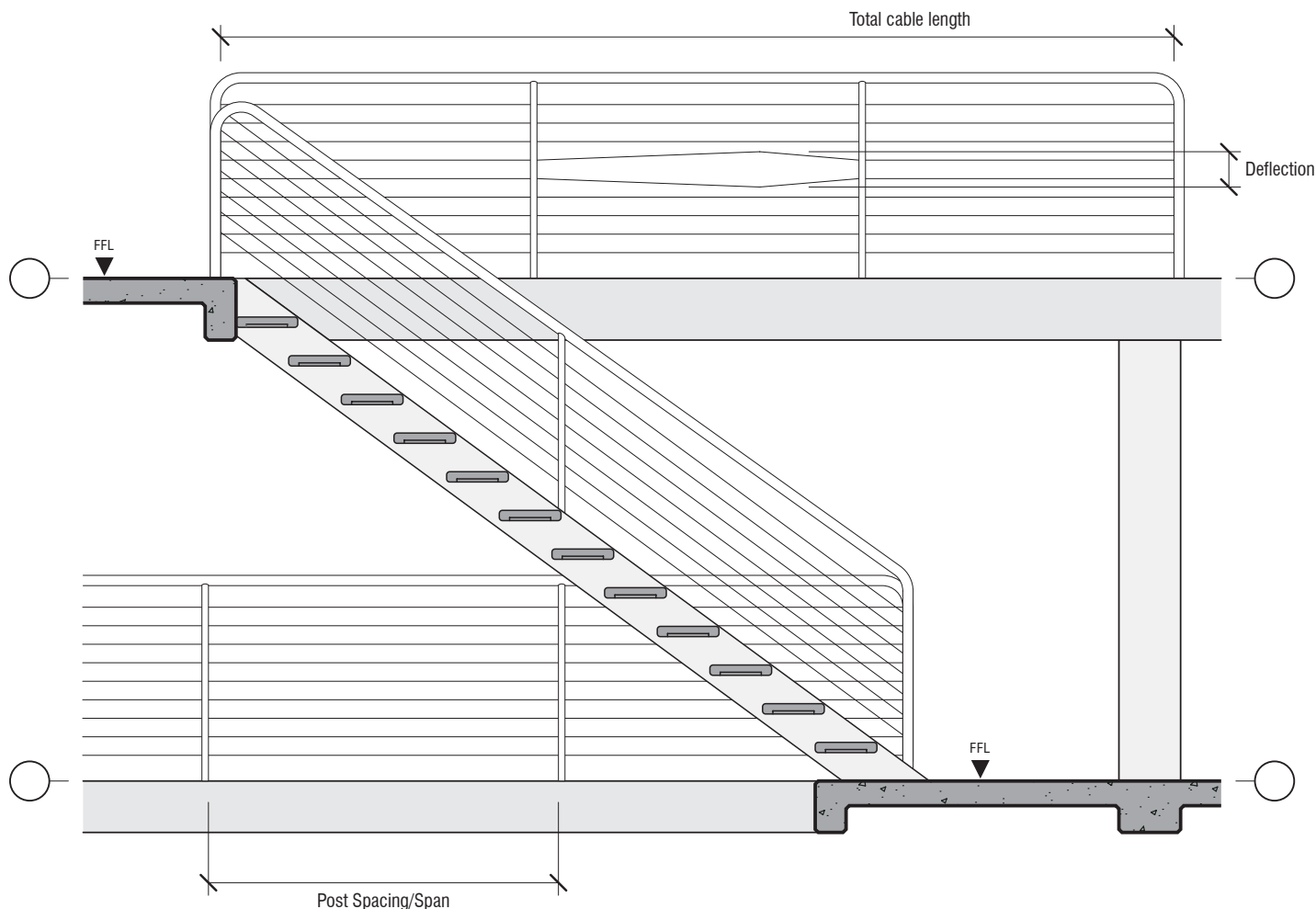
Project: Mercedes Benz Museum
Location: Bad Cannstatt, Germany
Architect: UNstudio van Berkel & Bos, Amsterdam
Cable: CarlStahl
Photo: Hans-Georg Hennef/Stieg

Design Steps

Balustrades and railings perform an integral function within the building. Not only do they define space, but they provide an essential barrier preventing falls from height.

Stainless steel cable provides an aesthetically pleasing, low maintenance and long life alternative to traditional balustrade and railing infill materials. Unlike some alternatives, in most environments quality stainless steel cables will maintain their structural integrity for the life of the structure.

Key considerations for a successful application are as follows:



1 Vertical or Horizontal Cable Applications

This primary consideration is driven by a combination of aesthetics and building regulations. Some codes prohibit the application of horizontal cables where a finished floor height is a specified distance above ground. We recommend you review the regulations in your region or country before making your selection.

2 Post Design

Aesthetics and structural integrity are the driving considerations when selecting posts.

End posts must be adequately designed to cope with the loads necessary to resist cable deflection when forces are applied. This involves a careful selection of materials and in some instances requires the involvement of your project consultants.

Lighter construction intermediate posts can be located to hold horizontal cables in position and limit deflection by minimising the free span, rather than increasing tension in the cables and/or upsizing the end posts.

3 Post Spacings, Span and Cable Tension

The span or distance between posts on a balustrade/railing has a direct relationship to deflection. With increased spacings higher tension needs to be applied to resist deflection. Often keeping your posts closer together to limit deflection is more economical and aesthetically pleasing than increasing the strength of end posts to cope with higher tensile loads.

Some building codes now require cables to be installed in accordance with specific tension/spacing and maximum allowable deflection requirements.

4 Cable Diameter, Construction and Grade

Along with aesthetics, cable stretch is a key consideration when selecting a diameter. As the diameter increases, so does the cable's resistance to elongation and deflection at a given load.

Generally, 3mm or 1/8" cables provide an optimal combination of strength, stretch, resistance to deflection, aesthetics and economy. In some countries, such as the USA, 5mm or 3/16" cable diameter is preferable for code compliance.

Cable construction refers to the number and lay of individual wires within the cable. Two constructions are specified for Ronstan balustrade and railing applications.



1x19 offers the lowest stretch over long distances. It has smooth outer strand and a technical appearance.



7x7 is a more flexible cable with a textured or braided appearance. It is superior for applications with multiple changes of cable direction, but is limited to shorter distances by its higher stretch.

Grade 316 is widely considered the default stainless steel grade for balustrade cables. It offers the best marriage of corrosion resistance and strength which is critical to aesthetics and structural performance over time.

5 Cable Spacing

Understanding that cables deflect, cable spacing has a direct impact on the ability of infill cables to restrict the passage of minimum sized objects through the balustrade/railing as required by local authorities and codes. Typically, spacings of 80-100mm (3-4") are used, however, local requirements vary considerably and we recommend consultation with your local building authority.

A good practise is to design cable spacings closer than the local code requires allowing for some cable deflection. We commonly see cable spacings 25mm (1") closer than mandated by regulatory codes.

6 Cable Lengths

Often cables are unnecessarily terminated at corners. A well designed cable balustrade or railing is one where cable termination points are carefully selected to maximise the cable length without over stressing the termination post. While it is true that cables can break down if they are bent too harshly, with careful detailing cables can be carried around corners with minimal loss of tension from friction.

As lengths increase greater tension is required to resist deflection resulting in greater force being applied to the end posts. This needs to be considered in end post design.

Ronstan fittings offer sufficient adjustment to achieve tension to the nominated lengths.

7 Deflection

Stainless steel cables are high tensile tendons used to transfer load between two points. If a load is applied at any point along the cable it will deflect. In the case of balustrade or railing cables, deflection becomes an issue of safety allowing the passage of items through the balustrade or railing. Deflection bears close relationship to cable diameter, cable construction, cable spacing, post spacing/span, cable tension and cable length.

8 Connections, Fittings and Material



Stainless Steel - Ronstan understand the benefits afforded by stainless steel cable balustrades and railing. Clean crisp aesthetics, low maintenance and structural integrity can only be guaranteed through the use of quality material and known quality assured manufacture.

Ronstan cable systems are manufactured to ISO9001-2000, they are load rated and designed specifically for balustrade and railing applications. Our material is fully traceable, our systems simple and connections reliable.

Ronstan manufactured cable systems are denoted by the **SS** code.

Ronstan connectors can be used on either metal or timber posts. Our ABS systems can handle any detail situation with the use of our specialist components located in the components section.



The 'commodity' grade fittings located at the rear of the components section are commonly used for budget applications where price is the driving consideration rather than quality or performance. The commodity grade range offers an economic non-rated solution with fittings subject to dimensional changes without notice.

Commodity grade fittings are denoted by the **CG** code.

ABS1 - Threaded Terminal Adjusters

Type A **SS**



Type B **SS**



Description

A simple, clean and economical cable

Cable Diameters

3mm	1/8"
4mm	5/32"
5mm	3/16"
	1/4"

Lengths/Span

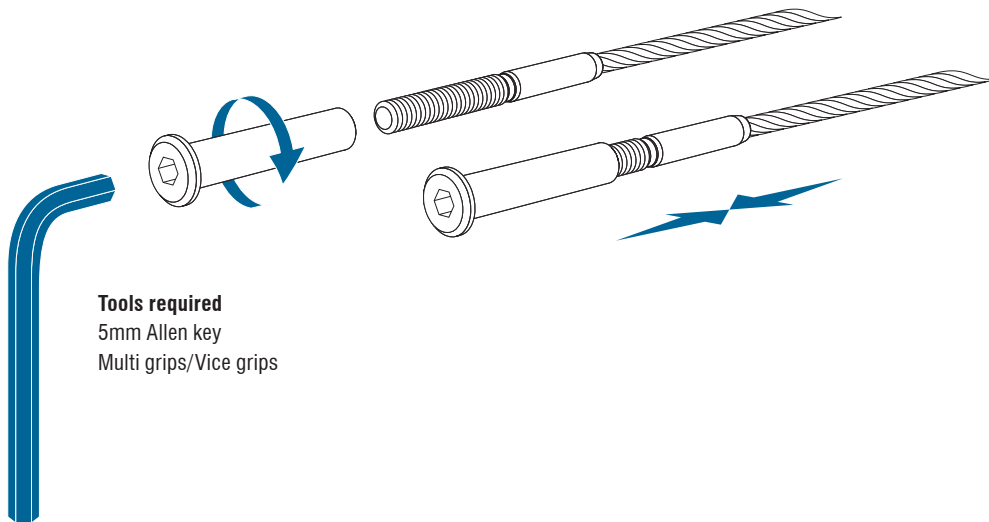
Typically suits straight runs.
 ABS1 Type A - 10m (32') maximum length.
 ABS1 Type B - 5m (16') maximum length.

Specific Features

- An in-line system of minimal visual impact with no bulky turnbuckles to impede views.
- Neat and simple architectural connections for the ultimate clean look.
- Easy tensioning from the outside of the post allows fast installation and minimal time on site.
- The system is perfect for both vertical and horizontal configurations.
- Quality Grade 316 stainless steel construction suitable for harsh environments and long service life.

Applications

- Perfect for any situation where the goal is reduced visual impact.
- Ideal for domestic, commercial and public applications where access to the outside of the end posts is possible.
- Suitable for use with timber or metal uprights.
- Short runs in vertical or horizontal applications.
- Stair situations using angled washers.



Tools required

- 5mm Allen key
- Multi grips/Vice grips

ABS2 - Microloc Adjusters

Type A **SS**



Type B **SS**



Description

The versatile cable with a bold technical style

Cable Diameters

3mm	1/8"
4mm	5/32"
5mm	3/16"
	1/4"

Lengths/Span

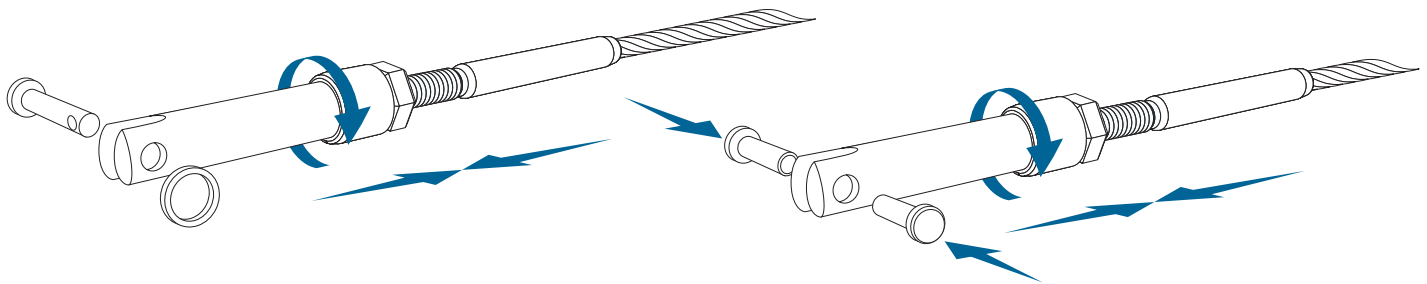
ABS2 Type A - 10m (32') maximum length.
ABS2 Type B - 5m (16') maximum length.

Specific Features

- ABS2 utilizes the unique Microloc adjuster, a bold contemporary interpretation of the dependable and reliable traditional turnbuckle.
- The articulated fork end and wide range of mating connections are perfect for both stair and horizontal balustrade/railing applications.
- Versatile connection options to suit timber or metal posts.
- Simply tensioned with a standard spanner or wrench – no special tools.
- Unique tamper resistant “press” pin option is available to minimise theft or damage. (below)
- Quality Grade 316 stainless steel construction for harsh environments and long service life.

Applications

- Suitable for horizontal, vertical and stair situations.
- Ideal for domestic and commercial applications.
- Where architectural aesthetics demand a cable with bold technical fittings.



Standard attachment

Tools required

Spanner/wrench set
Multi grips/Vice grips

Tamper resistant press pin

Tools required

Spanner/wrench set
Multi grips/Vice grips

ABS3 - Tamper Resistant Adjusters

SS



Description

Tamper resistant cable for public spaces

Cable Diameters

3mm	1/8"
4mm	5/32"
5mm	3/16"
	1/4"

Lengths/Span

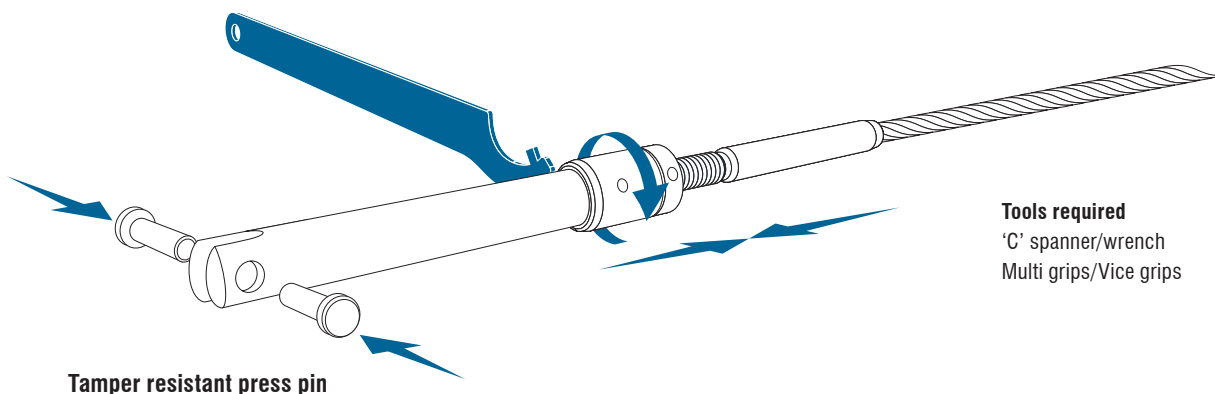
Typically suits straight runs of 20m (65').

Specific Features

- Incorporates the World's only true theft resistant turnbuckle.
- Unique tamper resistant "press" pins with minimalist architectural heads lock together to permanently secure the cable to the end connection.
- Fittings and lock nuts devoid of spanner flats cannot be undone with standard tools.
- Easily tensioned with unique "C" spanners - the average vandal doesn't carry these in his back pocket!
- Sleek styling with aesthetics uncompromised by the security features and mechanical robustness.
- Quality Grade 316 stainless steel construction for harsh environments and long service life.
- Greater adjustment for longer runs and economy.
- Versatile connection options to suit timber or metal posts.

Applications

- Ideal for urban environments and public spaces or anywhere theft or tampering may be a concern.
- Plaza's and squares.
- Beach and river front.
- Pedestrian walkways & bridges.
- Suitable for horizontal applications with longer runs.



Tools required

- 'C' spanner/wrench
- Multi grips/Vice grips

ABS4 - In-line Adjusters



Description

The ultimate in-line cable with no visible threads

Cable Diameters

- 3mm
- 4mm
- 5mm
- 6mm

Lengths/Spans

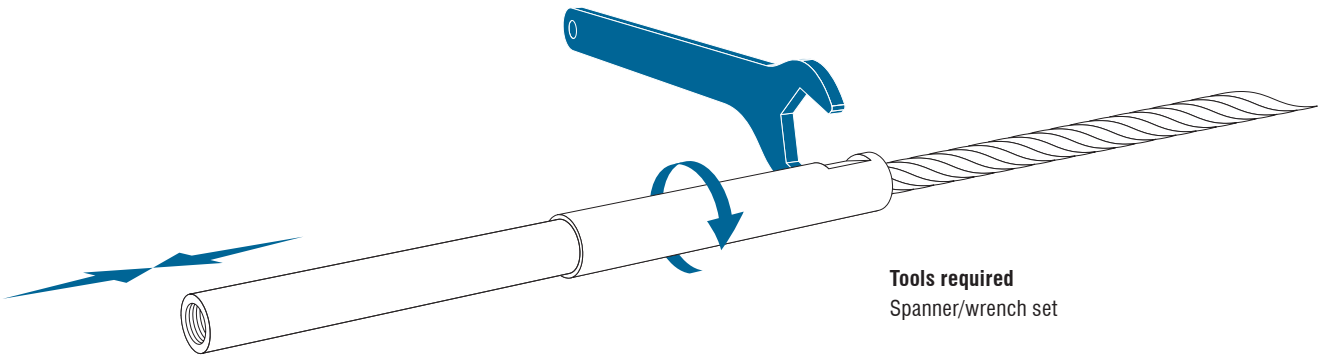
Typically suits straight runs of 8m (26')

Specific Features

- Sleek styling ensures clean, crisp in-line details.
- No visible threads for a smooth finish.
- Unique swivelling tensioner adjustable from between the uprights.
- Simply tensioned from one end via a discrete spanner flat for fast installation and minimal time on site.
- Available only in 7x7 cable construction for that braided cable look.

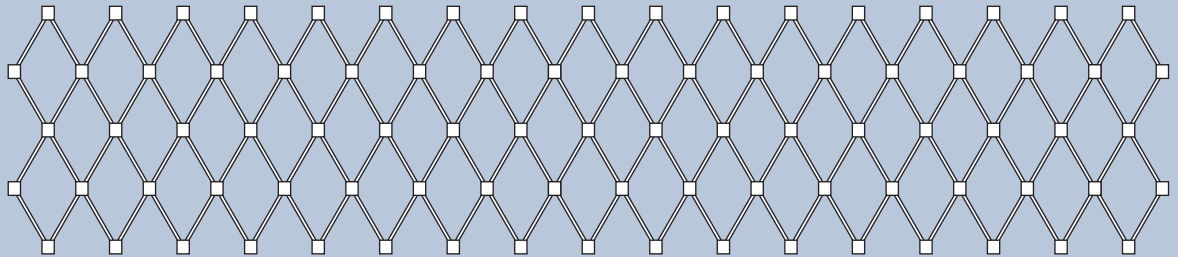
Applications

- Highly visible residential and commercial architectural applications.
- Ideal for horizontal and stair situations.
- Where a premium in-line cable needs to be noticed.



Tools required
Spanner/wrench set

ABS5 - X-TEND® Mesh



Description

The stainless steel mesh alternative

Cable Diameters

1mm – 4mm

Aperture

25mm (1") to 100mm (4") and beyond

Lengths/Spans

Infill panels manufactured to any width or height

Specific Features

- A uniquely different approach to the stainless cable balustrade or railing for that statement project.
- The elastic mesh finds its own way around simple and complex geometric shapes to achieve uncompromised aesthetic form.
- A light and airy feel to suit any minimalist environment.
- High transparency for reduced visual impact on any view or landscape.
- Fully load rated for superior performance as a barrier or in a security application.
- Suits rigid frame or cable perimeter mounting.
- Allows the expression of your individuality.
- Quality Grade 316 stainless steel construction for harsh environments and long service life.

Applications

- When a high visual and aesthetic impact is required.
- For applications where the unique attributes of stainless steel balustrade are sought in a totally different form.
- Ideal for residential and commercial applications.
- Suitable for both horizontal and stair applications.
- Floor to ceiling and in-fill partitioning.
- Offers great aesthetic benefits when used for security screening.

Threaded Terminal Adjusters

ABS1

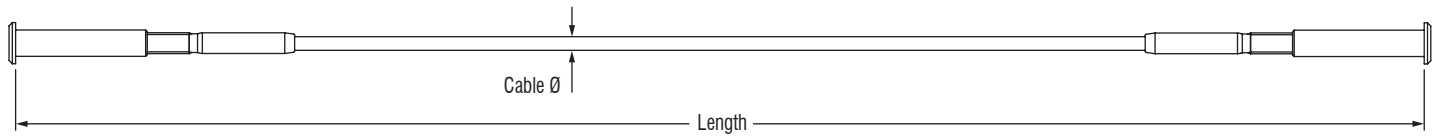
Simple, clean lines make ABS1 the industry standard when it is crucial to minimise visual impact. Neat and compact, their Allen key heads and matching end stops rotate smoothly to allow for easy tensioning of vertical and horizontal cable applications.

ABS1 - The minimalist in-line cable.



ABS1 - Systems

Type A



SS Type A - Metric Cable

PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS1A-19M03	3.0	1x19	5.3	544	1200
ABS1A-19M04	4.0	1x19	9.4	960	2116
ABS1A-19M05	5.0	1x19	12.7	1300	2866

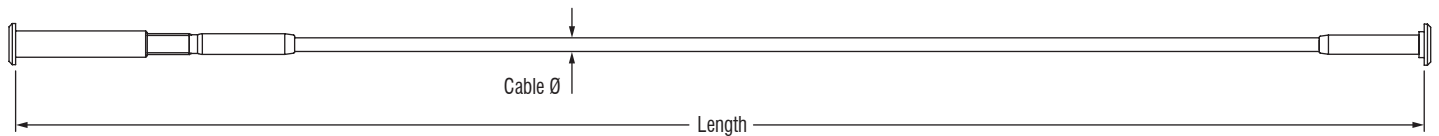
PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS1A-77M03	3.0	7x7	5.3	544	1200
ABS1A-77M04	4.0	7x7	9.4	960	2116
ABS1A-77M05	5.0	7x7	12.7	1300	2866

SS Type A - Imperial Cable - ex. North America

PRODUCT No.	CABLE Ø in.	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS1A-19-04	1/8"	1x19	6.3	646	1424
ABS1A-19-05	5/32"	1x19	9.4	960	2116
ABS1A-19-06	3/16"	1x19	12.7	1300	2866
ABS1A-19-08	1/4"	1x19	12.7	1300	2866

PRODUCT No.	CABLE Ø in.	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS1A-77-04	1/8"	7x7	6.3	646	1424
ABS1A-77-05	5/32"	7x7	9.4	960	2116
ABS1A-77-06	3/16"	7x7	12.7	1300	2866
ABS1A-77-08	1/4"	7x7	12.7	1300	2866

Type B



SS Type B - Metric Cable

PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS1B-19M03	3.0	1x19	5.3	544	1200
ABS1B-19M04	4.0	1x19	9.4	960	2116
ABS1B-19M05	5.0	1x19	12.7	1300	2866

PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS1B-77M03	3.0	7x7	5.3	544	1200
ABS1B-77M04	4.0	7x7	9.4	960	2116
ABS1B-77M05	5.0	7x7	12.7	1300	2866

SS Type B - Imperial Cable - ex. North America

PRODUCT No.	CABLE Ø in.	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS1B-19-04	1/8"	1x19	6.3	646	1424
ABS1B-19-05	5/32"	1x19	9.4	960	2116
ABS1B-19-06	3/16"	1x19	12.7	1300	2866

PRODUCT No.	CABLE Ø in.	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS1B-77-04	1/8"	7x7	6.3	646	1424
ABS1B-77-05	5/32"	7x7	9.4	960	2116
ABS1B-77-06	3/16"	7x7	12.7	1300	2866

BALUSTRADE & RAILING CABLE SYSTEM SPECIFICATIONS

SS ABS1 - Threaded Terminal Adjusters

ABS1 - Component Dimensions

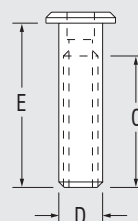
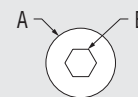
SS Adjuster Body

Dimensions in Metric

THREAD TYPE	A	B	C	D	E	WEIGHT
	mm	mm	mm	mm	mm	g
1/4" UNF	13.0	5.0	34.0	8.0	40.0	7

Dimensions in Imperial

	in.	in.	in.	in.	in.	oz
1/4" UNF	0.512	0.197	1.339	0.315	1.575	0.2



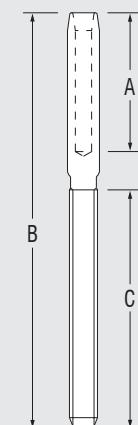
SS Threaded Swage Terminals

Dimensions in Metric

CABLE Ø		THREAD TYPE	A	B	C	WEIGHT
mm	in.					
3.0	1/8"	1/4" UNF	26.0	77.0	46.0	13
4.0	5/32"	1/4" UNF	28.0	90.0	46.0	18
5.0	3/16"	1/4" UNF	32.0	93.0	46.0	25
-	1/4"	1/4" UNF	42.0	96.0	46.0	40

Dimensions in Imperial

		in.	in.	in.	oz
3.0	1/8"				
4.0	5/32"	1.102	3.543	1.811	0.6
5.0	3/16"	1.260	3.661	1.811	0.9
-	1/4"	1.654	3.780	1.811	1.4



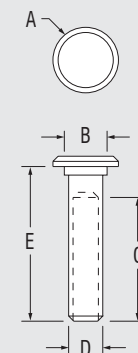
SS Swage Stops

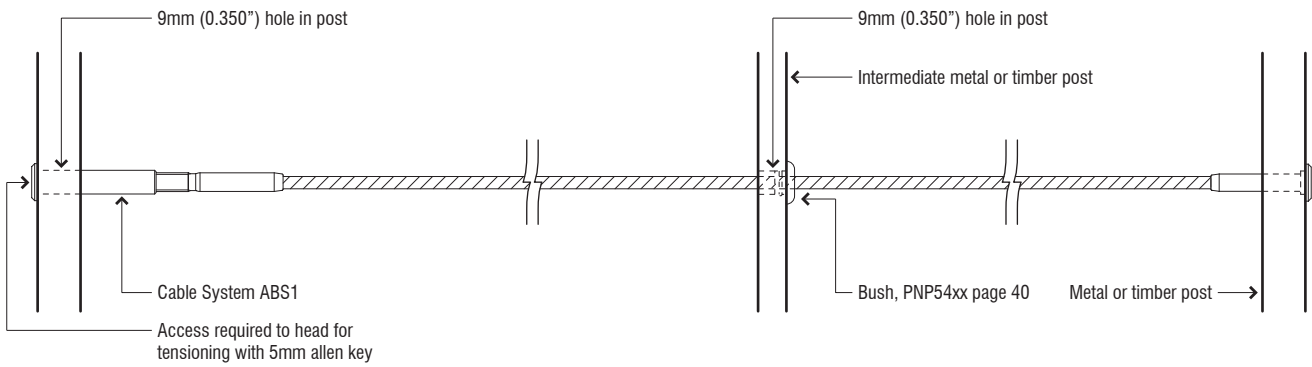
Dimensions in Metric

CABLE Ø		A	B	C	D	E	WEIGHT
mm	in.	mm	mm	mm	mm	mm	g
3.0	1/8"	13.0	8.0	26.0	6.4	31.0	8
4.0	5/32"	13.0	8.0	28.0	6.4	35.0	8
5.0	3/16"	13.0	8.0	32.0	7.6	42.0	14

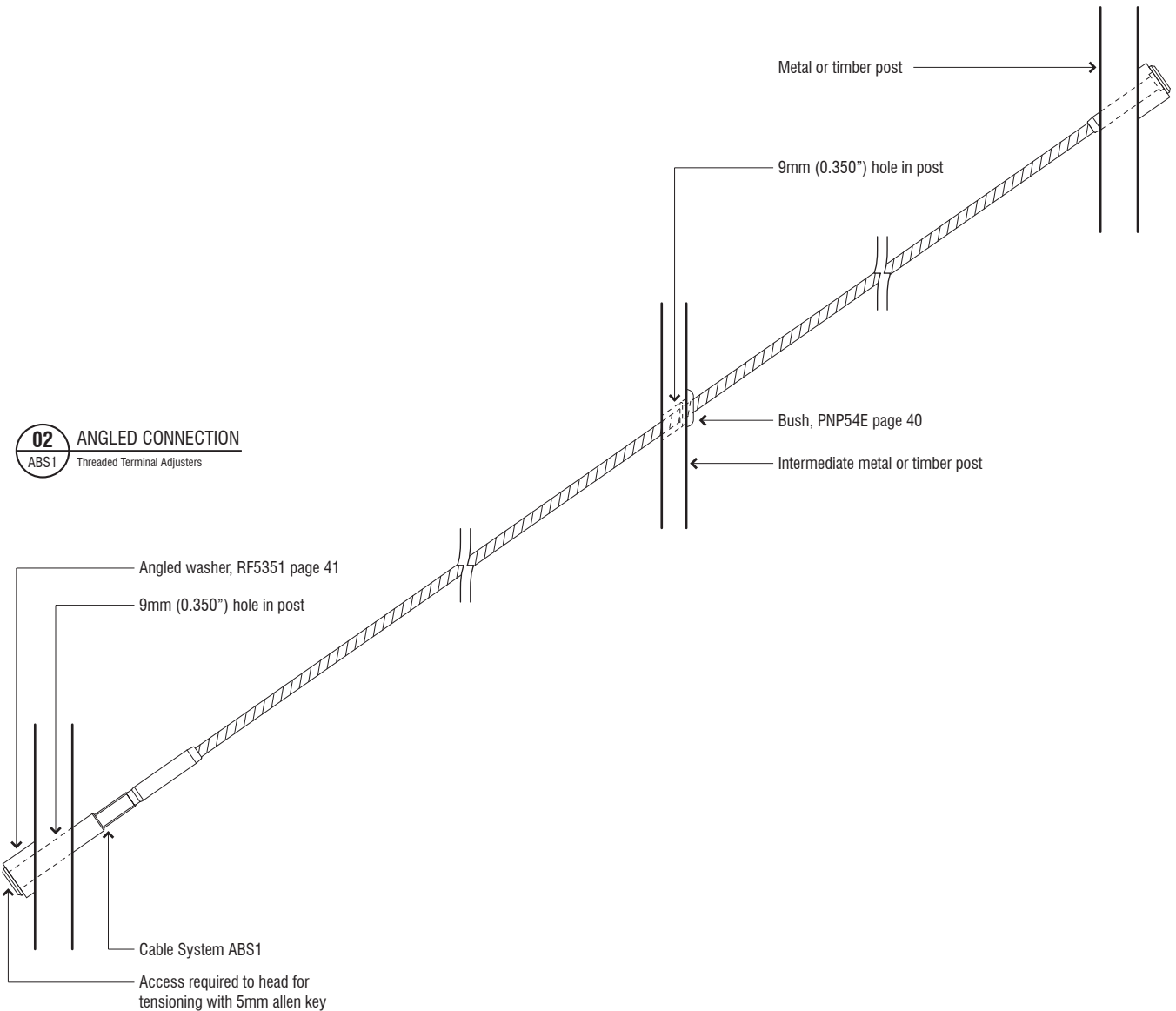
Dimensions in Imperial

		in.	in.	in.	in.	in.	oz
3.0	1/8"	0.512	0.315	1.024	0.252	1.220	0.3
4.0	5/32"	0.512	0.315	1.102	0.252	1.378	0.3
5.0	3/16"	0.512	0.315	1.260	0.299	1.634	0.5





01 HORIZONTAL OR VERTICAL CONNECTION
ABS1 Threaded Terminal Adjusters



02 ANGLED CONNECTION
ABS1 Threaded Terminal Adjusters

Microloc Adjusters

ABS2

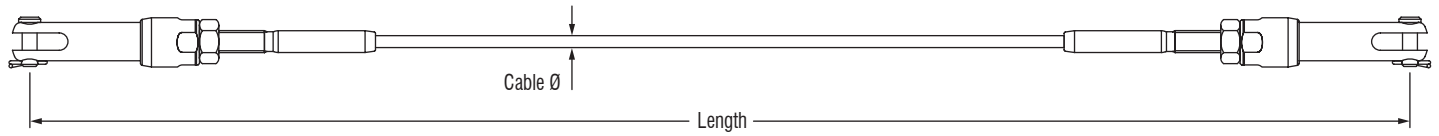
For a modern architectural twist on traditional end fittings. The unique Microloc turnbuckle has a wide range of connecting hardware and the option of tamper-resistant pins on the articulating fork ends. Simple to adjust, they are perfectly suited to horizontal and stairway applications in both commercial and domestic settings.

ABS2 - Versatility with a bold technical style.



ABS2 - Systems

Type A



SS Type A - Metric Cable

PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD			PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb				kN	kg	lb
ABS2A-19M03	3.0	1x19	5.3	540	1191	ABS2A-77M03	3.0	7x7	5.3	540	1191
ABS2A-19M04	4.0	1x19	7.8	800	1760	ABS2A-77M04	4.0	7x7	7.8	800	1760
ABS2A-19M05	5.0	1x19	7.8	800	1760	ABS2A-77M05	5.0	7x7	7.8	800	1760

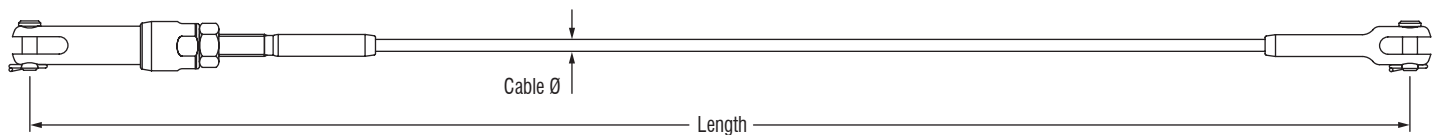
* Anti-theft option available - Suffix P after part number. eg. ABS2A-19M03P

SS Type A - Imperial Cable - ex. North America

PRODUCT No.	CABLE Ø in.	CABLE CONSTRUCTION	BREAKING LOAD			PRODUCT No.	CABLE Ø in.	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb				kN	kg	lb
ABS2A-19-04	1/8"	1x19	5.3	540	1191	ABS2A-77-04	1/8"	7x7	5.3	540	1191
ABS2A-19-05	5/32"	1x19	7.8	800	1760	ABS2A-77-05	5/32"	7x7	7.8	800	1760
ABS2A-19-06	3/16"	1x19	7.8	800	1760	ABS2A-77-06	3/16"	7x7	7.8	800	1760
ABS2A-19-08	1/4"	1x19	7.8	800	1760	ABS2A-77-08	1/4"	7x7	7.8	800	1760

* Anti-theft option available - Suffix P after part number. eg. ABS2A-19M03P

Type B



SS Type B - Metric Cable

PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD			PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb				kN	kg	lb
ABS2B-19M03	3.0	1x19	5.3	540	1191	ABS2B-77M03	3.0	7x7	3.4	408	899
ABS2B-19M04	4.0	1x19	7.8	800	1760	ABS2B-77M04	4.0	7x7	7.8	800	1760
ABS2B-19M05	5.0	1x19	7.8	800	1760	ABS2B-77M05	5.0	7x7	7.8	800	1760

* Anti-theft option available - Suffix P after part number. eg. ABS2B-19M03P

SS Type B - Imperial Cable - ex. North America

PRODUCT No.	CABLE Ø in.	CABLE CONSTRUCTION	BREAKING LOAD			PRODUCT No.	CABLE Ø in.	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb				kN	kg	lb
ABS2B-19-04	1/8"	1x19	5.3	540	1191	ABS2B-77-04	1/8"	7x7	3.4	408	899
ABS2B-19-05	5/32"	1x19	7.8	800	1760	ABS2B-77-05	5/32"	7x7	7.8	800	1760
ABS2B-19-06	3/16"	1x19	7.8	800	1760	ABS2B-77-06	3/16"	7x7	7.8	800	1760

* Anti-theft option available - Suffix P after part number. eg. ABS2B-19M03P

BALUSTRADE & RAILING CABLE SYSTEM SPECIFICATIONS

SS ABS2 - Microloc Adjusters

ABS2 - Component Dimensions

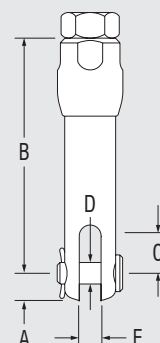
SS Microloc Body

Dimensions in Metric

THREAD TYPE	A	B	C	D	E	WEIGHT
	mm	mm	mm	mm	mm	g
1/4" UNF	6.0	52.0	7.5	4.8	5.0	35

Dimensions in Imperial

	in.	in.	in.	in.	in.	oz
1/4" UNF	0.236	2.047	0.295	0.188	0.197	1.2



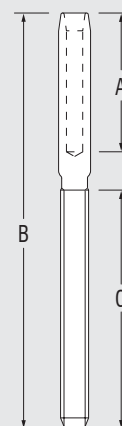
SS Threaded Swage Terminals

Dimensions in Metric

CABLE Ø		THREAD TYPE	A	B	C	WEIGHT
mm	in.		mm	mm	mm	g
3.0	1/8"	1/4" UNF	26.0	77.0	46.0	13
4.0	5/32"	1/4" UNF	28.0	90.0	46.0	18
5.0	3/16"	1/4" UNF	32.0	93.0	46.0	25
-	1/4"	1/4" UNF	42.0	96.0	46.0	40

Dimensions in Imperial

	in.	in.	in.	in.	in.	oz
3.0	1/8"	1/4" UNF	1.024	3.031	1.811	0.5
4.0	5/32"	1/4" UNF	1.102	3.543	1.811	0.6
5.0	3/16"	1/4" UNF	1.260	3.661	1.811	0.9
-	1/4"	1/4" UNF	1.654	3.780	1.811	1.4



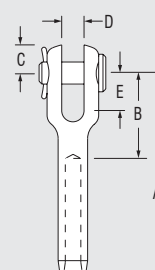
SS Swage Forks

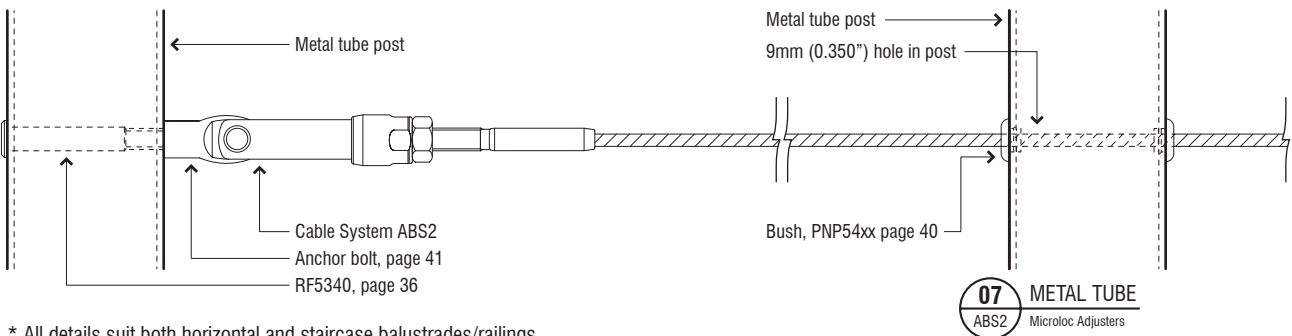
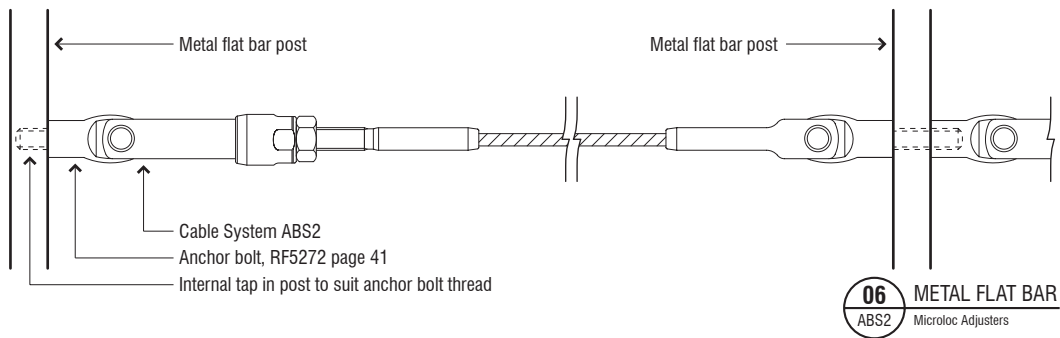
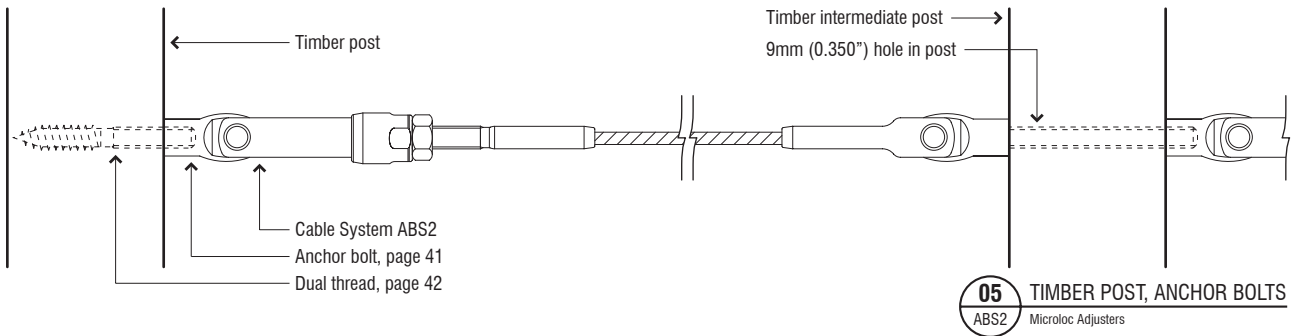
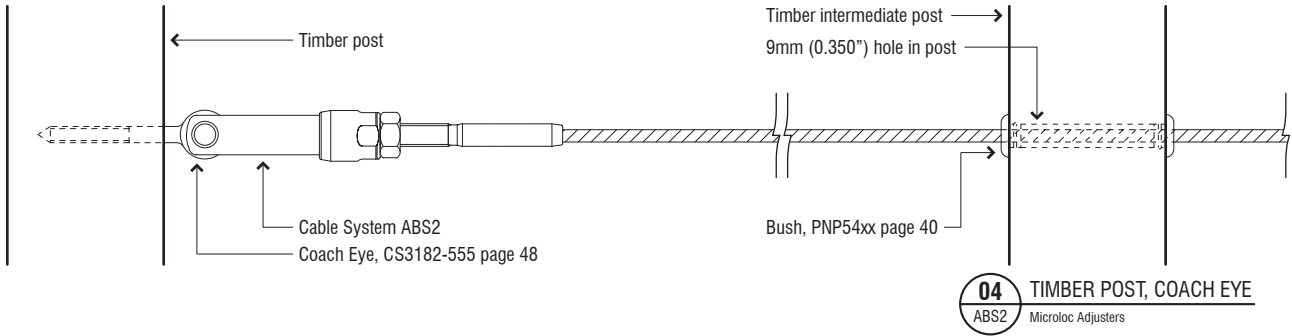
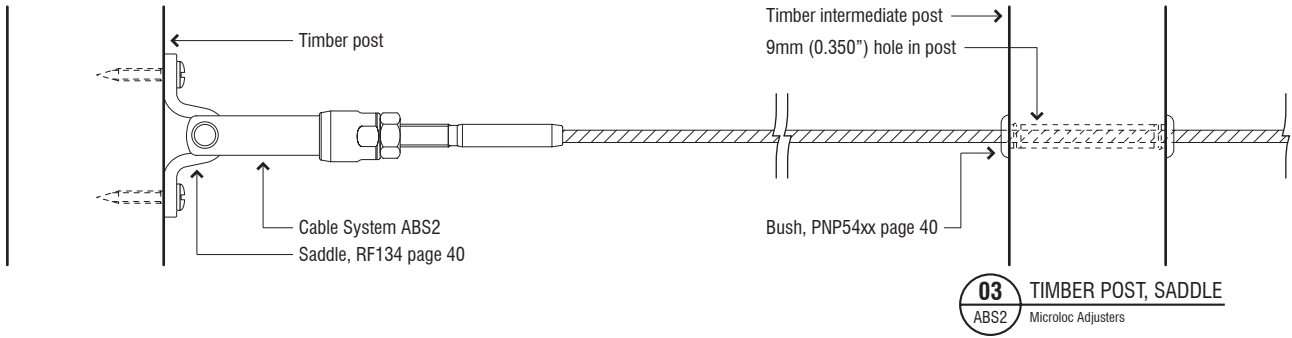
Dimensions in Metric

CABLE Ø		PIN Ø	A	B	C	D	E	WEIGHT
mm	in.	mm	mm	mm	mm	mm	mm	g
3.0	1/8"	4.8	43.0	17.0	6.0	4.8	7.5	14
4.0	5/32"	4.8	46.0	17.0	6.0	4.8	7.5	17
5.0	3/16"	4.8	49.0	17.0	6.0	4.8	7.5	18

Dimensions in Imperial

	in.	in.	in.	in.	in.	in.	in.	oz
3.0	1/8"	0.188	1.693	0.669	0.236	0.188	0.295	0.5
4.0	5/32"	0.188	1.811	0.669	0.236	0.188	0.295	0.6
5.0	3/16"	0.188	1.929	0.669	0.236	0.188	0.295	0.6





* All details suit both horizontal and staircase balustrades/railings

Tamper Resistant Adjusters

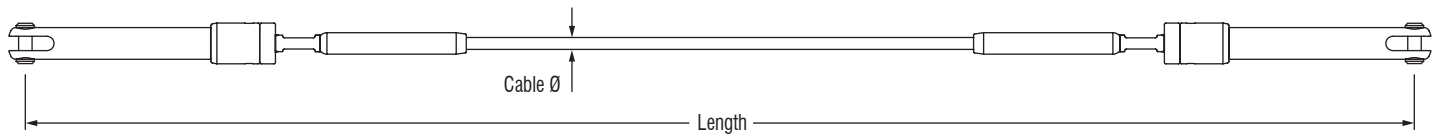
ABS3

Designed for urban developments, ABS3 is the world's only tamper resistant cable system. This feature, coupled with its sleek design and durability, make it the first choice for use in public spaces. Its versatility, secure end connections and ability to withstand harsh environments make it perfect for beach and river front areas, walkways and plazas.

ABS3 - The theft resistant cable.



ABS3 - Systems



Metric Cable

PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS3-19M03	3.0	1x19	5.3	540	1191
ABS3-19M04	4.0	1x19	7.8	800	1760
ABS3-19M05	5.0	1x19	7.8	800	1760

PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS3-77M03	3.0	7x7	5.3	544	1200
ABS3-77M04	4.0	7x7	7.8	800	1760
ABS3-77M05	5.0	7x7	7.8	800	1760

Imperial Cable - ex. North America

PRODUCT No.	CABLE Ø in.	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS3-19-04	1/8"	1x19	6.3	646	1424
ABS3-19-05	5/32"	1x19	7.8	800	1760
ABS3-19-06	3/16"	1x19	7.8	800	1760

PRODUCT No.	CABLE Ø in.	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS3-77-04	1/8"	7x7	6.3	646	1424
ABS3-77-05	5/32"	7x7	7.8	800	1760
ABS3-77-06	3/16"	7x7	7.8	800	1760

* ABS3 Cable Systems require tamper resistant 'C' spanner/wrench, see page 45



ABS3 - Component Dimensions

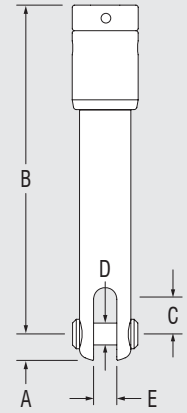
SS Turnbuckle Body

Dimensions in Metric

THREAD TYPE	A	B	C	D	E	WEIGHT
	mm	mm	mm	mm	mm	g
1/4" UNF	6.0	82.0	8.0	4.8	5.0	52

Dimensions in Imperial

	in.	in.	in.	in.	in.	oz
1/4" UNF	0.236	3.228	0.315	0.188	0.197	1.8



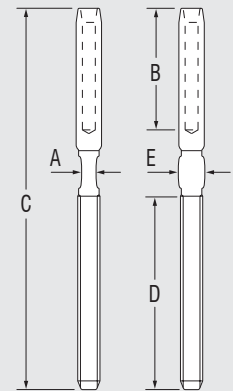
SS Threaded Swage Terminals

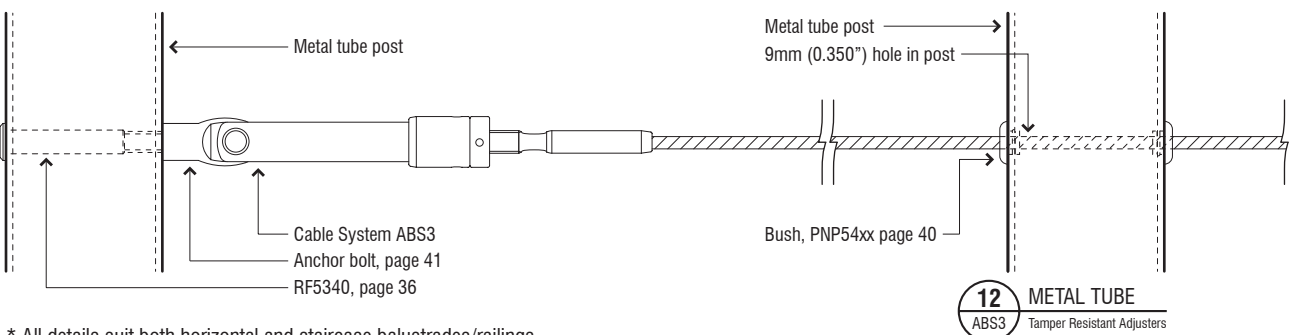
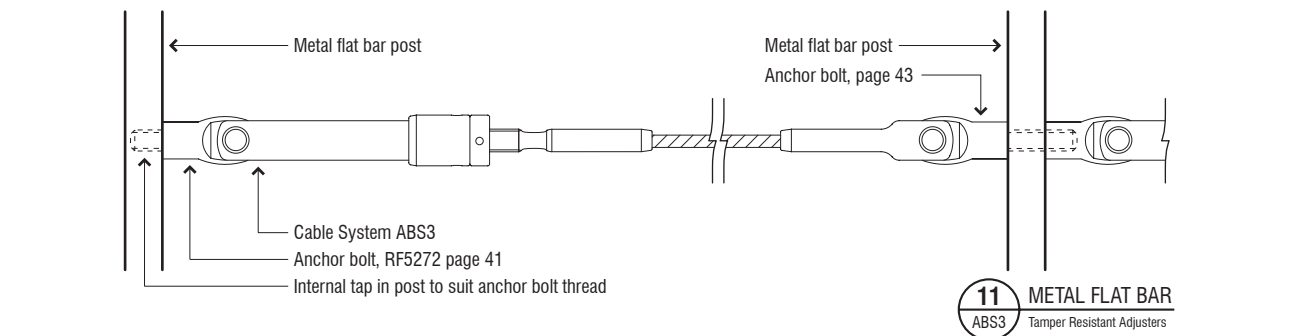
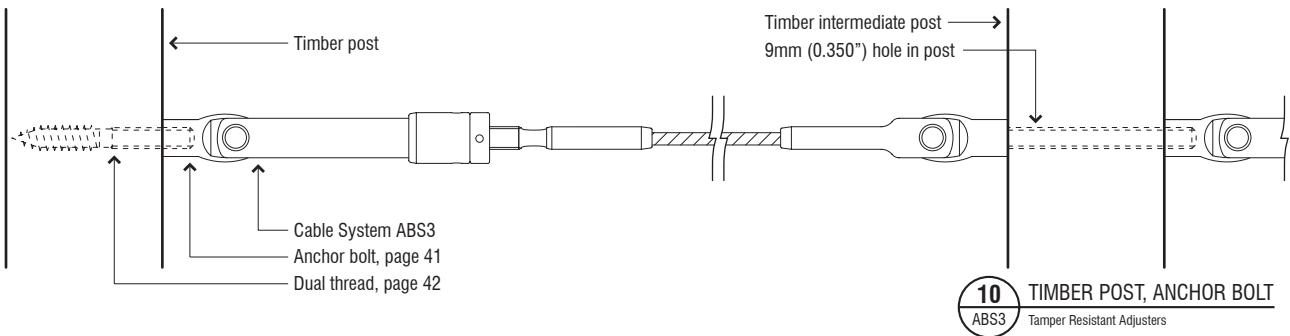
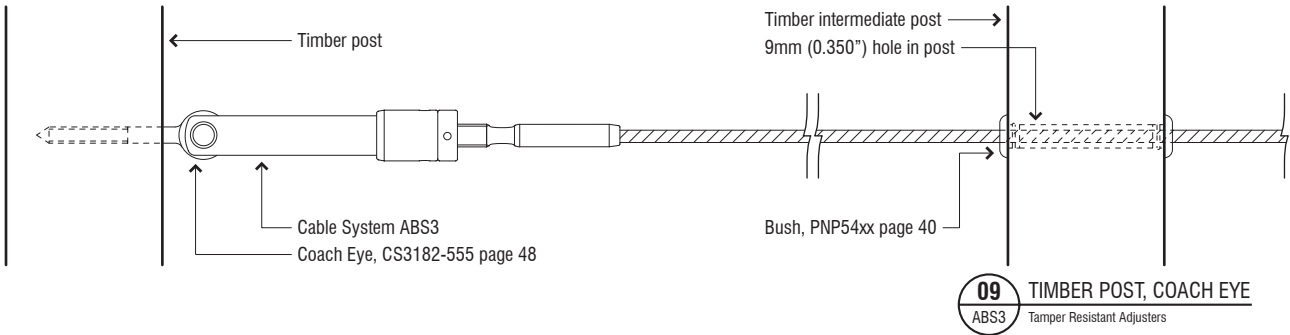
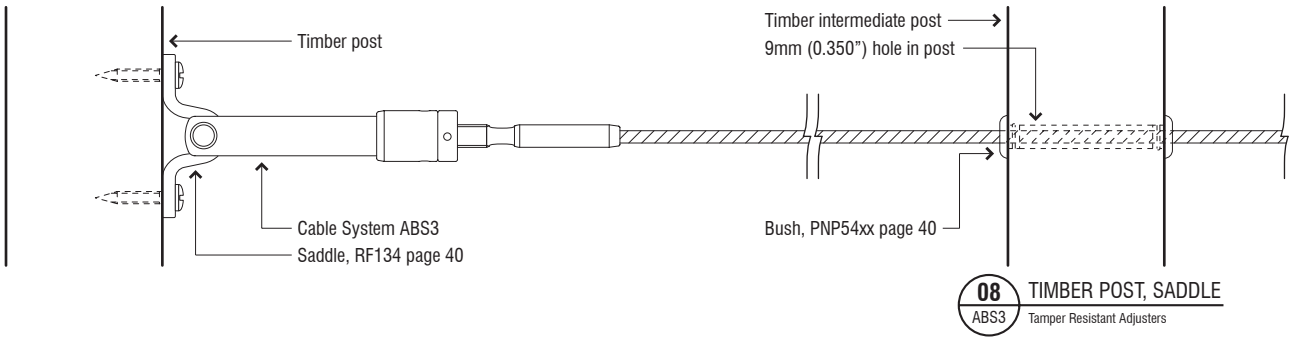
Dimensions in Metric

CABLE Ø		THREAD TYPE	A	B	C	D	E	WEIGHT
mm	in.							
3.0	1/8"	1/4" UNF	4.0	39.0	133.0	75.0	7.0	13
4.0	5/32"	1/4" UNF	4.0	45.0	140.0	75.0	7.0	18
5.0	3/16"	1/4" UNF	4.0	44.0	139.0	75.0	7.0	25

Dimensions in Imperial

	in.	in.	in.	in.	in.	in.	in.	oz
3.0	1/8"	1/4" UNF	0.157	1.535	5.236	2.953	0.276	0.5
4.0	5/32"	1/4" UNF	0.157	1.772	5.512	2.953	0.276	0.6
5.0	3/16"	1/4" UNF	0.157	1.732	5.472	2.953	0.276	0.9





* All details suit both horizontal and staircase balustrades/railings

In-line Adjusters

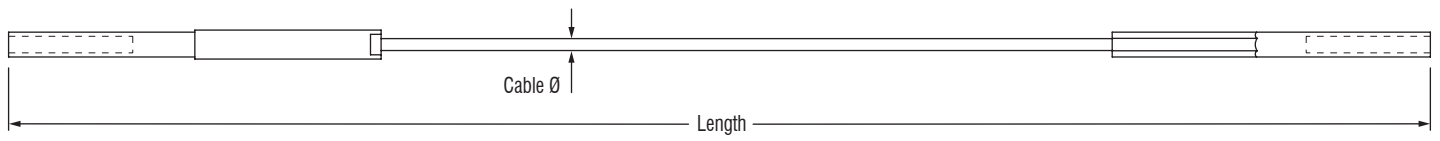
ABS4

The ultimate system when style, innovation and fine quality is required. With no visible threads, the swivel tensioners blend perfectly into their environment, making for a simple, elegant and uncluttered system. ABS4 is perfect for residential and commercial settings where architecture and aesthetics are at the fore.

ABS4 - The premium slim line cable.



ABS4 - Systems



SS Metric Cable

PRODUCT No.	CABLE Ø mm	CABLE CONSTRUCTION	BREAKING LOAD		
			kN	kg	lb
ABS4-77M03	3.0	7x7	4.6	469	1034
ABS4-77M04	4.0	7x7	8.1	826	1821
ABS4-77M05	5.0	7x7	12.0	1223	2693

* Not available in 1x19 cable construction



ABS4 - Component Dimensions

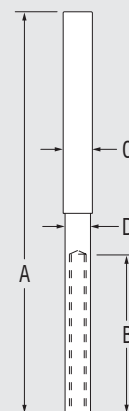
SS Turnbuckle Body

Dimensions in Metric

CABLE Ø	THREAD TYPE	A	B	C	D	WEIGHT
mm		mm	mm	mm	mm	g
3.0	M5	113.0	35.0	10.0	8.0	28
4.0	M6	113.0	35.0	10.0	8.0	28
5.0	M6	133.0	35.0	13.0	10.0	48

Dimensions in Imperial

in.		in.	in.	in.	in.	oz
0.118	M5	4.449	1.378	0.394	0.315	1.0
0.157	M6	4.449	1.378	0.394	0.315	1.0
0.197	M6	5.236	1.378	0.512	0.315	1.7



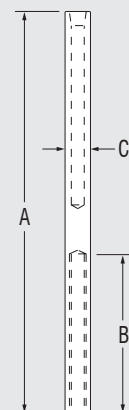
SS Threaded Swage Terminals

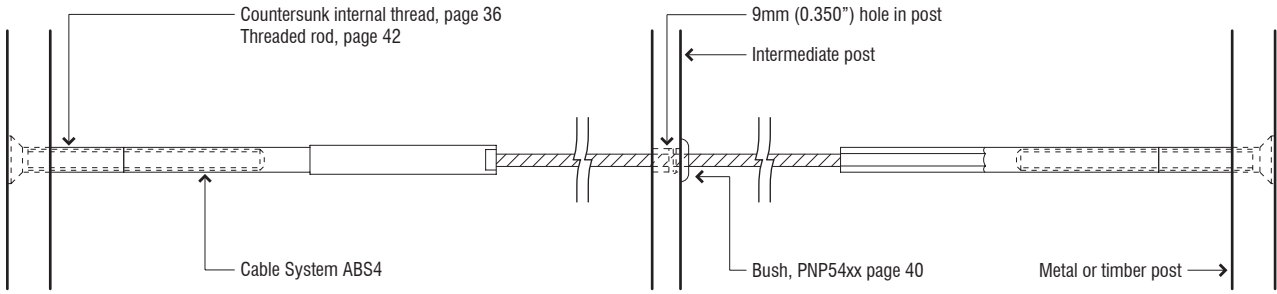
Dimensions in Metric

CABLE Ø	THREAD TYPE	A	B	C	WEIGHT
mm		mm	mm	mm	g
3.0	M5	90.0	35.0	7.0	19
4.0	M6	90.0	35.0	8.0	19
5.0	M6	100.0	35.0	8.0	22

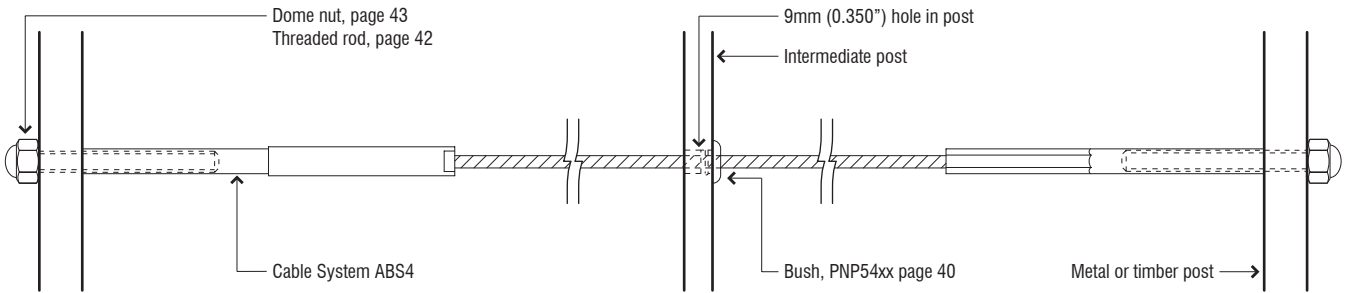
Dimensions in Imperial

in.		in.	in.	in.	oz
0.118	M5	3.543	1.378	0.276	0.7
0.157	M6	3.543	1.378	0.315	0.7
0.197	M6	3.937	1.378	0.315	0.8

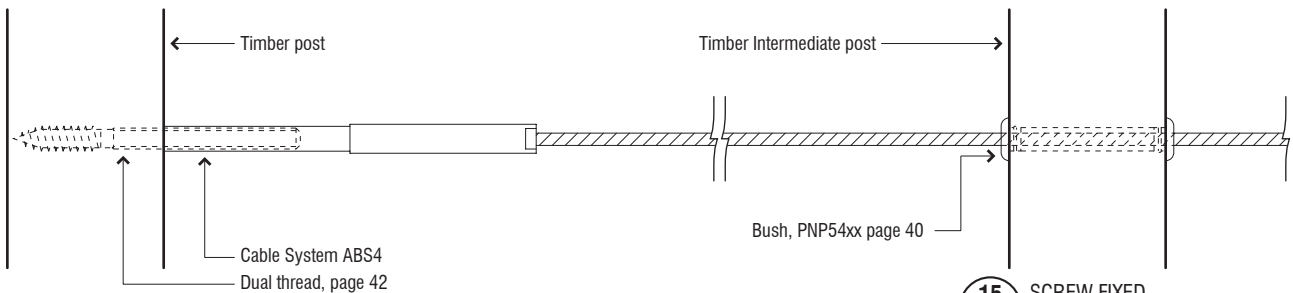




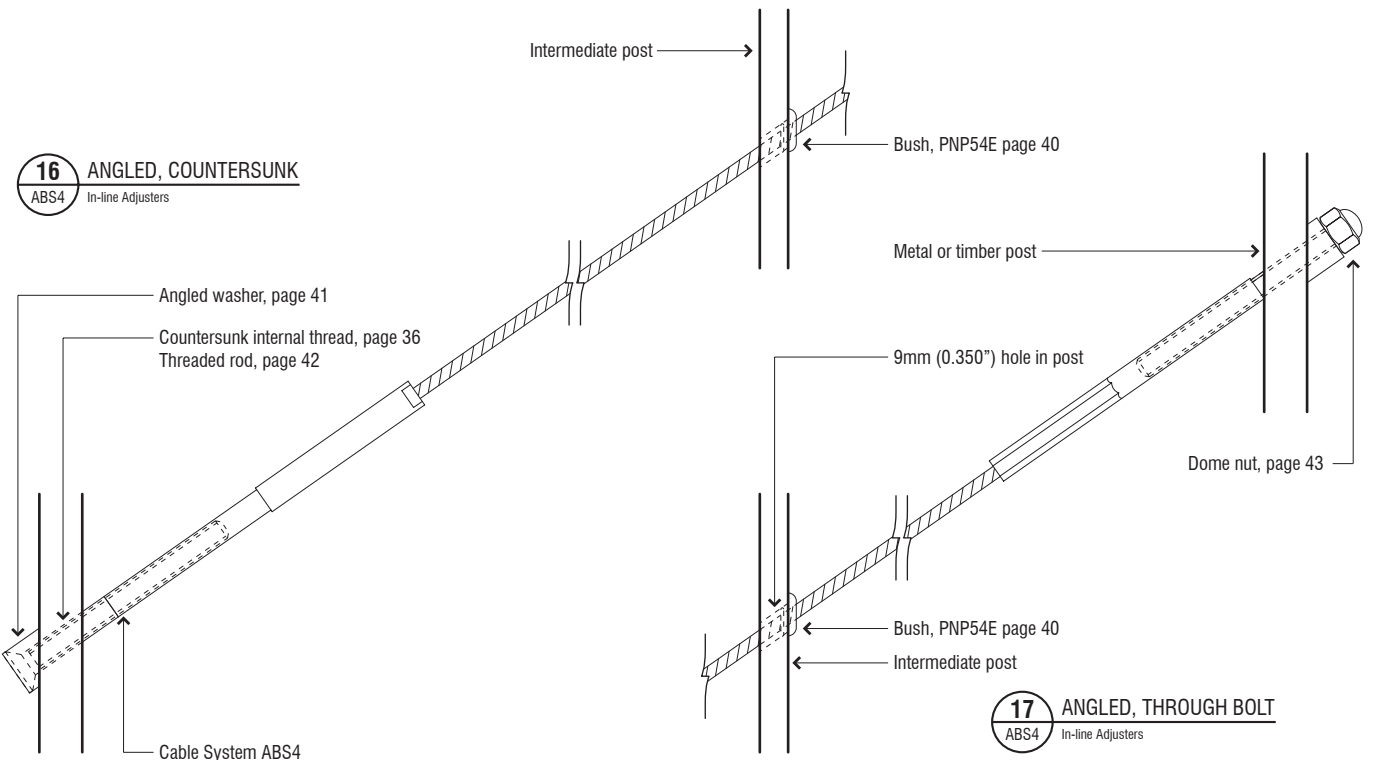
13 COUNTERSUNK
ABS4 In-line Adjusters



14 THROUGH BOLT
ABS4 In-line Adjusters



15 SCREW FIXED
ABS4 In-line Adjusters



16 ANGLED, COUNTERSUNK
ABS4 In-line Adjusters

17 ANGLED, THROUGH BOLT
ABS4 In-line Adjusters

X-TEND® Mesh

ABS5

Superb aesthetics meets performance with Ronstan's flexible stainless steel cable mesh. When bordered by a frame or tensioned cable, you can use X-TEND® to achieve extremely effective and stylish balustrading/railing. X-TEND® mesh allows for optimal transparency while offering superior performance in security and barrier applications.

ABS5 - X-TEND® Mesh

ABS5 - Systems

CarlStahl®

Range Considerations

ABS5 X-TEND® stainless steel mesh is custom manufactured to suit your balustrade, railing or barrier application. A successful application involves careful consideration of the following options.

Mesh Size

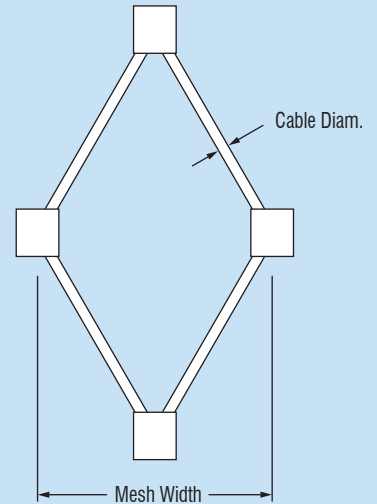
Stainless steel cable diameters from 1mm to 4mm can be selected for the mesh material in accordance with the desired level of "lightness" or strength.

Mesh Aperture/Width

Mesh apertures range from 25mm to 300mm and can be selected for aesthetics, "climb ability" and the preferred level of transparency.

Connections/Ferrules

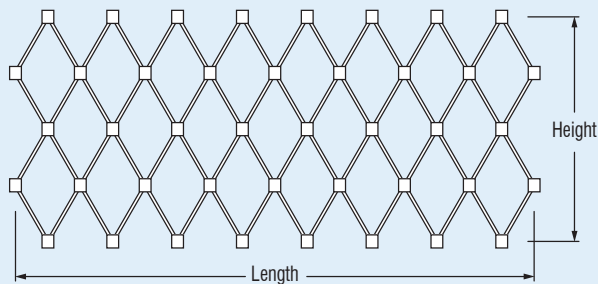
Mesh connections (ferrules) are available in nickel plated copper, or highly aesthetic stainless steel for premium applications or where resistance to corrosion is a driving consideration.



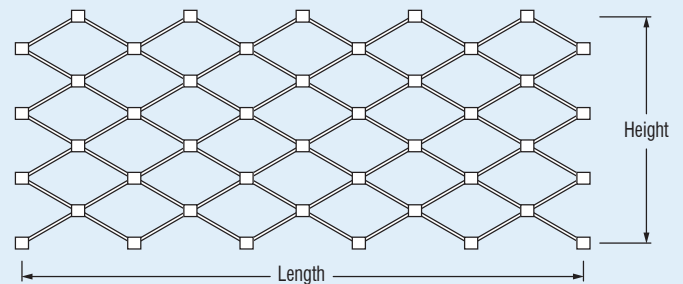
Mesh Orientation

Mesh can be applied in either a vertical or horizontal direction, again dependent on the balustrade or railing design and the required aesthetics.

Vertical



Horizontal



Border Fixings

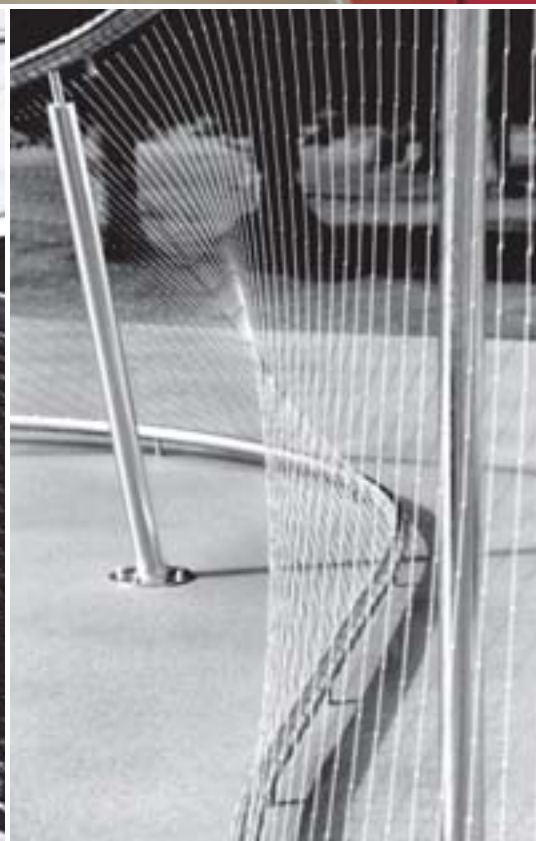
X-TEND® mesh needs to be secured in place with either border cables or perimeter tubes. These transfer the force exerted around the complete perimeter of the flexible mesh panel to the supporting structure, balustrade or railing. Border cables deflect in response to this force adding unique and elegant form to the application. Where aesthetics demand a more linear or regular mesh panel free of deflection, then the mesh can be laced directly to a rod or tube frame.

Specification Support & Design Assistance

ABS5 X-TEND® mesh is a fully load rated elastic stainless steel mesh with properties that allow some fantastic three dimensional applications. For optimal results our Design Engineering Department can provide border and fixing recommendations, assistance with component selection and detailed CAD drawings.

BALUSTRADE & RAILING CABLE SYSTEM SPECIFICATIONS

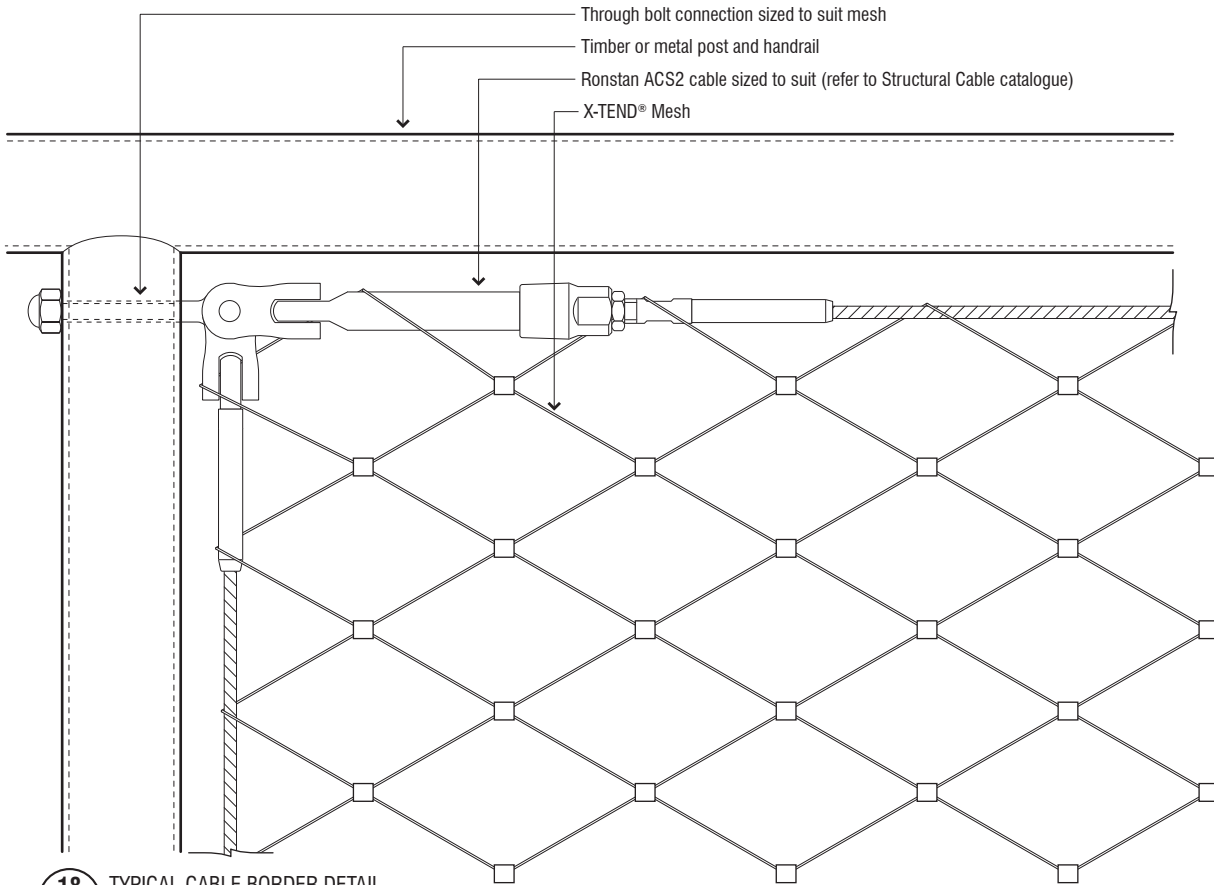
SS ABS5 - X-TEND® Mesh



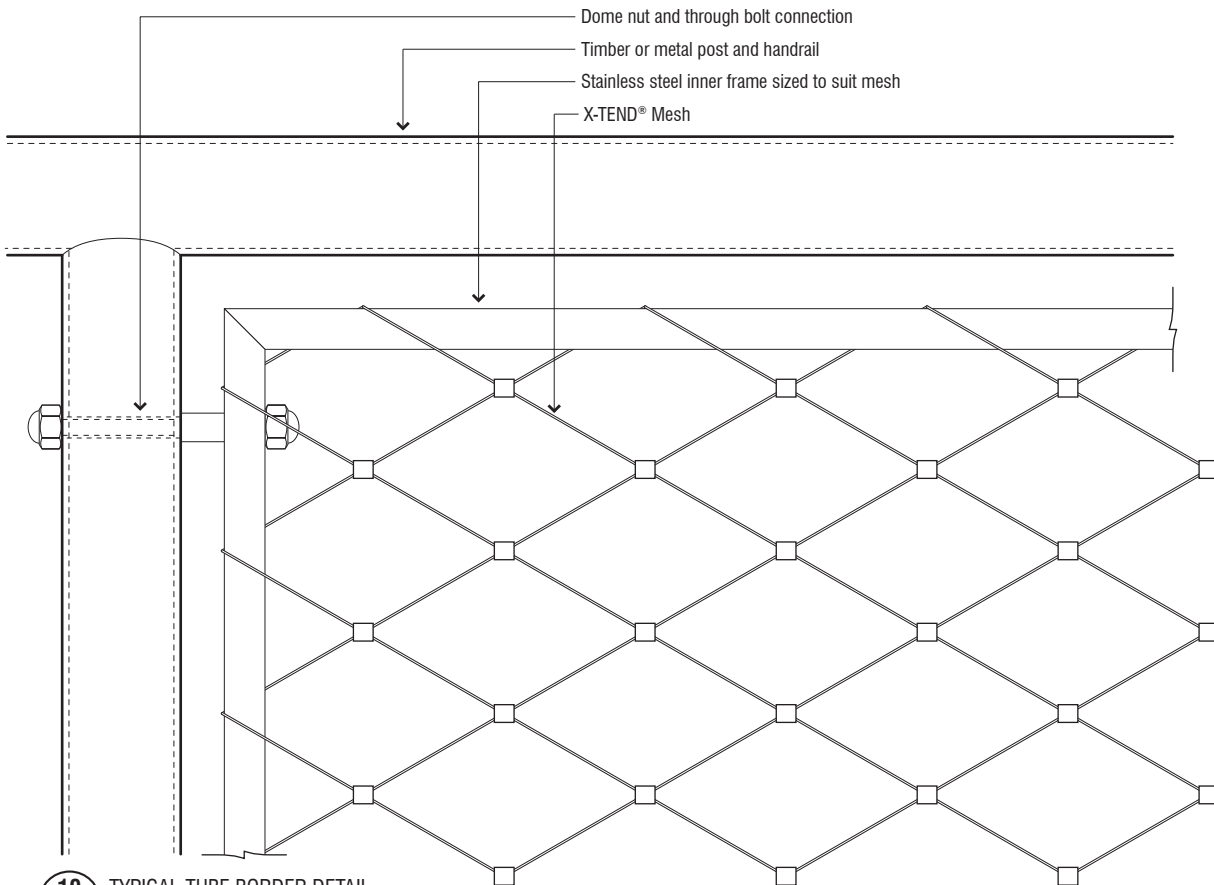


BALUSTRADE & RAILING CABLE SYSTEM SPECIFICATIONS

SS ABS5 - X-TEND® Mesh



18 TYPICAL CABLE BORDER DETAIL
ABS5 X-TEND® Mesh



19 TYPICAL TUBE BORDER DETAIL
ABS5 X-TEND® Mesh



COMPONENTS

Variety and versatility to suit any application, Ronstan components show our many years of experience in dealing with diverse structural cable applications. The Ronstan name is built with these components and the knowledge of applying them to suit your needs.

Components - Quality, strength and distinction.



SS Microloc Turnbuckle Body

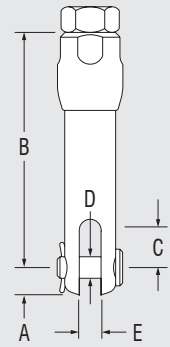
Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF3200-04	1/4" UNF	6.0	52.0	7.5	4.8	5.0	35
RF3200P04*	1/4" UNF	6.0	52.0	7.5	4.8	5.0	35

Dimensions in Imperial

		in.	in.	in.	in.	in.	oz
RF3200-04	1/4" UNF	0.236	2.047	0.295	0.188	0.197	1.2
RF3200P04*	1/4" UNF	0.236	2.047	0.295	0.188	0.197	1.2

* Tamper-Resistant Press Pin Option



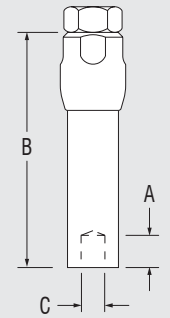
SS Microloc Turnbuckle body with Internal Thread

Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	C mm	WEIGHT g
RF3207M8	1/4" UNF	10.0	52.5	M8 x 1.25	32

Dimensions in Imperial

		in.	in.	in.	oz
RF3207M8	1/4" UNF	0.394	2.067	M8 x 1.25	1.1



SS Microloc Tamper Resistant Turnbuckle Body*

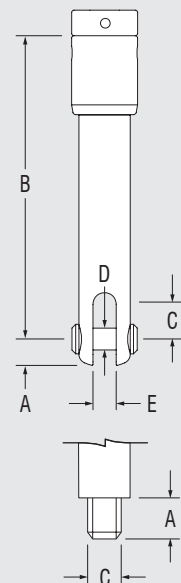
Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF3205P04	1/4" UNF	6.0	82.0	7.5	4.8	5.0	52
RF3206-04	1/4" UNF	10.0	82.0	M10 x 1.5 (L.H.)	-	-	52

Dimensions in Imperial

		in.	in.	in.	in.	in.	oz
RF3205P04	1/4" UNF	0.236	3.228	0.295	0.188	0.197	1.8
RF3206-04	1/4" UNF	0.394	3.228	M10 x 1.5 (L.H.)	-	-	1.8

* Requires Tamper-Resistant 'C' spanner/wrench, see page 48



SS Swageless Turnbuckle with External Thread - Metric Cable

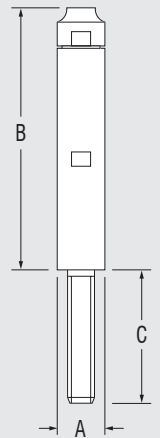
Dimensions in Metric

PRODUCT No.		CABLE Ø mm	THREAD TYPE	A mm	B mm	C mm	WEIGHT g
RH THREAD	LH THREAD						
1826-0300-030	1827-0300-030	3.0	M6	13.0	85.0	30.0	50
1826-0300-060	1827-0300-060	3.0	M6	13.0	115.0	60.0	55
1826-0400-030	1827-0400-030	4.0	M6	13.0	85.0	30.0	49
1826-0400-060	1827-0400-060	4.0	M6	13.0	115.0	60.0	54
1826-0500-030	1827-0500-030	5.0	M8	15.0	87.0	30.0	68
1826-0500-060	1827-0500-060	5.0	M8	15.0	117.0	60.0	78

Dimensions in Imperial

				in.	in.	in.	oz
1826-0300-030	1827-0300-030	3.0	M6	0.512	3.346	1.181	1.8
1826-0300-060	1827-0300-060	3.0	M6	0.512	4.528	2.362	1.9
1826-0400-030	1827-0400-030	4.0	M6	0.512	3.346	1.181	1.7
1826-0400-060	1827-0400-060	4.0	M6	0.512	4.528	2.362	1.9
1826-0500-030	1827-0500-030	5.0	M8	0.591	3.425	1.181	2.4
1826-0500-060	1827-0500-060	5.0	M8	0.591	4.606	2.362	2.8

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SS Swageless Turnbuckle with Internal Thread - Metric Cable

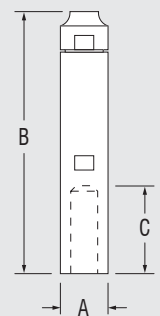
Dimensions in Metric

PRODUCT No.		CABLE Ø mm	THREAD TYPE	A mm	B mm	C mm	WEIGHT g
RH THREAD	LH THREAD						
1831-0300	1832-0300	3.0	M6	13.0	55.0	18.0	42
1831-0400	1832-0400	4.0	M6	13.0	55.0	18.0	41
1831-0500	1832-0500	5.0	M8	15.0	57.0	20.0	53

Dimensions in Imperial

				in.	in.	in.	oz
1831-0300	1832-0300	3.0	M6	0.512	2.165	0.709	1.5
1831-0400	1832-0400	4.0	M6	0.512	2.165	0.709	1.4
1831-0500	1832-0500	5.0	M8	0.591	2.244	0.787	1.9

CarlStahl®



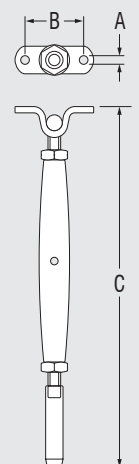
SS Toggle Turnbuckle - Imperial Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø in.	THREAD TYPE	A mm	B mm	C min mm	C max mm
6TT3DT	1/8"	1/4" UNF	6.4	32.0	152.0	229.0
6TT4DT	5/32"	1/4" UNF	6.4	32.0	159.0	235.0
6TT5DT	3/16"	1/4" UNF	6.4	32.0	159.0	235.0

Dimensions in Imperial

			in.	in.	in.	in.
6TT3DT	1/8"	1/4" UNF	0.252	1.260	5.984	9.016
6TT4DT	5/32"	1/4" UNF	0.252	1.260	6.260	9.252
6TT5DT	3/16"	1/4" UNF	0.252	1.260	6.260	9.252



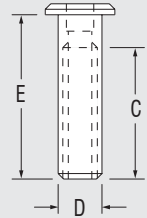
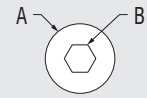
SS Threaded Terminal Adjuster

Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF5340	1/4" UNF	13.0	5.0	34.0	8.0	40.0	7

Dimensions in Imperial

		in.	in.	in.	in.	in.	oz
RF5340	1/4" UNF	0.512	0.197	1.339	0.315	1.575	0.2



SS Threaded Terminal Adjuster - Countersunk Head

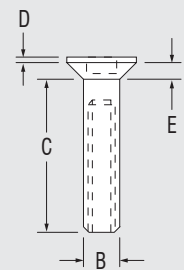
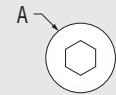
Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
1866-0500-02	M5	10.4	7.0	28.0	2.0	1.7	9
1866-0600-02	M6	12.4	8.0	27.5	2.0	2.2	13

Dimensions in Imperial

		in.	in.	in.	in.	in.	oz
1866-0500-02	M5	0.409	0.276	1.102	0.079	0.067	0.3
1866-0600-02	M6	0.488	0.315	1.083	0.079	0.087	0.5

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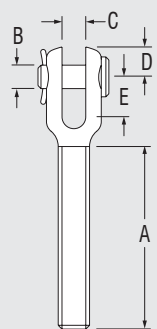
SS Microloc Threaded Fork

Dimensions in Metric

PRODUCT No.	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF3250-04	46.0	5.0	4.8	6.0	7.5	17
RF3250P04*	46.0	5.0	4.8	6.0	7.5	17

Dimensions in Imperial

	in.	in.	in.	in.	in.	oz
RF3250-04	1.811	0.188	0.197	0.236	0.295	0.6
RF3250P04*	1.811	0.188	0.197	0.236	0.295	0.6



* Tamper Resistant pin

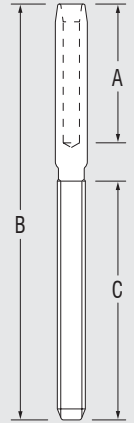
SS Microloc Threaded Swage Terminals - Metric Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø mm	THREAD TYPE	A mm	B mm	C mm	WEIGHT g
RF3211M0304	3.0	1/4" UNF	26.0	77.0	46.0	13
RF3211M0404	4.0	1/4" UNF	28.0	90.0	46.0	18
RF3211M0504	5.0	1/4" UNF	32.0	93.0	46.0	25

Dimensions in Imperial

			in.	in.	in.	oz
RF3211M0304	3.0	1/4" UNF	1.024	3.031	1.811	0.5
RF3211M0404	4.0	1/4" UNF	1.102	3.543	1.811	0.6
RF3211M0504	5.0	1/4" UNF	1.260	3.661	1.811	0.9



SS Microloc Threaded Swage Terminals - Imperial Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø in.	THREAD TYPE	A mm	B mm	C mm	WEIGHT g
RF3210-0404	1/8"	1/4" UNF	26.0	77.0	46.0	13
RF3210-0504	5/32"	1/4" UNF	28.0	90.0	46.0	18
RF3210-0604	3/16"	1/4" UNF	32.0	93.0	46.0	25
RF3210-0804	1/4"	1/4" UNF	42.0	96.0	46.0	40

Dimensions in Imperial

			in.	in.	in.	oz
RF3210-0404	1/8"	1/4" UNF	1.024	3.031	1.811	0.5
RF3210-0504	5/32"	1/4" UNF	1.102	3.543	1.811	0.6
RF3210-0604	3/16"	1/4" UNF	1.260	3.661	1.811	0.9
RF3210-0804	1/4"	1/4" UNF	1.654	3.780	1.811	1.4

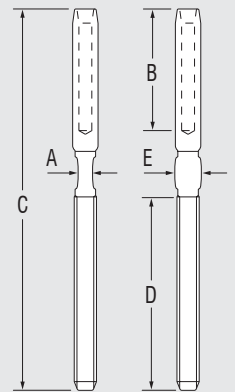
SS Threaded Swage Terminals - Metric Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø mm	THREAD TYPE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF1512M0304	3.0	1/4" UNF	4.0	39.0	133.0	75.0	7.0	25
RF1512M0404	4.0	1/4" UNF	4.0	45.0	140.0	75.0	7.0	30
RF1512M0504	5.0	1/4" UNF	4.0	44.0	139.0	75.0	7.0	41

Dimensions in Imperial

			in.	in.	in.	in.	in.	oz
RF1512M0304	3.0	1/4" UNF	0.157	1.535	5.236	2.953	0.276	0.9
RF1512M0404	4.0	1/4" UNF	0.157	1.772	5.512	2.953	0.276	1.1
RF1512M0504	5.0	1/4" UNF	0.157	1.732	5.472	2.953	0.276	1.4



SS Threaded Swage Terminals - Imperial Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø in.	THREAD TYPE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF1510-0404	1/8"	1/4" UNF	4.0	39.0	132.0	75.0	7.0	25
RF1510-0504	5/32"	1/4" UNF	4.0	45.0	141.0	75.0	7.0	30
RF1510-0604	3/16"	1/4" UNF	4.0	44.0	139.0	75.0	7.0	41

Dimensions in Imperial

			in.	in.	in.	in.	in.	oz
RF1510-0404	1/8"	1/4" UNF	0.157	1.535	5.197	2.953	0.276	0.9
RF1510-0504	5/32"	1/4" UNF	0.157	1.772	5.551	2.953	0.276	1.1
RF1510-0604	3/16"	1/4" UNF	0.157	1.732	5.472	2.953	0.276	1.4

COMPONENTS SPECIFICATIONS

SS Fixed End Components

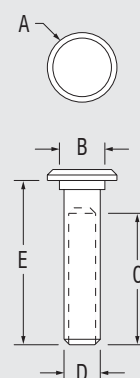
SS End Stop Terminals - Metric Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø mm	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF3213M03	3.0	13.0	8.0	26.0	6.4	31.0	8
RF3213M04	4.0	13.0	8.0	28.0	6.4	35.0	8
RF3213M05	5.0	13.0	8.0	32.0	7.6	41.5	14

Dimensions in Imperial

		in.	in.	in.	in.	in.	oz
RF3213M03	3.0	0.512	0.315	1.024	0.252	1.220	0.3
RF3213M04	4.0	0.512	0.315	1.102	0.252	1.378	0.3
RF3213M05	5.0	0.512	0.315	1.260	0.299	1.634	0.5



SS End Stop Terminals - Imperial Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø in.	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF3212-04	1/8"	13.0	8.0	26.0	6.4	31.0	8
RF3212-05	5/32"	13.0	8.0	28.0	6.4	35.0	8
RF3212-06	3/16"	13.0	8.0	32.0	7.6	41.5	14

Dimensions in Imperial

		in.	in.	in.	in.	in.	oz
RF3212-04	1/8"	0.512	0.315	1.024	0.252	1.220	0.3
RF3212-05	5/32"	0.512	0.315	1.102	0.252	1.378	0.3
RF3212-06	3/16"	0.512	0.315	1.260	0.299	1.634	0.5

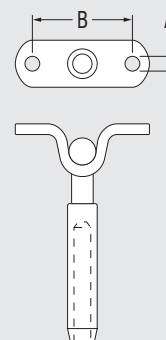
SS Deck Toggle - Imperial Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø in.	THREAD TYPE	A mm	B mm
6TJ3DT	1/8"	1/4 UNF	6.4	32.0
6TJ4DT	5/32"	1/4 UNF	6.4	32.0
6TJ5DT	3/16"	1/4 UNF	6.4	32.0

Dimensions in Imperial

			in.	in.
6TJ3DT	1/8"	1/4 UNF	0.252	1.260
6TJ4DT	5/32"	1/4 UNF	0.252	1.260
6TJ5DT	3/16"	1/4 UNF	0.252	1.260



SS End Stop Terminals, Countersunk Head - Metric Cable

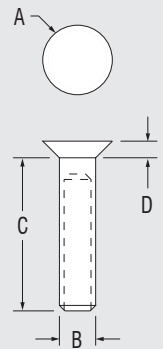
Dimensions in Metric

PRODUCT No.	CABLE Ø mm	A mm	B mm	C mm	D mm	WEIGHT g
1866-0300-04	3.0	8.0	4.5	9.0	10.0	1
1866-0400-04	4.0	10.0	5.0	12.0	13.5	2
1866-0500-04	5.0	12.0	6.0	15.0	18.3	3

Dimensions in Imperial

		in.	in.	in.	in.	oz
1866-0300-04	3.0	0.177	0.315	0.354	0.394	0.1
1866-0400-04	4.0	0.197	0.394	0.472	0.531	0.1
1866-0500-04	5.0	0.236	0.472	0.591	0.720	0.1

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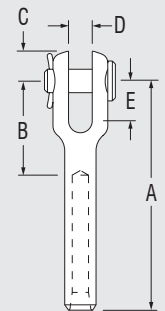
SS Microloc Swage Forks - Metric Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø mm	PIN Ø mm	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF3221M03	3.0	4.8	43.0	17.0	6.0	4.8	7.5	14
RF3221PM03*	3.0	4.8	43.0	17.0	6.0	4.8	7.5	14
RF3221M04	4.0	4.8	46.0	17.0	6.0	4.8	7.5	17
RF3221PM04*	4.0	4.8	46.0	17.0	6.0	4.8	7.5	17
RF3221M05	5.0	4.8	49.0	17.0	6.0	4.8	7.5	18

Dimensions in Imperial

		in.	in.	in.	in.	in.	in.	oz
RF3221M03	3.0	0.188	1.693	0.669	0.236	0.188	0.295	0.5
RF3221PM03*	3.0	0.188	1.693	0.669	0.236	0.188	0.295	0.5
RF3221M04	4.0	0.188	1.811	0.669	0.236	0.188	0.295	0.6
RF3221PM04*	4.0	0.188	1.811	0.669	0.236	0.188	0.295	0.6
RF3221M05	5.0	0.188	1.929	0.669	0.236	0.188	0.295	0.6



* Tamper-Resistant Clevis Pin Style ** M03 & M04 uses 3mm die when swaging *** M05 uses 4mm die when swaging

SS Microloc Swage Forks - Imperial Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø in.	A mm	B mm	C mm	PIN Ø mm	D mm	E mm	WEIGHT g
RF3220-04	1/8"	43.0	17.0	6.0	4.8	4.8	7.5	14
RF3220P04*	1/8"	43.0	17.0	6.0	4.8	4.8	7.5	14
RF3220-05	5/32"	43.0	17.0	6.0	4.8	4.8	7.5	17
RF3220P05*	5/32"	43.0	17.0	6.0	4.8	4.8	7.5	17
RF3220-06	3/16"	49.0	17.0	6.0	4.8	4.8	7.5	18
RF3220P06*	3/16"	49.0	17.0	6.0	4.8	4.8	7.5	18

Dimensions in Imperial

		in.	in.	in.	in.	in.	in.	oz
RF3220-04	1/8"	1.693	0.669	0.236	0.188	0.188	0.295	0.5
RF3220P04*	1/8"	1.693	0.669	0.236	0.188	0.188	0.295	0.5
RF3220-05	5/32"	1.693	0.669	0.236	0.188	0.188	0.295	0.6
RF3220P05*	5/32"	1.693	0.669	0.236	0.188	0.188	0.295	0.6
RF3220-06	3/16"	1.929	0.669	0.236	0.188	0.188	0.295	0.6
RF3220P06*	3/16"	1.929	0.669	0.236	0.188	0.188	0.295	0.6

* Tamper-Resistant Clevis Pin Style ** 04 & 05 uses 3mm die when swaging *** 06 uses 4mm die when swaging

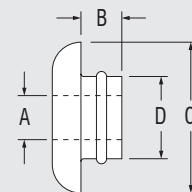
COMPONENTS SPECIFICATIONS

SS Bushes / Saddles

Bushes

Dimensions in Metric

PRODUCT No.	A mm	B mm	C mm	D mm	WEIGHT g
PNP54DBLK	4.2	7.8	13.0	9.0	1
PNP54DS	4.2	7.8	13.0	9.0	1
PNP54FB	6.0	10.0	14.0	10.0	1.2
PNP54FS	6.0	10.0	14.0	10.0	1.2



Dimensions in Imperial

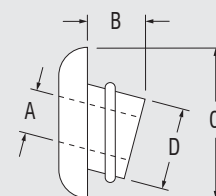
	in.	in.	in.	in.	oz
PNP54DBLK	0.165	0.307	0.512	0.354	0.1
PNP54DS	0.165	0.307	0.512	0.354	0.1
PNP54FB	0.236	0.394	0.551	0.394	0.1
PNP54FS	0.236	0.394	0.551	0.394	0.1

BLK, B - Black S - Silver

Angled Bushes

Dimensions in Metric

PRODUCT No.	A mm	B mm	C mm	D mm	WEIGHT g
PNP54EB	4.2	6.6	14.8	9.0	1
PNP54ES	4.2	6.6	14.8	9.0	1



Dimensions in Imperial

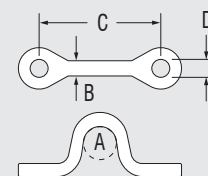
	in.	in.	in.	in.	oz
PNP54EB	0.165	0.260	14.8	0.354	0.1
PNP54ES	0.165	0.260	14.8	0.354	0.1

BLK, B - Black S - Silver

SS Saddles

Dimensions in Metric

PRODUCT No.	A mm	B mm	C mm	D mm	WEIGHT g
RF498	10.0	3.5	27.0	4.0	4
RF134	14.0	4.8	36.5	5.0	5
RF134A	14.0	4.8	36.5	5.0	5
RF1055	16.0	7.0	45.0	6.0	15
RF1054	18.0	5.5	60.0	8.0	35
RF528	12.0	7.0	44.0	8.0	25



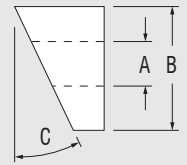
Dimensions in Imperial

	in.	in.	in.	in.	oz
RF498	0.394	0.138	1.063	0.157	0.1
RF134	0.551	0.189	1.437	0.197	0.2
RF134A	0.551	0.189	1.437	0.197	0.2
RF1055	0.630	0.276	1.772	0.236	0.5
RF1054	0.709	0.217	2.362	0.315	1.2
RF528	0.472	0.276	1.732	0.315	0.9

Angled Bushes

Dimensions in Metric

PRODUCT No.	A mm	B mm	C degrees	WEIGHT g
RF5351*	8.1	11.0	35.0	2
RF5352*	6.4	11.0	35.0	2
PNP244ABLK**	8.5	15.0	35.0	1
PNP244AS**	8.5	15.0	35.0	1
PNP244BBLK**	6.5	15.0	35.0	1
PNP244BS**	6.5	15.0	35.0	1



Dimensions in Imperial

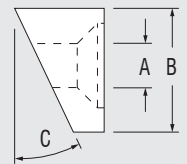
	in.	in.		oz
RF5351*	0.319	0.433	35.0	0.1
RF5352*	0.252	0.433	35.0	0.1
PNP244ABLK**	0.335	0.591	35.0	0.1
PNP244AS**	0.335	0.591	35.0	0.1
PNP244BBLK**	0.256	0.591	35.0	0.1
PNP244BS**	0.256	0.591	35.0	0.1

* Grade 316 Stainless Steel ** Nylon BLK - Black S - Silver

SS Angled Bushes for Countersunk End Stops

Dimensions in Metric

PRODUCT No.	A mm	B mm	C degrees	WEIGHT g
I862-03-2	7.3	13.0	35.0	2
I862-04-2	8.3	13.0	35.0	2



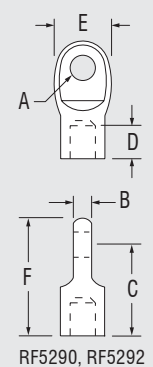
Dimensions in Imperial

	in.	in.		oz
I862-03-2	0.287	0.512	35.0	0.1
I862-04-2	0.327	0.512	35.0	0.1

SS Anchor Bolts / Anchor Nuts

Dimensions in Metric

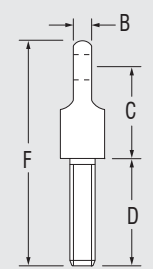
PRODUCT No.	THREAD TYPE	A mm	B mm	C mm	D mm	E mm	F mm	WEIGHT g
RF5270	1/4" UNF	6.4	4.8	23.0	27.0	14.4	47.0	19
RF5271	1/4" UNF	6.4	4.8	23.0	54.0	14.4	76.0	27
RF5272	M6	6.1	4.8	23.0	9.0	14.4	38.5	18
RF5280*	1/4" UNF	6.4	4.8	23.0	27.0	14.4	47.0	26
RF5290**	1/4" UNF	6.4	4.8	23.0	8.0	14.4	22.5	12
RF5292**	M8	6.4	4.8	23.0	8.0	14.4	22.5	12



RF5290, RF5292

Dimensions in Imperial

		in.	in.	in.	in.	in.	in.	oz
RF5270	1/4" UNF	0.252	0.189	0.906	1.063	0.567	1.850	0.7
RF5271	1/4" UNF	0.252	0.189	0.906	2.126	0.567	2.992	1.0
RF5272	M6	0.240	0.189	0.906	0.354	0.567	1.516	0.6
RF5280*	1/4" UNF	0.252	0.189	0.906	1.063	0.567	1.850	0.9
RF5290**	1/4" UNF	0.252	0.189	0.906	0.315	0.567	0.886	0.4
RF5292**	M8	0.252	0.189	0.906	0.315	0.567	0.886	0.4



RF5270, RF5271
RF5272, RF5280

* Nut and washer supplied ** Internal thread

SS End Post Attachments

SS Dual Thread Screw

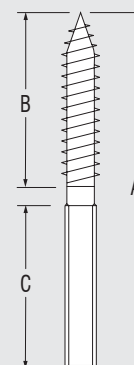
Dimensions in Metric

PRODUCT No.		THREAD TYPE	A mm	B mm	C mm	WEIGHT g
RH THREAD	LH THREAD					
1878-0500	1877-0500	M5	50.0	30.0	20.0	5
1878-0600	1877-0600	M6	70.0	40.0	30.0	9
1878-0800	1877-0800	M8	100.0	60.0	40.0	26

Dimensions in Imperial

			in.	in.	in.	oz
1878-0500	1877-0500	M5	1.969	1.181	0.787	0.2
1878-0600	1877-0600	M6	2.756	1.575	1.181	0.3
1878-0800	1877-0800	M8	3.937	2.362	1.575	0.9

CarlStahl®



SS Threaded Stud

Dimensions in Metric

PRODUCT No.		THREAD TYPE	A mm	WEIGHT g
RH THREAD	LH THREAD			
1882-0500-060	1883-0500-060	M5	60.0	7
1882-0500-100	1883-0500-100	M5	100.0	12
1882-0600-060	1883-0600-060	M6	60.0	9
1882-0600-100	1883-0600-100	M6	100.0	17
1882-0800-060	1883-0800-060	M8	60.0	19
1882-0800-120	1883-0800-120	M8	120.0	37

Dimensions in Imperial

			in.	oz
1882-0500-060	1883-0500-060	M5	2.362	0.2
1882-0500-100	1883-0500-100	M5	3.937	0.4
1882-0600-060	1883-0600-060	M6	2.362	0.3
1882-0600-100	1883-0600-100	M6	3.937	0.6
1882-0800-060	1883-0800-060	M8	2.362	0.7
1882-0800-120	1883-0800-120	M8	4.724	1.3



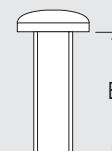
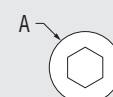
SS Pan Head Screw

Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	WEIGHT g
1890-0500-030	M5	9.5	30.0	4
1890-0600-030	M6	10.5	30.0	6
1890-0800-040	M8	14.0	40.0	15

Dimensions in Imperial

		in.	in.	oz
1890-0500-030	M5	0.374	1.181	0.1
1890-0600-030	M6	0.413	1.181	0.2
1890-0800-040	M8	0.551	1.575	0.3



SS Hex Head Screw

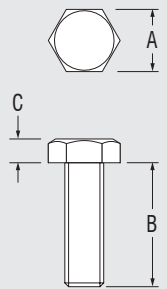
Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	C mm	WEIGHT g
1843-0500	M5	8.0	30.0	3.5	5
1843-0600	M6	10.0	30.0	4.0	8
1843-0800	M8	13.0	40.0	5.3	18

Dimensions in Imperial

		in.	in.	in.	oz
1843-0500	M5	0.315	1.181	0.138	0.2
1843-0600	M6	0.394	1.181	0.157	0.3
1843-0800	M8	0.512	1.575	0.209	0.6

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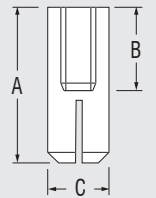
SS Drop in Anchor

Dimensions in Metric

PRODUCT No.	THREAD TYPE	NOM. HOLE DEPTH mm	A mm	B mm	C mm	WEIGHT g
RF5266	M6	30.0	28.0	10.0	8.0	70
RF5268	M8	38.0	36.0	12.0	10.0	95

Dimensions in Imperial

		in.	in.	in.	in.	oz
RF5266	M6	1.181	1.102	0.394	0.315	2.3
RF5268	M8	1.496	1.417	0.472	0.394	3.1



SS Hex Nut

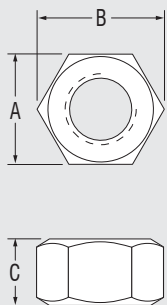
Dimensions in Metric

PRODUCT No.		THREAD TYPE	A mm	B mm	C mm	WEIGHT g
RH THREAD	LH THREAD					
1892-0500	1893-0500	M5	8.0	8.8	4.0	5
1892-0600	1893-0600	M6	10.0	11.1	5.0	5
1892-0800	1893-0800	M8	13.0	14.4	6.5	6
NS-04	-	1/4" UNF	11.1	12.7	5.6	3

Dimensions in Imperial

			in.	in.	in.	oz
1892-0500	1893-0500	M5	0.315	0.346	0.157	0.2
1892-0600	1893-0600	M6	0.394	0.437	0.197	0.2
1892-0800	1893-0800	M8	0.512	0.567	0.256	0.2
NS-04	-	1/4" UNF	0.437	0.500	0.220	0.1

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SS Dome Nut

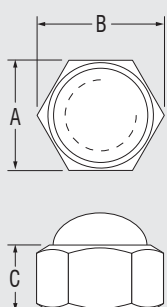
Dimensions in Metric

Product No.	THREAD TYPE	A mm	B mm	C mm	WEIGHT g
1892-0500-02	M5	8.0	8.8	5.0	5
1892-0600-02	M6	10.0	11.1	6.0	5
1892-0800-02	M8	13.0	14.4	8.0	6

Dimensions in Imperial

		in.	in.	in.	oz
1892-0500-02	M5	0.315	0.346	0.197	0.2
1892-0600-02	M6	0.394	0.437	0.236	0.2
1892-0800-02	M8	0.512	0.567	0.315	0.2

CarlStahl®



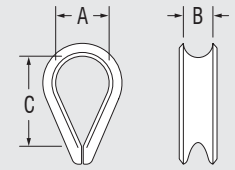
COMPONENTS SPECIFICATIONS

SS Hand Swaging Components / Tools

SS Thimbles*

Dimensions in Metric

PRODUCT No.	RECOMMENDED CABLE Ø		A mm	B mm	C mm	WEIGHT g
RF482	3.0	1/8"	10.0	4.0	18.0	2
RF483	4.0	5/32"	11.0	5.0	19.0	5
RF484	5.0	3/16"	13.0	6.0	23.0	5
RF485	6.0	1/4"	15.0	7.5	28.0	15



Dimensions in Imperial

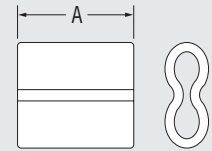
	mm	in.	in.	in.	in.	oz
RF482	3.0	1/8"	0.394	0.157	0.709	0.1
RF483	4.0	5/32"	0.433	0.197	0.748	0.2
RF484	5.0	3/16"	0.512	0.236	0.906	0.2
RF485	6.0	1/4"	0.591	0.295	1.102	0.5

* Material - Grade 304 Stainless Steel

Ferrules*

Dimensions in Metric

PRODUCT No.	RECOMMENDED CABLE Ø		A mm	WEIGHT g
RF3172	3.0	1/8"	14.0	5
RF3173	4.0	5/32"	18.5	10
RF3174	5.0	3/16"	19.0	15
RF3175	6.0	1/4"	20.0	22



Dimensions in Imperial

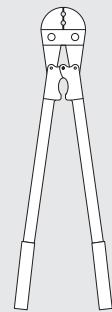
	mm	in.	in.	oz
RF482	3.0	1/8"	0.551	0.2
RF483	4.0	5/32"	0.728	0.4
RF484	5.0	3/16"	0.748	0.5
RF485	6.0	1/4"	0.787	0.8

* Material - Nickel plated copper

Swaging Tools

Dimensions in Metric

PRODUCT No.	LENGTH	TO SUIT CABLE Ø mm	WEIGHT g
CLA731	300	1.0, 1.5, 2.0, 2.5	730
CLA763	600	2.0, 2.5, 3.0	2300
CLA774	750	3.0, 4.0	3980
CLA775	750	4.0, 5.0	3960
CLA776	750	6.0	3930



Cutters

Dimensions in Metric

PRODUCT No.	CUTS MAX CABLE Ø mm	WEIGHT g
CLA606	4.0	310
CLA609	6.0	720

SS Microloc Tamper Resistant 'C' Spanner/Wrench

Dimensions in Metric

Product No.	WEIGHT g
RF3205S	23

Dimensions in Imperial

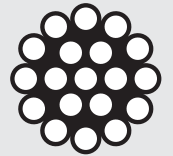
Product No.	oz
RF3205S	0.8



SS 1x19 Grade 316 Cable Reels

Dimensions in Metric

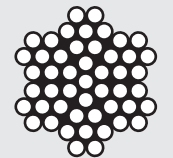
PRODUCT No.	CABLE Ø mm	REEL LENGTH m	BREAKING LOAD			WEIGHT g/m
			kN	kg	lb.	
WR6119-03M	3.0	305	7.0	720	1580	45
WR6119-04M	4.0	305	12.6	1280	2830	79
WR6119-05M	5.0	305	18.9	1930	4255	124



SS 7x7 Grade 316 Cable Reels

Dimensions in Metric

PRODUCT No.	CABLE Ø mm	REEL LENGTH m	BREAKING LOAD			WEIGHT g/m
			kN	kg	lb.	
WR677-03M	3.0	305	5.3	544	1200	35
WR677-04M	4.0	305	9.4	958	2113	63
WR677-05M	5.0	305	14.8	1509	3327	98



Swaging Dimensions

Correct installation of a swage fitting requires that the shank of the fitting be formed down onto the cable with specialised dies and presses in accordance with the following:

CABLE DIAMETER	mm	3.0	4.0	5.0	6.0
	in.	1/8	5/32	3/16	1/4
Code	mm in.	03M 04	04M 05	05M 06	06M 08
Length of Cable Inside Swage	mm in.	38.4 1.510	45 1.770	55 2.170	70 2.760
Diameter O.D. Before Swaging	mm in.	6.4 0.250	7.5 0.297	9.1 0.359	12.6 0.494
Diameter O.D. After Swaging	mm in.	5.6 0.219	6.4 0.250	8.0 0.313	11.1 0.438
Tolerance on O.D.	mm in.	+0, -0.13 +0, -0.005	+0, -0.13 +0, -0.005	+0, -0.13 +0, -0.005	+0, -0.18 +0, -0.007

COMPONENTS SPECIFICATIONS

CG Turnbuckles / Adjusters

CG Commodity Grade Closed Body Fork / Swage Turnbuckles - Metric Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø mm	THREAD TYPE	A mm	B mm	C MIN mm	C MAX mm	WEIGHT g
CS3121P-M03M5	3.0	M5	7.0	5.0	150.0	215.0	43
CS3121P-M03M6	3.0	M6	8.0	6.0	175.0	257.0	75
CS3121P-M04M6	4.0	M6	8.0	6.0	193.0	270.0	80

Dimensions in Imperial

			in.	in.	in.	in.	oz
CS3121P-M03M5	3.0	M5	0.276	0.197	5.906	8.465	1.5
CS3121P-M03M6	3.0	M6	0.315	0.236	6.890	10.118	2.4
CS3121P-M04M6	4.0	M6	0.315	0.236	7.598	10.630	2.6

* Note these dimensions are subject to change without notice

CG Commodity Grade Closed Body Fork / Swage Turnbuckles - Imperial Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø in.	THREAD TYPE	A mm	B mm	C min mm	C max mm	WEIGHT g
CS3121P-04M5	1/8"	M5	7.0	5.0	160.0	230.0	43
CS3121P-04M6	1/8"	M6	8.0	6.0	175.0	257.0	91
CS3121P-05	5/32"	M8	11.0	8.0	206.0	298.0	142

Dimensions in Imperial

			in.	in.	in.	in.	oz
CS3121P-04M5	1/8"	M5	0.276	0.197	6.299	9.055	1.5
CS3121P-04M6	1/8"	M6	0.315	0.236	6.890	10.118	3.2
CS3121P-05	5/32"	M8	0.433	0.315	8.110	11.732	5.0

* Note these dimensions are subject to change without notice

CG Commodity Grade Open Body Eye / Eye Turnbuckles

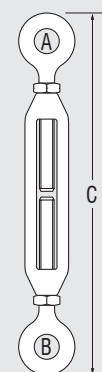
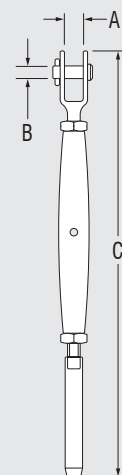
Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	C MIN mm	C MAX mm	WEIGHT g
CS311-5E	M5	10.0	10.0	126.0	181.0	46
CS311-6E	M6	12.0	12.0	153.0	220.0	87

Dimensions in Imperial

		in.	in.	in.	in.	oz
CS311-5E	M5	0.394	0.394	4.961	7.126	1.6
CS311-6E	M6	0.472	0.472	6.024	8.661	3.1

* Note these dimensions are subject to change without notice



CG Commodity Grade Open Body Eye / Hook Turnbuckles

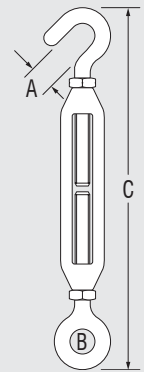
Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	C MIN mm	C MAX mm	WEIGHT g
CS311-5H	M5	7.0	10.0	127.0	180.0	48
CS311-6H	M6	9.0	12.0	161.0	230.0	88

Dimensions in Imperial

		in.	in.	in.	in.	oz
CS311-5H	M5	0.276	0.394	5.000	7.087	1.7
CS311-6H	M6	0.354	0.472	6.339	9.055	3.1

* Note these dimensions are subject to change without notice



CG Commodity Grade Open Body Fork / Fork Turnbuckles

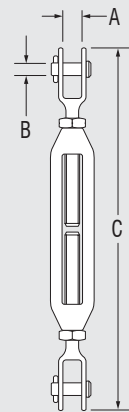
Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	C mm	D mm	WEIGHT g
CS312-5F	M5	7.0	5.0	130.0	200.0	43
CS312-6F	M6	8.0	6.0	152.0	220.0	94

Dimensions in Imperial

		in.	in.	in.	in.	oz
CS312-5F	M5	0.276	0.197	5.118	7.874	1.5
CS312-6F	M6	0.315	0.236	5.984	8.661	3.3

* Note these dimensions are subject to change without notice



CG Commodity Grade Closed Body Fork / Fork Turnbuckles

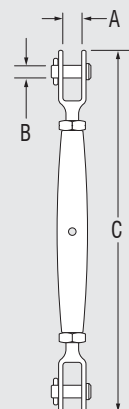
Dimensions in Metric

PRODUCT No.	THREAD TYPE	A mm	B mm	C min mm	C max mm	WEIGHT g
CS312P-5	M5	7.0	5.0	130.0	200.0	43
CS312P-6	M6	8.0	6.0	152.0	220.0	94

Dimensions in Imperial

		in.	in.	in.	in.	oz
CS312P-5	M5	0.276	0.197	5.118	7.874	1.5
CS312P-6	M6	0.315	0.236	5.984	8.661	3.3

* Note these dimensions are subject to change without notice



COMPONENTS SPECIFICATIONS

CG Fixed End Components

CG Commodity Grade Swage Forks - Metric Cable

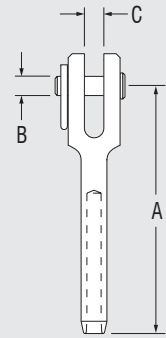
Dimensions in Metric

PRODUCT No.	CABLE Ø mm	A mm	B mm	C mm	WEIGHT g
CS7803-M03M5	3.0	74.0	5.0	7.0	24
CS7803-M03M6	3.0	75.0	6.0	8.0	26
CS7803-M04M6	4.0	75.0	6.0	8.0	32
CS7803-M05	5.0	88.0	9.0	13.0	68

Dimensions in Imperial

		in.	in.	in.	oz
CS7803-M03M5	3.0	2.913	0.197	0.276	0.8
CS7803-M03M6	3.0	2.953	0.236	0.315	0.9
CS7803-M04M6	4.0	2.953	0.236	0.315	1.0
CS7803-M05	5.0	3.465	0.354	0.512	2.4

* Note these dimensions are subject to change without notice



CG Commodity Grade Swage Forks - Imperial Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø in.	A mm	B mm	C mm	WEIGHT g
CS7803-04M5	1/8"	74.0	5.0	7.0	22
CS7803-04M6	1/8"	75.0	6.0	8.0	24
CS7803-05	5/32"	77.0	8.0	8.0	44

Dimensions in Imperial

		in.	in.	in.	oz
CS7803-04M5	1/8"	2.913	0.197	0.276	0.8
CS7803-04M6	1/8"	2.953	0.236	0.315	0.8
CS7803-05	5/32"	3.031	0.315	0.315	1.6

* Note these dimensions are subject to change without notice

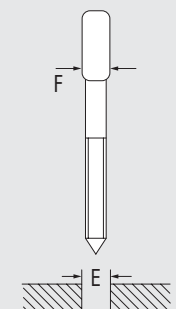
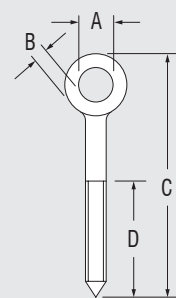
CG Commodity Grade Coach Eyes

Dimensions in Metric

PRODUCT No.	A mm	B mm	C mm	D mm	E mm	F mm	WEIGHT g
CS3182-555	7.0	4.0	70.0	39.0	5.0	5.0	16
CS3182-655	6.0	4.0	70.0	39.0	5.0	7.0	16
CS3182-860	8.0	5.0	96.0	54.0	6.0	9.0	34
CS3182-1080	10.0	5.0	99.0	55.0	8.0	12.0	52

Dimensions in Imperial

	in.	in.	in.	in.	in.	in.	oz
CS3182-555	0.276	0.157	2.756	1.535	0.197	0.197	0.6
CS3182-655	0.236	0.157	2.756	1.535	0.197	0.276	0.6
CS3182-860	0.315	0.197	3.780	2.126	0.236	0.354	1.2
CS3182-1080	0.394	0.197	3.898	2.165	0.315	0.472	1.8



Commodity Grade Threaded Swage Terminals - Metric Cable

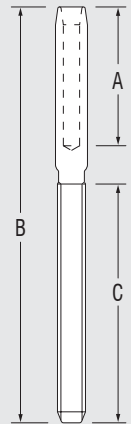
Dimensions in Metric

PRODUCT No.	CABLE Ø mm	THREAD TYPE	A mm	B mm	C mm	WEIGHT g
CS7801-M03M5	3.0	M5	40.0	91.0	41.0	41
CS7801-M03M6	3.0	M6	40.0	98.0	48.0	48
CS7801-05	4.0	M8	48.0	116.0	57.0	57
CS7801-M5	5.0	M10	58.0	129.0	62.0	62

Dimensions in Imperial

			in.	in.	in.	oz
CS7801-M03M5	3.0	M5	1.575	3.583	1.614	1.4
CS7801-M03M6	3.0	M6	1.575	3.858	1.890	1.7
CS7801-05	4.0	M8	1.890	4.567	2.244	2.0
CS7801-M5	5.0	M10	2.283	5.079	2.441	2.2

* Note these dimensions are subject to change without notice



Commodity Grade Threaded Swage Terminals - Imperial Cable

Dimensions in Metric

PRODUCT No.	CABLE Ø in.	THREAD TYPE	A mm	B mm	C mm	WEIGHT g
CS7801-04M5	1/8"	M5	40.0	91.0	41.0	41
CS7801-04M6	1/8"	M6	40.0	98.0	48.0	48
CS7801-05	5/32"	M8	48.0	116.0	57.0	57

Dimensions in Imperial

			in.	in.	in.	oz
CS7801-04M5	1/8"	M5	1.575	3.583	1.614	1.4
CS7801-04M6	1/8"	M6	1.575	3.858	1.890	1.7
CS7801-05	5/32"	M8	1.890	4.567	2.244	2.0

* Note these dimensions are subject to change without notice

IMPORTANT CUSTOMER INFORMATION

CUSTOMER CONSIDERATIONS

Factor of Safety

An appropriate factor of safety should be applied to Breaking Load (B.L.) figures to suit each application before choosing or specifying a particular product. For many industrial and safety related applications, a factor of safety greater than two (2) should be used or may be required by law or other regulations. It is the customer's responsibility to ensure that an appropriate factor of safety is used, and it should allow for safety implications, service life, fatigue (as may be caused by wind stresses or repetitive cyclical loading), type of load, exposure to ultraviolet light, corrosion and stress corrosion (such as in high humidity or chlorine environments). Note that a 'safe working load' is not specified as this is dependent on the factor of safety, which must be determined by the user relative to each application.

Useful Life

The useful life of any product is determined by the above factors and must be assessed in each application, and thus no guarantee can be provided for product life, load capacity or any other factor due to the variability in usage. In some jurisdictions government regulations require the replacement of rigging components within certain periods of time, usually every three to five years. You must ascertain whether any such regulations affect you. While every precaution is taken in the product design and manufacturing processes to minimize the effects of corrosion and stress corrosion, there are also preventative as well as corrective treatments that can be carried out after installation. Contact your local representative for further assistance and advice.

Product Information Amendments

All catalogue information is subject to specification changes during a product's life-cycle. Any alterations will be posted on the Website: - www.ronstan.com which should be considered the most up to date source of product information.

DEFINITIONS

Breaking Load (B.L.)

Breaking Load (B.L.) is the load at, or around which, a major failure can be expected to occur to some part of the product's structure when new. Components may split, rivets may give way, bodies may break, and other metallic components may fracture. No product should be used at more than half of the breaking load, so as to provide a minimum safety factor of two (2).

WARRANTY

In addition to your rights implied by law, the goods manufactured or sold are warranted to be free of defects in materials or workmanship for three (3) years from the date of purchase by the original purchaser except that:

- This warranty shall not apply to any product which has been improperly fitted, improperly maintained, or used in any application for which it was not intended.
- This warranty shall not apply to normal wear which can reasonably be expected in normal use of the product.
- This warranty does not apply to commodity grade products where Ronstan has no control over manufacture process.
- No warranties are made that any products are fit for a particular purpose.
- The liability shall be limited to the repair or replacement, at the manufacturer's discretion, of the defective goods.
- The useful life of any rigging product is determined by the above factors and must be assessed in each application, and thus no guarantee can be provided for product life, load capacity or any other factor due to the variability in usage.

Ronstan also specializes in providing architectural products for:

- Structural Cable applications
- Structural Rod applications
- Cable Nets
- Greening Cables
- Facade Cables

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