

ARCHITECTURAL
Cable Railing Systems



AMERICAN MADE SINCE 1998

Precision Engineered | Easy Installation | Low Maintenance | "Naturally" Green

FABRICATORS

ARCHITECTS / SPECIFIERS

CONTRACTORS

DESIGNED WITH **YOU** IN MIND



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EQUIP. &
ACCESS.

Talk about the view!

From sprawling decks to commercial staircases with style, Ultra-tec® cable railing systems are the alternative to ordinary. Precision engineered, easy to install cable and fittings that deliver a sleek and strong, modern aesthetic to every project, indoors or out.

- 5 cable diameter options
- 48-hour quote turnaround
- Free take-off review and support
- Custom cable lengths
- Quality assurance from an ISO certified facility
- A variety of concealed hardware choices
- Fittings manufactured in the United States

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Introducing Finishing Touches That Will Make Your Work Shine



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Go for the Bronze

Meet the latest addition to the Ultra-Tec® line. An attractive finishing touch to your project. Not to mention a strong finishing statement.

New Phosphor bronze Invisiware® Receivers and beveled washers:

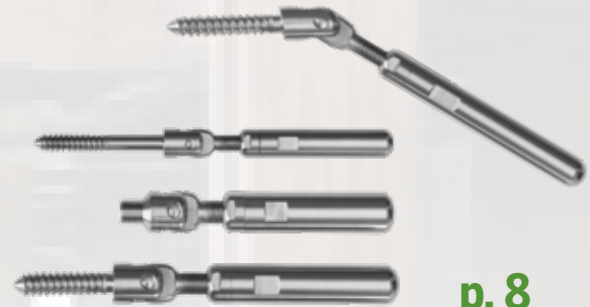
- Receivers come in 8 convenient sizes
- Beveled washers available in 2 sizes
- Designed for 1/8" and 3/16" diameter cable
- Contemporary color alternative

The Beauty of Being Flush

Introducing an attractive alternative to the eyelet: (3) three new fittings featuring a clevis design.

Part of our Adjust-A-Body line:

- Ideal for level or pitched cable runs
- Clevis is threaded for easier installation and greater stability
- Compatible with composite, metal and wood posts



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Industrial Strength

Introducing the commercial alternative to a standard tensioner that makes more complicated jobs a snap.

New Industrial Pre-Tensioner:

- Recommended for long cable lengths or threading through multiple intermediate posts.
- Pre-tension the cable at an intermediate post, as needed.
- Designed for use from the outside of the end post with a Pull-Lock fitting.
- Includes a tension gauge to ensure appropriate tensioning on each cable.

SWAGED FITTINGS - TENSIONERS

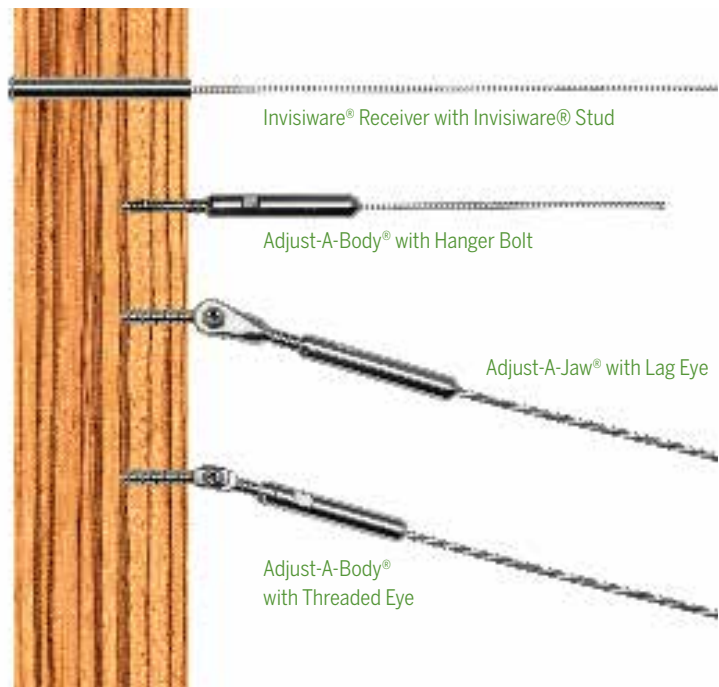
HARDWARE FOR METAL POSTS

- Invisiware® Receiver with Invisiware® Stud
- Adjust-A-Body® with Threaded Bolt
- Adjust-A-Jaw® with Invisiware® Tab
- Adjust-A-Body® with Threaded Eye



HARDWARE FOR WOOD POSTS & WOOD POSTS WITH SLEEVES

- Invisiware® Receiver with Invisiware® Stud
- Adjust-A-Body® with Hanger Bolt
- Adjust-A-Jaw® with Lag Eye
- Adjust-A-Body® with Threaded Eye



SWAGING REQUIRED: These fittings must be attached with swaging equipment capable of developing proper force based on the fittings' mass. **Special equipment is required.**



TENSIONING DEVICE: A fitting with this symbol is a tensioning fitting. Each individual cable must have at least one tensioning fitting in order to be properly installed and tensioned.

The Tensioners That Are Hidden Inside The Post

Invisiware® Receiver with Invisiware® Stud

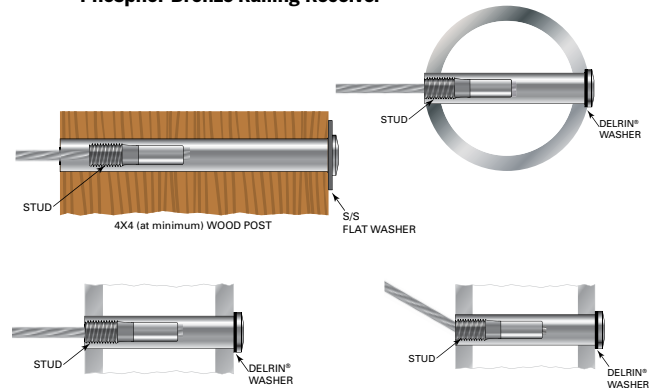


Concealed, swaged, tensioning, through-the-post-mounted fitting suitable for level and pitched runs. Receivers and studs are available for 1/8", 3/16", 1/4", 5/16", and 3/8" diameter 1x19 stainless steel cable.

- The Invisiware® Receiver with Invisiware® Stud can be used with any other fitting on the opposite end of the run.
- Fitting is placed and concealed within a pre-drilled hole in the metal end post.
- Receiver is furnished with a Delrin® washer that is installed between the shoulder of the fitting and the end post to protect the surface of the finish of the end post as tension is applied.
- Stud is swaged onto one end of the cable and threaded into the Receiver installed in the end post. Tension is created by rotating the Receiver (with a hex wrench inserted into its broached end) and drawing the stud into the Receiver.

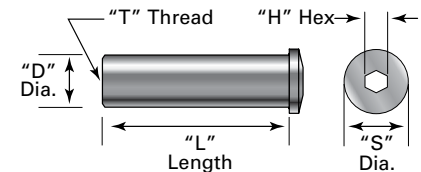


Phosphor Bronze Railing Receiver



INVISIWARE® RECEIVER DIMENSIONS

CABLE DIAMETER	1/8" CABLE	3/16" CABLE	1/4" CABLE	5/16" CABLE	3/8" CABLE
Part Number	R-6-XX	R-6-XX	R-8-XX	R-12-XX	R-12-XX
"D" Diameter	.437"	.437"	.531"	.687"	.687"
"T" Thread	5/16-24	5/16-24	7/16-20	9/16-18	9/16-18
"H" Hex	3/16"	3/16"	7/32"	5/16"	5/16"
"S" Diameter	.537"	.537"	.646"	.865"	.865"
"L" Length	See "FRAMING OPTIONS" Table				



FRAMING OPTIONS FOR INVISIWARE® RECEIVER

CABLE DIAMETER	1/8" CABLE	1/8" CABLE	3/16" CABLE	3/16" CABLE	1/4" CABLE	5/16" CABLE	3/8" CABLE	
FRAME OPTIONS	PART NO.	BRONZE PART NO.	PART NO.	BRONZE PART NO.	PART NO.	PART NO.	PART NO.	"L" Length
1-1/2" Tube* or 1-1/4" Pipe	R-6-12	XR-6-12-B2	R-6-12	XR-6-12-B2	NA	NA	NA	1.56"
1-1/2" Pipe	R-6-22	XR-6-22-B2	R-6-22	XR-6-22-B2	R-8-22	NA	NA	1.81"
2"x2" Tube*	R-6-32	XR-6-32-B2	R-6-32	XR-6-32-B2	R-8-32	R-12-32	R-12-32	2.03"
2" Pipe	R-6-42	XR-6-42-B2	R-6-42	XR-6-42-B2	R-8-42	R-12-42	R-12-42	2.30"
2-3/8" Tube*	R-6-72	XR-6-72-B2	R-6-72	XR-6-72-B2	NA	NA	NA	2.405"
2-1/2" Tube*	R-6-82	XR-6-82-B2	R-6-82	XR-6-82-B2	NA	NA	NA	2.53"
3" Tube*	R-6-52	XR-6-52-B2	R-6-52	XR-6-52-B2	R-8-52	R-12-52	R-12-52	3.03"
3-1/2" Tube*	R-6-62	XR-6-62-B2	R-6-62	XR-6-62-B2	NA	NA	NA	3.5625"
4x4 Min. Wood Post	R-6-62	XR-6-62-B2	R-6-62	XR-6-62-B2	NA	NA	NA	3.5625"

*Round or Square Tube

Invisiware® Stud



This part is swaged onto the end of the cable and used with the Invisiware® Receiver. The threaded surface is coated with a baked-on molybdenum-based dry film lubricant to prevent the threads from galling when tensioned.



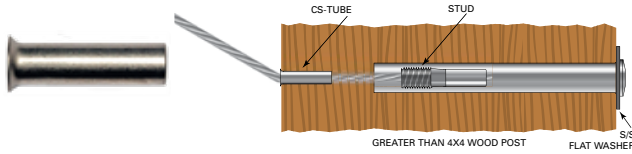
Photo of stud before swaging.

TYPE 316 STAINLESS STEEL – MOLY COATED

CABLE DIA.	PART NO.	THREAD	"L"	"D" DIAMETER AFTER SWAGED
1/8"	S-4	5/16-24	1.180"	.250"
3/16"	S-6	5/16-24	1.140"	.250"
1/4"	S-8	7/16-20	1.380"	.375"
5/16"	S-10	9/16-18	1.330"	.500"
3/8"	S-12	9/16-18	1.310"	.500"

Stainless Steel Post Protector Tube

To keep the cable from biting in the wood, the Post Protector Tube is inserted into a wood post where the cable enters/exits the post at an angle.



TYPE 316 STAINLESS STEEL

CABLE DIA.	TUBE LENGTH	PART NO.
1/8", 3/16"	3/4"	CS-TUBE

7/16SAE Stainless Steel Washer

To protect the wood when the Invisiware® Receiver is tensioned, install this on the shoulder of the Receiver.



TYPE 316 STAINLESS STEEL

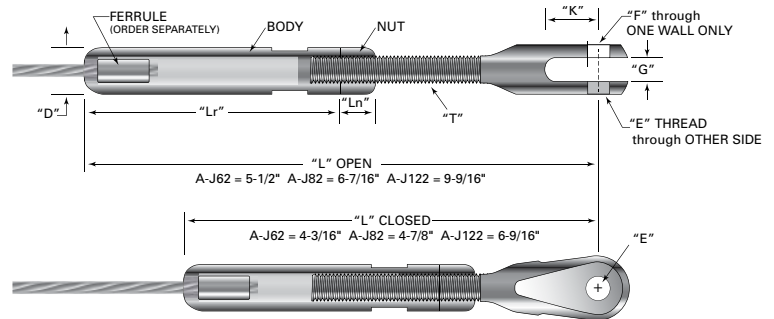
7/16SAE	59/64"	31/64"	1/8" and 3/16"
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Adjust-A-Jaw® and Threaded Tab



Exposed, swaged, tensioning, face-of-the-post-mounted fitting suitable for level or pitched runs. This fitting is available for 1/8", 3/16", 1/4", 5/16", and 3/8" diameter 1x19 stainless steel cable.

- Can be used with any fitting on the opposite end of the run.
- Attaches to the **metal** end post by installing a Threaded Tab into a pre-drilled tapped hole in the end post and attaching the Fixed Jaw to the Threaded Tab with a button head screw.
- Attaches to the **wood** end post by installing a Lag Eye into a pre-drilled hole in the end post and attaching the Fixed Jaw to the Lag Eye with a button head screw (lag eye and screw information on page 5).
- Cable is retained within the body portion of the fitting by a ferrule-swaged on the end of the cable, which must be purchased separately (see ferrule information on page 7).
- Lock Nut is installed all the way onto the Threaded Jaw first, followed by the body, which is secured onto the jaw, creating tension on the cable.
- Once sufficient tension is achieved, the Lock Nut is secured against the end of the body to secure the fitting from loosening.



While this fitting can be used on pitched or level runs, it's most appropriate for pitched runs because the Fixed Jaw pivots at the tab (for metal) and at the Lag Eye (for wood). The pre-drilled hole for the Lag Eye is drilled level, making installation easy.

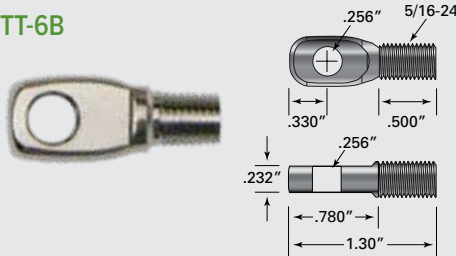
TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	WOOD				METAL							
		USE WITH FERRULE	USE WITH SCREW NO.	USE WITH LAG EYE	USE WITH TAB NO.	"D" DIA.	"E" THREAD	"F" DIA.	"G"	"K"	"Ln"	"Lr"	"T" THREAD
1/8"	A-J62	F-4	SC-6	LE-6	TT-6B	.490"	1/4-28	.260"	.260"	.56"	.375"	2.75"	5/16-24 LH
3/16"		F-6											
1/4"	A-J82	F-8	SC-8	LE-8	TT-8B	.617"	3/8-24	.390"	.313"	.75"	.500"	3.00"	7/16-20 LH
5/16"	A-J122	F-10	SC-8	LE-8	TT-8B	.744"	3/8-24	.390"	.348"	.87"	.620"	4.50"	9/16-18
3/8"		F-12											

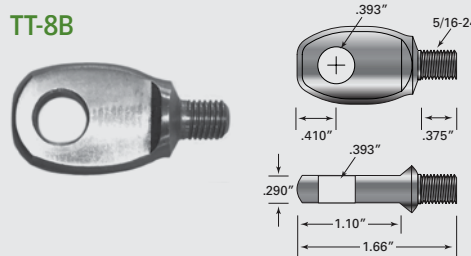
Invisiware® Threaded Tab

Stainless steel threaded tabs are used to mount an Adjust-a-Jaw®, Adjust-a-Body®, Fixed Jaw, Clip on Jaw, or Push-Lock® with Threaded Eye onto a metal post.

TT-6B



TT-8B



TYPE 316 STAINLESS STEEL

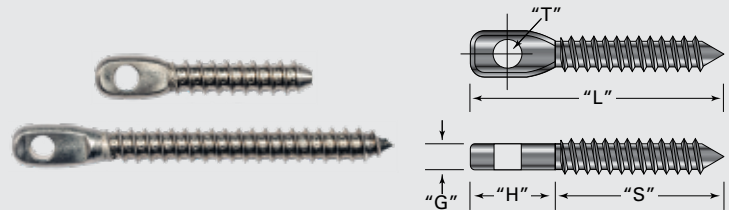
CABLE DIA.	PART NO.
1/8", 3/16"	TT-6B
1/4", 5/16", 3/8"	TT-8B

Lag Eye and Extended Length Lag Eye

A convenient, easy-to-install means for attaching an Adjust-A-Body® with Threaded Eye, Adjust-A-Jaw®, Fixed Jaw, or Push-Lock® with Threaded Eye to a wood post.

TYPE 316 STAINLESS STEEL

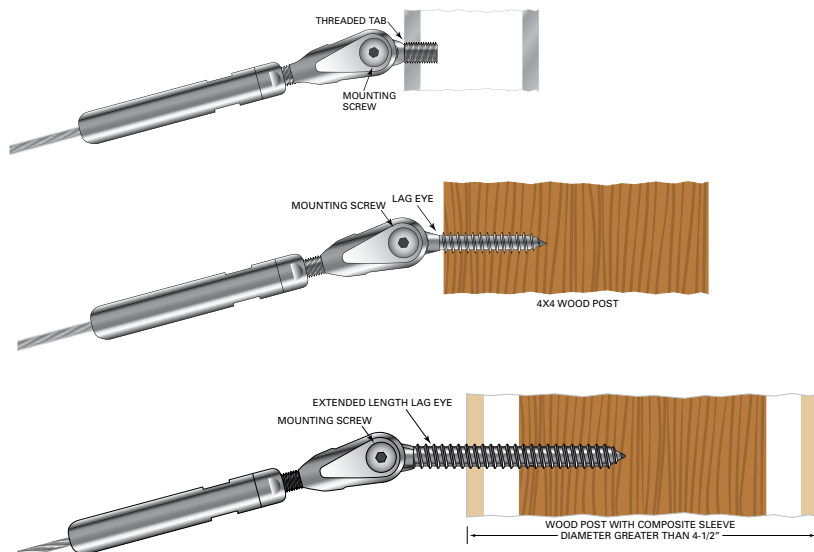
CABLE DIA.	PART NO.	"G"	"H"	"T"	"S"	"L"	MIN. NOMINAL TIMBER SIZE
1/8"	LE-6	.232"	.735"	.256"	1.50"	2.23"	4x4
3/16"							
1/4"	LE-8	.290"	1.20"	.393"	2.00"	3.55"	4x4
5/16"							
3/8"							



Extended Length Lag Eyes with 3-inch Thread

TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	"G"	"H"	"T"	"S"	"L"	MIN. NOMINAL TIMBER SIZE
1/8"	LE-6L	.232"	.780"	.256"	3.00"	3.94"	4x4
3/16"							



Mounting Screw

Stainless steel socket-head screws for mounting an Adjust-A-Body® with a Threaded Eye, Adjust-A-Jaw®, Fixed Jaw, or Push-Lock® with Threaded Eye to a wood or metal post.



TYPE 316 STAINLESS STEEL

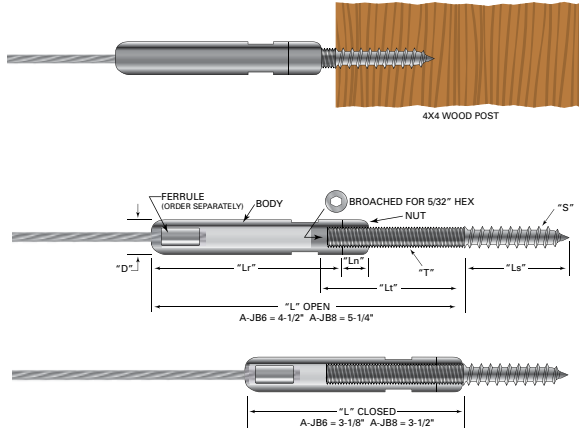
CABLE DIA.	PART NO.	THREAD
1/8", 3/16"	SC-6	1/4-28
1/4", 5/16", 3/8"	SC-8	3/8-24

Adjust-A-Body® with Hanger Bolt



Swaged, tensioning, face-of-the-post-mounted fitting recommended for level runs only. This fitting is available for 1/8", 3/16", and 1/4" diameter 1x19 stainless steel cable.

- Can be used with any fitting on the opposite end of the run. The Lag Thread of the Hanger Bolt portion of the fitting is driven into a pre-drilled hole in the wood end post.
- Cable is retained within the body portion of the fitting by a ferrule swaged onto the end of the cable.
- Lock Nut is installed all the way onto the Hanger Bolt first, followed by the body, which is secured onto the Hanger Bolt, creating tension on the cable.
- Once sufficient tension is achieved, the Lock Nut is secured against the end of the body to prevent the fitting from loosening.

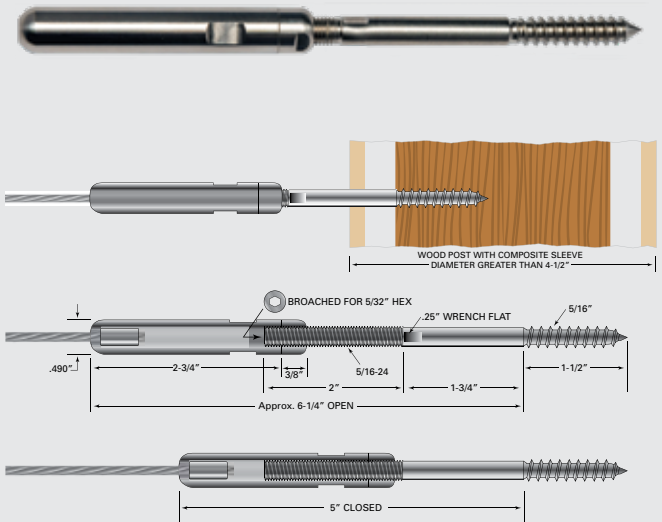


Adjust-A-Body® with Extended Length Hanger Bolt



Fitting is identical to the Adjust-a-Body® with Hanger Bolt (shown at left) except it's used for sleeved posts with an outside diameter of greater than 4-1/2". The extended length Hanger Bolt is 3" long, designed to reach past sleeves and drywall to find the wood post or frame underneath.

Use of this fitting requires an appropriately sized ferrule that is swaged onto the cable, which must be purchased separately (see information below).



TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	USE WITH FERRULE NO.
1/8"	A-JB6-L	F-4
3/16"		F-6

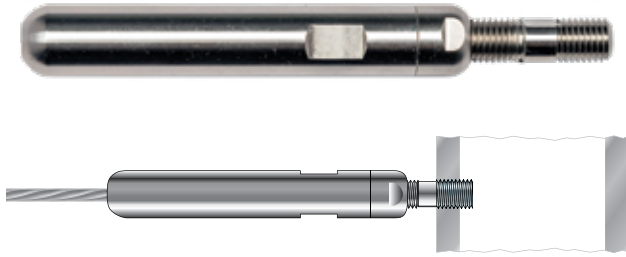
TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	USE WITH FERRULE NO.	"S"	"T" THREAD	"Ls"	"Lt"	"Ln"	"Lr"	"D" DIA.	MINIMUM TIMBER SIZE
1/8"	A-JB6	F-4	5/16"	5/16-24 LH	1.50"	2.00"	.375"	2.75"	.490"	4 x 4
3/16"	A-JB6	F-6	5/16"	5/16-24 LH	1.50"	2.00"	.375"	2.75"	.490"	
1/4"	A-JB8	F-8	7/16"	7/16-20 LH	2.00"	2.50"	.500"	3.00"	.617"	

We do not recommend installing this fitting in pitched applications as it would require drilling all of the holes in the end post at an angle. While this is possible with special fixtures, if it is not done correctly the end result would be visually unacceptable.

Use of this fitting requires an appropriately sized ferrule that is swaged onto the cable, which **must be purchased separately** (see information page 7).

Adjust-A-Body® with Threaded Bolt



Exposed, swaged, tensioning, face-of-the-post-mounted fitting recommended for level runs only. This fitting is available for 1/8", 3/16", 1/4", 5/16", and 3/8" diameter 1x19 stainless steel cable.

- Can be used with any fitting on the opposite end of the run.
- The Threaded Bolt portion of the fitting is secured into a pre-drilled and tapped hole in the end post.
- Cable is retained within the body portion of the fitting by a ferrule swaged onto the end of the cable.
- Lock Nut is installed all the way onto the Threaded Bolt first, followed by the body, which is secured onto the threaded bolt, creating tension on the cable.
- Once sufficient tension is achieved, the Lock Nut is secured against the end of the body to secure the fitting from loosening.
- Use of this fitting requires an appropriately sized ferrule that is swaged onto the cable, which must be purchased separately (see ferrule information here on page 7).

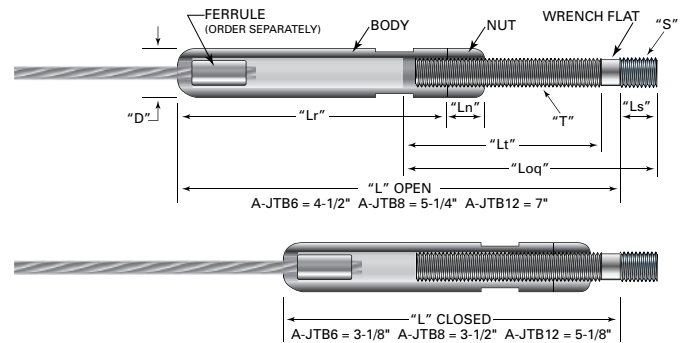
Ferrule

The ferrule is used to retain an Adjust-A-Jaw®, Adjust-A-Body® or a Fixed Jaw onto cable.



TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	AFTER SWAGED "D" DIA.	"L" LENGTH
1/8"	F-4	.250"	.61"
3/16"	F-6	.250"	.56"
1/4"	F-8	.375"	.70"
5/16"	F-10	.500"	.73"
3/8"	F-12	.500"	.71"



TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	USE WITH FERRULE NO.	"S"	"T" THREAD	"Ls"	"Lt"	"Loq"	"Ln"	"Lr"	"D"
1/8"	A-JTB6	F-4	5/16-24	5/16-24 L.H.	.375"	2.00"	2.625"	.375"	2.75"	.490"
3/16"		F-6	5/16-24	7/16-20 L.H.	.375"	2.50"	3.125"	.500"	3.00"	.617"
1/4"	A-JTB8	F-8	1/2-20	9/16-18	.62"	3.00"	4.00"	.62"	4.50"	.744"
5/16"	A-JTB12	F-10								
3/8"		F-12								

Adjust-A-Body® with Clevis



Exposed, swaged, tensioning, face-of-the-post-mounted fitting suitable for level or pitched runs and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

- Can be used with any fitting on the opposite end of the run.
- Consists of two separate pieces: the articulating Threaded Bolt and Adjust-a-Body® tensioning body.
- Threaded Clevis is installed into a pre-drilled or tapped hole in the end post.
- Cable is retained within the body portion of the fitting by a ferrule swaged onto the end of the cable.
- Use of this fitting requires an appropriate sized ferrule that is swaged onto the cable, which must be purchased separately (see ferrule information on page 7).
- Once sufficient tension is achieved, the Lock Nut is secured against the end of the body to secure the

CABLE DIA.	PART NO.	USE WITH FERRULE NO.	"T" THREAD	"Lt"	"Ln"	"Lr"	"D" DIA.
1/8"	METAL: A-J6-CL-M WOOD: A-J6-CL-W COMP: A-J6-CL-C	F-4	5/16-24 LH	2.00"	.375"	2.73"	.490"
3/16"		F-6					



Adjust-A-Body® with Threaded Eye and Threaded Tab OR Lag Eye



Exposed, swaged, tensioning, face-of-the-post-mounted fitting suitable for level or pitched runs. This fitting is available for 1/8", 3/16", and 1/4" diameter 1x19 stainless steel cable.

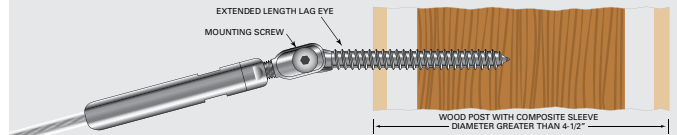
- Can be used with any fitting on the opposite end of the run.
- Attaches to the **metal** end post by installing a Threaded Tab into a pre-drilled tapped hole in the end post and attaching the Fixed Jaw to the threaded tab with a button head screw.
- Attaches to the **wood** end post by installing a Lag Eye into a pre-drilled hole in the end post and attaching the Fixed Jaw to the Lag Eye with a button head screw (lag eye and screw information on page 5).
- Cable is retained within the body portion of the fitting by a ferrule swaged onto the end of the cable. (see page 7)
- Lock Nut is installed all the way onto the threaded eye first, followed by the body, which is secured onto the eye, creating tension on the cable.
- Once sufficient tension is achieved, the Lock Nut is secured against the end of the body to secure the fitting from loosening.

While this fitting can be used on pitched or level runs, it's most appropriate for pitched runs because the Fixed Jaw pivots at the tab (for metal) and at the Lag Eye (for wood). The pre-drilled hole for the Lag Eye is drilled level, making installation easy.

Adjust-A-Body® with Threaded Eye and Extended Length Lag Eye

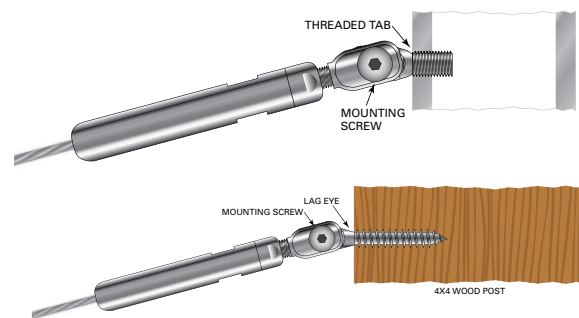
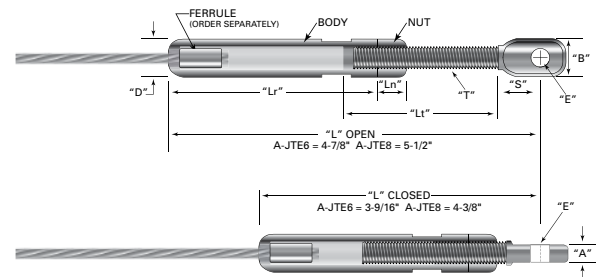


For sleeved posts with an outside diameter of greater than 4-1/2", use the extended length Lag Eye. The extended length lag is 3" long, designed to reach past sleeves and drywall to find the wood post or frame underneath. Extended Lag Eye and screw sold separately (see information on page 5).



TYPE 316 STAINLESS STEEL

CABLE DIA.	USE WITH SCREW NO.	USE WITH EXTENDED LENGTH LAG EYE NO.
1/8", 3/16"	SC-6	LE-6L



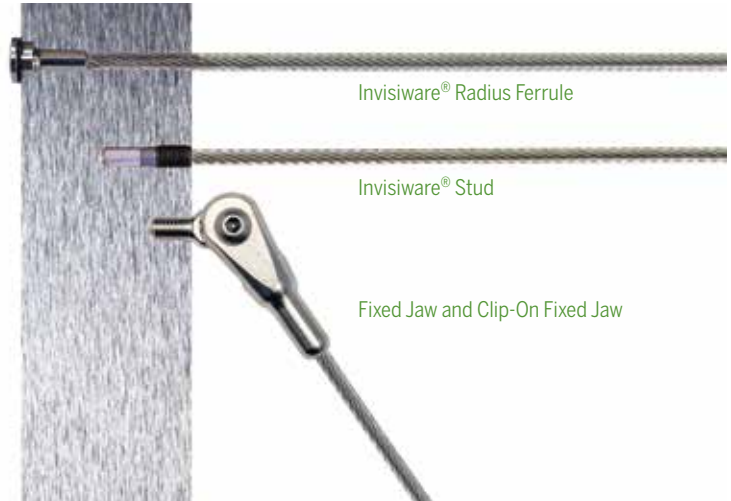
TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	WOOD				METAL								
		USE WITH FERRULE NO.	USE WITH SCREW NO.	USE WITH LAG EYE NO.	USE WITH TAB NO.	"E" THREAD	"A"	"B"	"S"	"T" THREAD	"Lt"	"Ln"	"Lr"	"D" DIA.
1/8"	A-JTE6	F-4	SC-6	LE-6	TT-6B	1/4-28	.233" / .229"	.500"	.44"	5/16-24 LH	2.00"	.375"	2.75"	.490"
3/16"	A-JTE6	F-6	SC-6	LE-6	TT-6B	1/4-28	.233" / .229"	.500"	.44"	5/16-24 LH	2.00"	.375"	2.75"	.490"
1/4"	A-JTE8	F-8	SC-8	LE-8	TT-8B	3/8-24	.295" / .285"	.874"	.68"	7/16-20 LH	2.50"	.500"	3.00"	.617"

SWAGED NON-TENSIONING FITTINGS

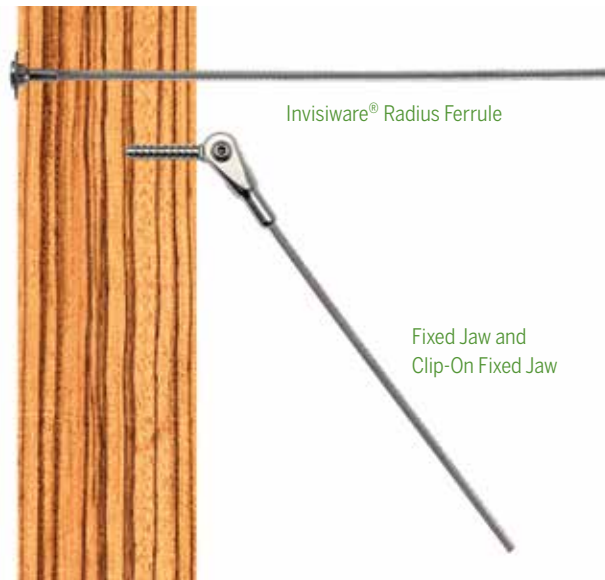
HARDWARE FOR METAL POSTS

- Invisiware® Radius Ferrule
- Invisiware® Stud
- Fixed Jaw and Clip-On Fixed Jaw



HARDWARE FOR WOOD POSTS & WOOD POSTS WITH SLEEVES

- Invisiware® Radius Ferrule
- Fixed Jaw and Clip-On Fixed Jaw



SWAGING REQUIRED: These fittings must be attached with swaging equipment capable of developing proper force based on the fittings' mass. **Special equipment is required.**



NON-TENSIONING DEVICE: A fitting with this symbol is a non-tensioning fitting. Each individual cable must have at least one non-tensioning fitting in order to be properly installed.

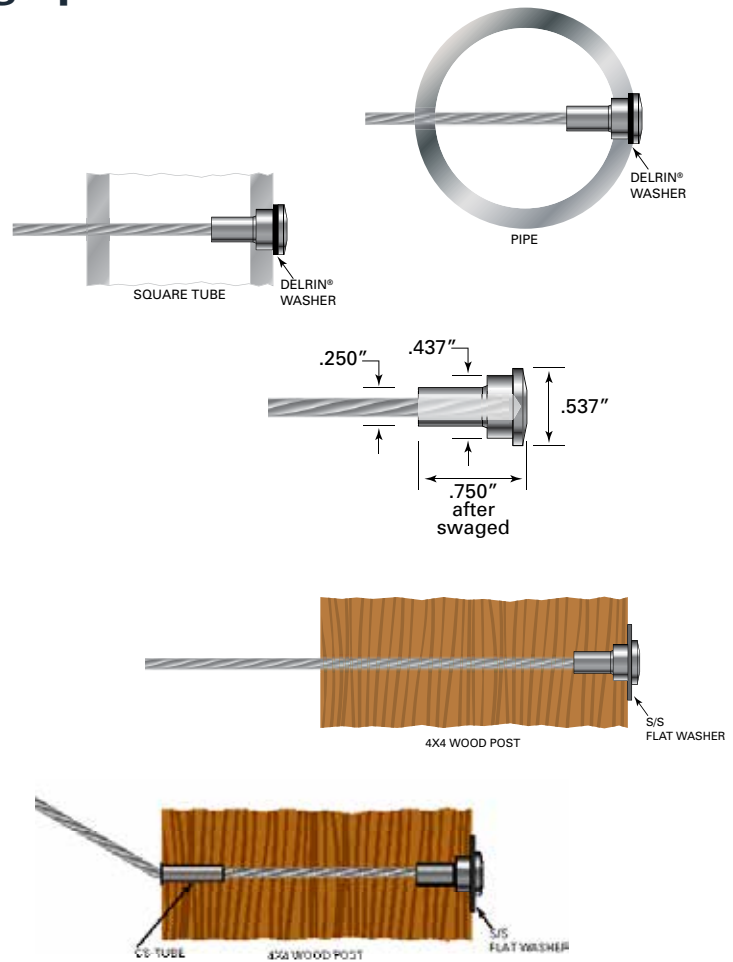
Economical Through-the-Post Fitting Option

Invisiware® Radius Ferrule



Concealed, swaged, non-tensioning, through-the-post-mounted fitting suitable for pitched or level runs. Fitting is available for 1/8", 3/16", 1/4", 5/16", and 3/8" diameter 1x19 stainless steel cable.

- Must be used with a tensioning fitting on the opposite end of the run.
- Head shaped to appear like the Invisiware® Receiver from the outside of the post (like the Invisiware® Receiver, this fitting is concealed within the post).
- Whenever practical, use this part on one end of your cable run and an Invisiware® Receiver with a stud on the opposite end.
- Installs into a pre-drilled hole drilled through the face of the post (to accommodate the cable at minimum) and a pre-drilled hole through the back side of the post to accommodate the fitting (see our Hardware Mounting / Hole Boring Guide).
- You should have 2" of clearance on the back side of your end post (the cable would likely be attached to the Radius Ferrule prior to installing it through the back side of the post).
- Furnished with a Delrin® washer or flat washer to install between the shoulder of the fitting and the end post to protect the surface of the finish of the end post as tension is applied.



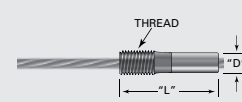
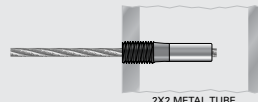
TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	"D" DIA. AFTER SWAGED	"L" LENGTH AFTER SWAGED	"S" HEAD DIA.	"A" SHOULDER DIA.
1/8"	RF-4	.250"	.750"	.537"	.437"
3/16"	RF-6	.250"	.750"	.537"	.437"
1/4"	RF-8	.375"	1.000"	.646"	.531"
5/16"	RF-10	.500"	1.000"	.865"	.687"
3/8"	RF-12	.500"	1.000"	.865"	.687"

Invisiware® Stud

Concealed, swaged, non-tensioning, inside-the-post-mounted fitting that is suitable for use on level or pitched runs and is available for 1/8", 3/16", 1/4", 5/16", and 3/8" diameter 1x19 stainless steel cable.

The Invisiware® Stud can be used as a non-tensioning end in level or pitched applications. It is swaged onto one end of the cable and threaded into a drilled and tapped hole in the face of the post (1/4" wall thickness minimum).



TYPE 316 STAINLESS STEEL – MOLY COATED

CABLE DIA.	PART NO.	THREAD	"L"	"D" DIAMETER AFTER SWAGED
1/8"	S-4	5/16-24	1.180"	.250"
3/16"	S-6	5/16-24	1.140"	.250"
1/4"	S-8	7/16-20	1.380"	.375"
5/16"	S-10	9/16-18	1.330"	.500"
3/8"	S-12	9/16-18	1.310"	.500"

Fixed Jaw and Threaded Tab OR Lag Eye

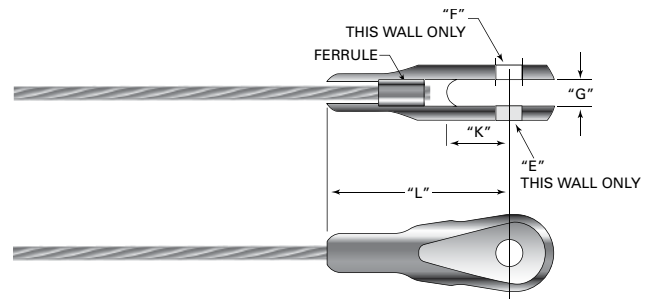
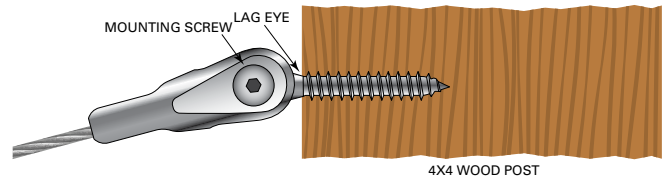
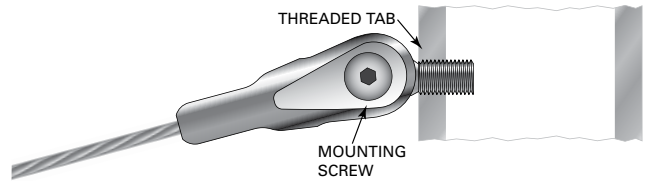


Exposed, swaged, non-tensioning, face-of-the-post-mounted fitting suitable for use on level or pitched runs and is available for 1/8", 3/16", 1/4", 5/16", and 3/8" diameter 1x19 stainless steel cable.

- Must be used with a tensioning fitting on the opposite end of the run.
- Attaches to the **metal** end post by installing a Threaded Tab into a pre-drilled tapped hole in the end post and attaching the Fixed Jaw to the Threaded Tab with a button head screw.
- Attaches to the **wood** end post by installing a Lag Eye into a pre-drilled hole in the end post and attaching the Fixed Jaw to the Lag Eye with a button head screw (lag eye and screw information on page 5).
- Cable is retained within the Fixed Jaw fitting by a ferrule swaged onto the end of the cable (see page 7).
- Screw and Threaded Tab are **sold separately** (screw and threaded tab information on pages 5).

While this fitting can be used on pitched or level runs, it's most appropriate for pitched runs because the Fixed Jaw pivots at the tab (for metal) and at the Lag Eye (for wood). The pre-drilled hole for the Lag Eye is drilled level, making installation easy.

This fitting was designed to be compatible in appearance to the Adjust-A-Jaw® tensioning fitting.



TYPE 316 STAINLESS STEEL

WOOD					METAL					
CABLE DIA.	PART NO.	USE WITH FERRULE NO.	USE WITH SCREW NO.	USE WITH LAG EYE NO.	USE WITH TAB NO.	"E" THREAD	"F" DIA.	"G"	"K"	"L"
1/8"	F-J62	F-4	SC-6	LE-6	TT-6B	1/4-28	.260"	.260"	.56"	1.75"
3/16"	F-J62	F-6	SC-6	LE-6	TT-6B	1/4-28	.260"	.260"	.56"	1.75"
1/4"	F-J82	F-8	SC-8	LE-8	TT-8B	3/8-24	.390"	.313"	.75"	2.12"
5/16"	F-J122	F-10	SC-8	LE-8	TT-8B	3/8-24	.390"	.348"	.87"	2.25"
3/8"	F-J122	F-12	SC-8	LE-8	TT-8B	3/8-24	.390"	.348"	.87"	2.25"

Clip-On Fixed Jaw and Threaded Tab OR Lag Eye

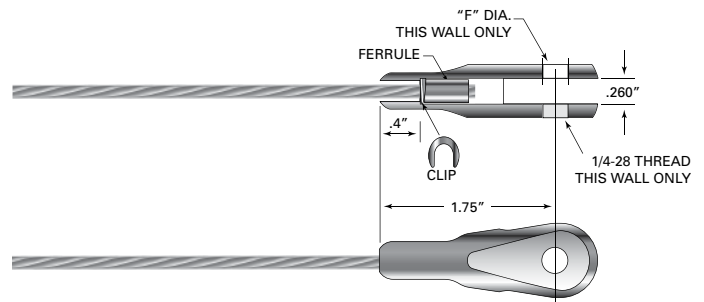


The Clip-On Fixed Jaw is externally a duplicate of the Fixed Jaw and is only available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

- For applications that call for factory swaged fittings on both ends of the cable, without requiring over-sized holes through the intermediate posts (so an entire Fixed Jaw could pass through).
- Fitting accomplishes this with a maximum diameter of a .250" diameter ferrule that is pre-swaged to the cable.
- Run the cable with only a ferrule swaged to it through the intermediate posts, then to the end post to which it will attach.
- Slip the jaw onto the cable over the ferrule and the clip installed at the ferrule.
- Jaw then slides back against the clip, which prevents the fitting from coming off the cable.
- Attaches to a **metal** end post by installing a Threaded Tab into a pre-drilled and tapped hole and attaching the Clip-On Fixed Jaw to the Threaded Tab with a button head screw (screw and threaded tab information on pages 5).

- Attaches to the **wood** end post by installing a Lag Eye into a pre-drilled hole and attaching the Clip-On Fixed Jaw to the Lag Eye with a button head screw. Lag Eye and screw sold separately (see lag eye and screw information on page 5).

Use of this fitting requires an appropriately sized ferrule that is swaged onto the cable, which must also be purchased separately (ferrule information on page 7).



TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	WOOD			METAL			"F" DIA.	"G"	"K"	"L"
		USE WITH FERRULE NO.	USE WITH LAG EYE NO.	USE WITH SCREW NO.	USE WITH TAB NO.						
1/8"	F-JC2-4	F-4	LE-6	SC-6	TT-6B	.260"	.260"	.56"	1.75"		
3/16"	F-JC2-6	F-6	LE-6	SC-6	TT-6B	.260"	.260"	.56"	1.75"		

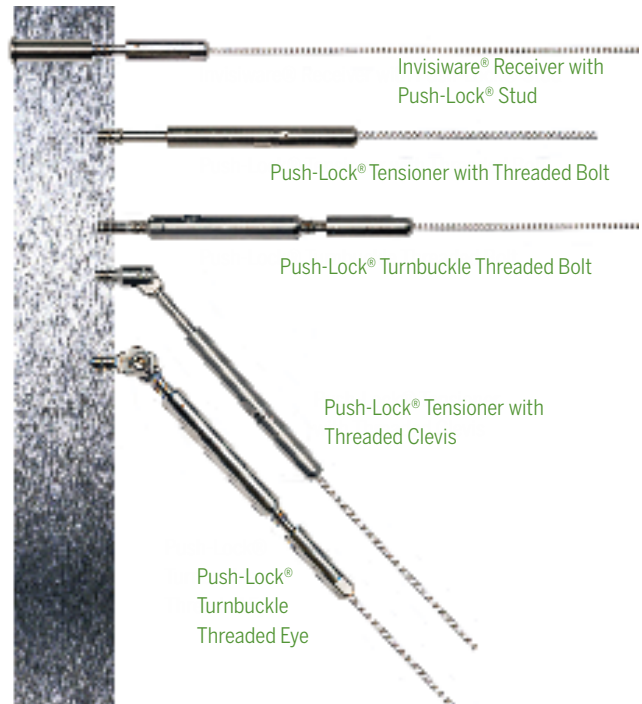
Reference Fixed Jaw schematic above for call-outs.



SWAGELESS TENSIONING FITTINGS

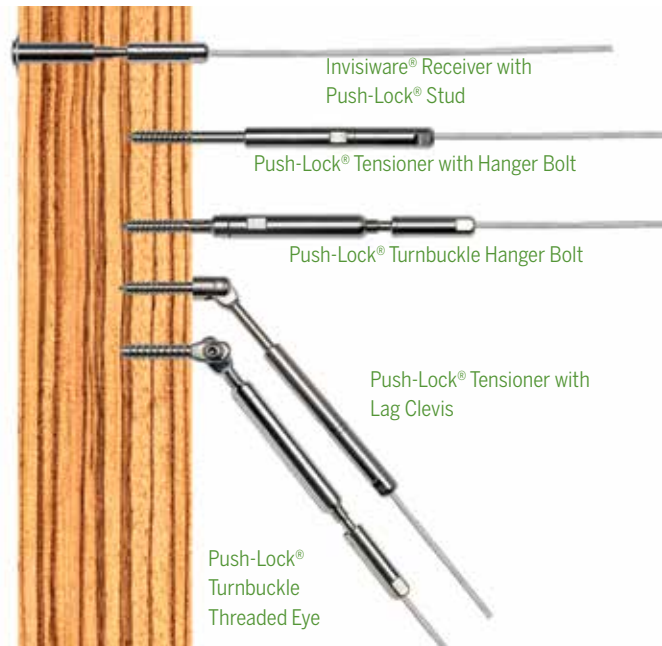
HARDWARE FOR METAL POSTS

- Invisiware® Receiver with Push-Lock® Stud
- Push-Lock® Tensioner with Threaded Bolt
- Push-Lock® Turnbuckle Threaded Bolt
- Push-Lock® Tensioner with Threaded Clevis
- Push-Lock® Turnbuckle Threaded Eye



HARDWARE FOR WOOD POSTS & WOOD POSTS WITH SLEEVES

- Invisiware® Receiver with Push-Lock® Stud
- Push-Lock® Tensioner with Hanger Bolt
- Push-Lock® Turnbuckle Hanger Bolt
- Push-Lock® Tensioner with Lag Clevis
- Push-Lock® Turnbuckle Threaded Eye



SWAGELESS FITTING: These fittings allow you to assemble the cable without any swaging. The cable attaches to the fitting via our Push-Lock® locking wedge system.



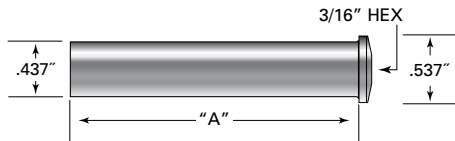
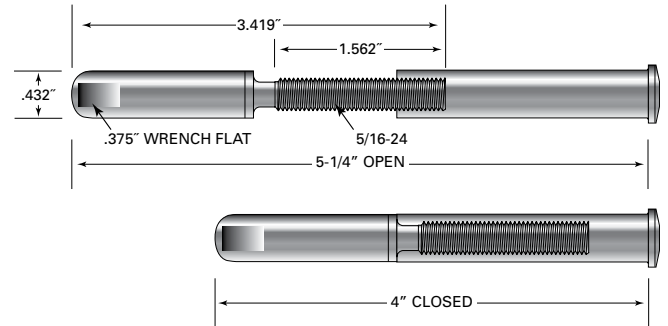
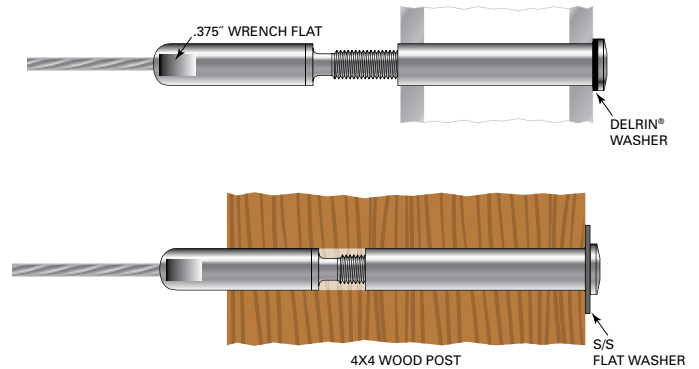
TENSIONING DEVICE: A fitting with this symbol is a tensioning fitting. Each individual cable must have at least one tensioning fitting in order to be properly installed and tensioned.

Invisiware® Receiver with Push-Lock® Stud



The Invisiware® Receiver with Push-Lock® Stud combination is an exposed, swageless, tensioning, through-the-post-mounted fitting suitable for level runs only, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

- Can be used with any fitting on the opposite end of the run.
- Fitting requires a minimum of 2-1/2" of clearance exists on the back side of the end post to install the Receiver into the post.
- Receiver is furnished with a Delrin® washer to install between the shoulder of the fitting and the end post to protect the surface of the finish of the post as tension is applied.
- Cable attaches to the Push-Lock® Stud fitting via our locking wedge system which requires no special tools.



TYPE 316 STAINLESS STEEL

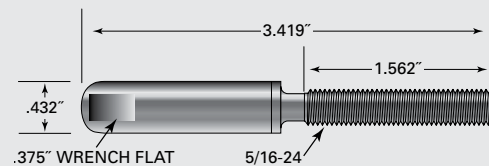
CABLE DIA.	USE WITH SWAGELESS STUD NO.	A = LENGTH OF RECEIVER BODY				
		2.30"	2.40"	2.53"	3.03"	3.56"
1/8"	PLST-4	R-6-42	R-6-72	R-6-82	R-6-52	R-6-62
3/16"	PLST-6					

Push-Lock® Stud



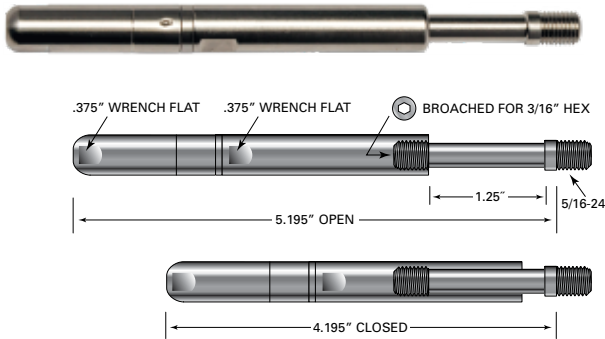
The Push-Lock® Stud attaches manually with no special tools required. The cable attaches to the fitting via our Push-Lock® locking wedge system.

CABLE DIA.	PART NO.
1/8"	PLST-4
3/16"	PLST-6



We do not recommend this fitting being installed in pitched applications because it would require drilling all of the holes in the end post at an angle. While this is possible with special fixtures, if it is not done correctly the end result would be visually unacceptable.

Push-Lock® Tensioner with Threaded Bolt

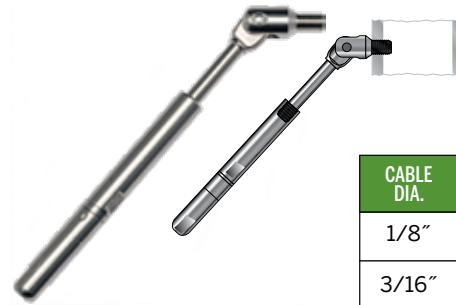


Exposed, swageless, tensioning, face-of-the-post-mounted fitting suitable for use on level runs only, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

- Can be used with any fitting on the opposite end of the run.
- Consists of two separate pieces: the Threaded Bolt and the Push-Lock® tensioning body.
- Threaded Bolt is installed into a pre-drilled and tapped hole in the end post.
- Cable attaches to the fitting via our Push-Lock® locking wedge system which requires no special tools.
- Body threads onto the other end of the bolt, connecting the two pieces.
- Tension is created by securing the post-side segment of the body onto the machine threads while preventing the cable-side segment of the body from turning.

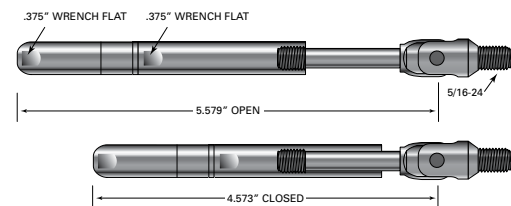
CABLE DIA.	PART NO.
1/8"	PL-SFC-MS-4
3/16"	PL-SFC-MS-6

Push-Lock® Tensioner with Threaded Clevis



CABLE DIA.	PART NO.
1/8"	PL-SFC-MP-4
3/16"	PL-SFC-MP-6

Exposed, swageless, tensioning, face-of-the-post-mounted fitting suitable for level or pitched runs, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.



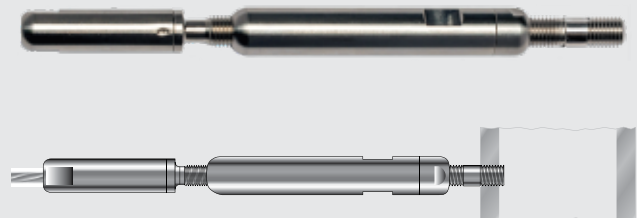
- Can be used with any fitting on the opposite end of the run
- Consists of two separate pieces: the articulating Threaded Bolt and Push-Lock® tensioning body.
- Threaded Clevis is installed into a pre-drilled and tapped hole in the end post.
- Cable attaches to the body via our Push-Lock® locking wedge system which requires no special tools.
- Machine thread on the articulating bolt threads into the body, connecting the two pieces.
- Tension is created by securing the post-side segment of the body onto the machine threads while preventing the cable-side segment of the body from turning.

Push-Lock® Turnbuckle Threaded Bolt



Exposed, swageless, tensioning, face-of-the-post-mounted fitting suitable for level runs only, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

- Can be used with any fitting on the opposite end of the run
- Consists of four separate pieces: the Threaded Bolt, the body, the Lock Nut, and the Push-Lock® Stud.
- Most common application for this fitting is when substantial take-up is required AND there is a preference for a swageless fitting, AND there is less than 2-1/2" of space available in back of the end post.



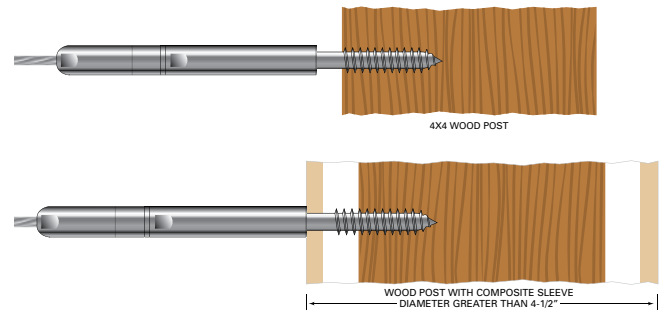
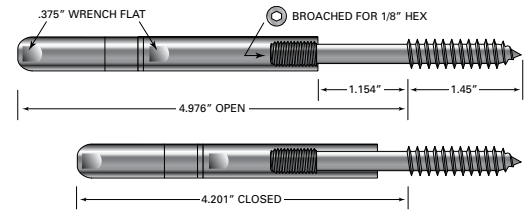
CABLE DIA.	PART NO.
1/8"	PL-TB-TB-4
3/16"	PL-TB-TB-6

Push-Lock® Tensioner with Hanger Bolt



Exposed, swageless, tensioning, face-of-the-post-mounted fitting suitable for level runs only, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

- Can be used with any fitting on the opposite end of the run. This fitting consists of two separate pieces: the Hanger Bolt and Push-Lock® tensioning body.
- The Hanger Bolt is driven into a pre-drilled hole in the face of the wood end post. The cable attaches to the body via our Push-Lock® locking wedge system, which requires no special tools. The machine thread of the Hanger Bolt threads into the body, connecting the two pieces.
- Tension is created by securing the post-side segment of the body onto the machine threads while preventing the cable-side segment of the body from turning.
- The Push-Lock® Tensioner with Hanger Bolt can be used with sleeved posts as well.



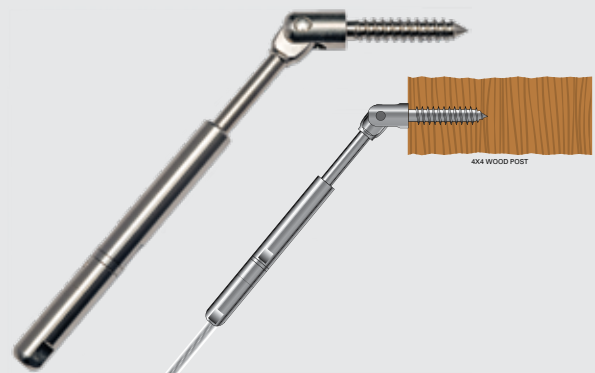
CABLE DIA.	PART NO.
1/8"	PL-SFC-WS-4
3/16"	PL-SFC-WS-6

We do not recommend installing this fitting in pitched applications because it would require drilling all of the holes in the end post at an angle. While this is possible with special fixtures, if it is not done correctly the end result would be visually unacceptable.

Push-Lock® Tensioner with Lag Clevis

Exposed, swageless, tensioning, face-of-the-post-mounted fitting that is suitable for level or pitched runs, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

- Can be used with any fitting on the opposite end of the run.
- Consists of two separate pieces: the articulating Lag Clevis and the Push-Lock® tensioning body.
- Cable attaches to the body via our Push-Lock® locking wedge system, which requires no special tools. The machine thread of the articulating lag threads into the body, connecting the two pieces.
- Lag Clevis is driven into a pre-drilled hole in the wood end post.
- Tension is created by securing the post-side segment of the body onto the machine threads while preventing the cable-side segment of the body from turning.

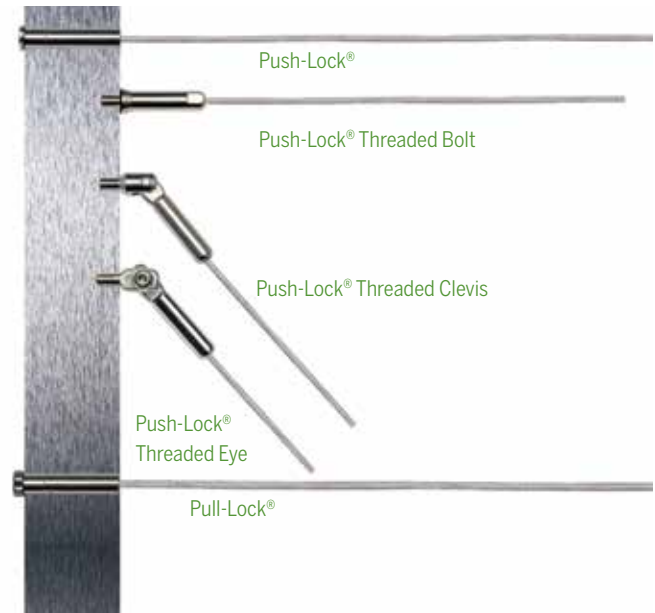


CABLE DIA.	PART NO.
1/8"	PL-SFC-WP-4-1
3/16"	PL-SFC-WP-6-1

SWAGELESS NON-TENSIONING FITTINGS

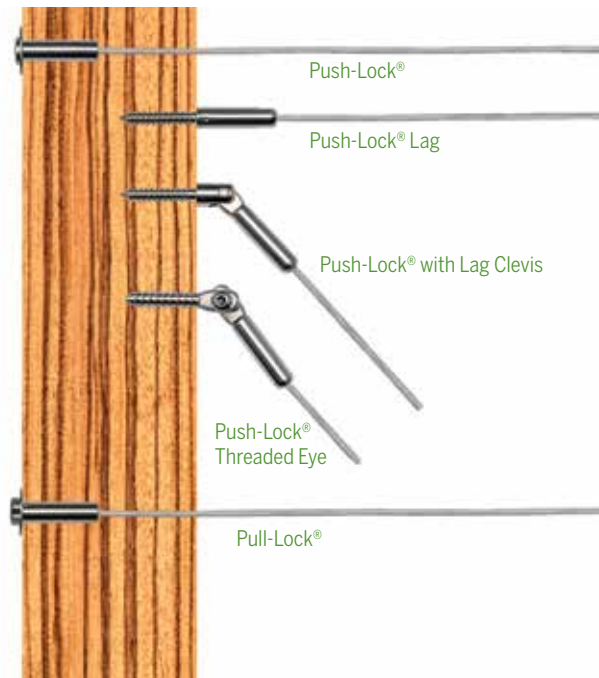
HARDWARE FOR METAL POSTS

- Push-Lock®
- Push-Lock® Threaded Bolt
- Push-Lock® Threaded Clevis
- Push-Lock® Threaded Eye
- Pull-Lock®



HARDWARE FOR WOOD POSTS & WOOD POSTS WITH SLEEVES

- Push-Lock®
- Push-Lock® Lag
- Push-Lock® with Lag Clevis
- Push-Lock® Threaded Eye
- Pull-Lock®

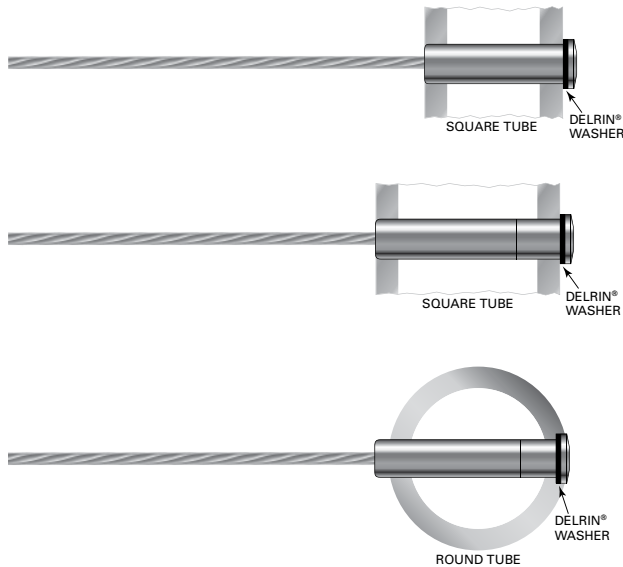


SWAGELESS FITTING: These fittings allow you to assemble the cable without any swaging. The cable attaches to the fitting via our Push-Lock® locking wedge system.

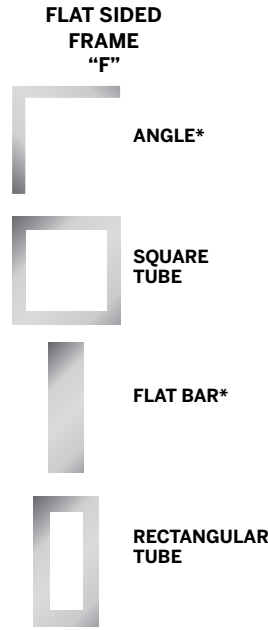
Push-Lock®



Concealed, swageless, non-tensioning, through-the-post-mounted fitting suitable for use on level runs only, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.



- Must be used with a tensioning fitting on the opposite end of the run.
- Fitting is installed into a pre-drilled hole in the end post.
- Requires enough clearance on the back side of the end post (to install the fitting through the back side of the post) and that amount of clearance depends on the length of the Push-Lock® fitting chosen.
- Furnished with a Delrin® washer or flat washer to install between the shoulder of the fitting and the end post to protect the surface of the finish as tension is applied.
- Recommended: choose a length of Push-Lock® that is the same as the cross section dimension of the end post.
- Cable attaches to the fitting via our Push-Lock® locking wedge system which requires no special tools.
- Fitting is designed to look similar to the Invisiware® Receiver from the exterior of the post, and is recommended to use a Receiver with stud on the opposite end, whenever practical, to maintain a consistent look.

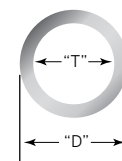


* Push-Locks® cannot be used with angle shapes or flat bar in pitch applications unless the post hole is drilled at the angle of the stair rake and a beveled washer is used.

ROUND TUBE FRAME "R"

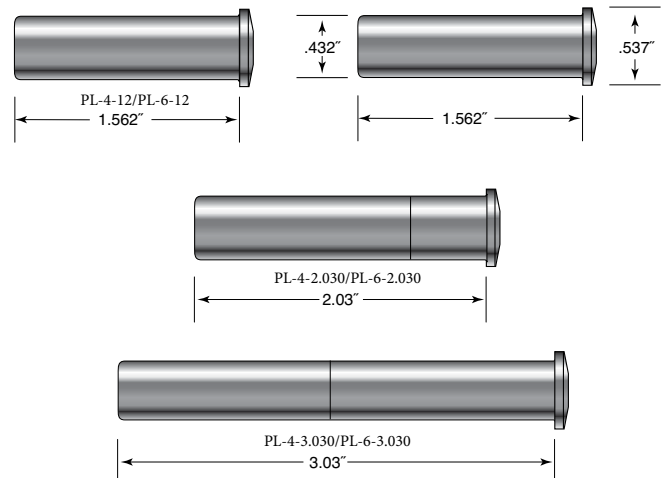
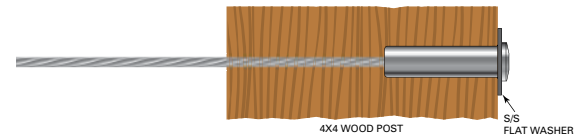


PIPE FRAME "P"



"T" = Theor. I.D. (Pipe Size)
"D" = Outside diameter

SIZE	"T"	"D"
1-1/4"	1.25"	1.66"
1-1/2"	1.50"	1.91"
2"	2.00"	2.375"

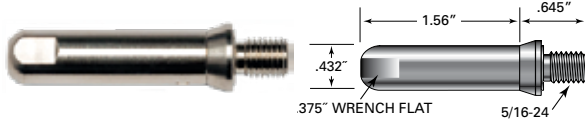


METAL FRAMING OPTIONS FOR PUSH-LOCK® FITTINGS

1/8" CABLE PART NO.	3/16" CABLE PART NO.	FRAME "F"	FRAME "R"	FRAME "P"	"L" LENGTH
PL-4-12	PL-6-12	1-1/2"	1-1/2"	1-1/4"	1.562"
PL-4-2.030	PL-6-2.030	2"	2"	1-1/2"†	2.030"
PL-4-3.030	PL-6-3.030	3"	3"	N/A	3.030"
PL-4	PL-6	4"x4"	N/A	N/A	1.562"

† Will protrude from cable side of post +/- .125".

Push-Lock® Threaded Bolt



Exposed, swageless, non-tensioning, face-of-the-post-mounted fitting suitable for use on level runs only, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

- Must be used with a tensioning fitting on the opposite end of the run.
- Fitting is installed into a pre-drilled and tapped hole.
- Furnished with a Delrin® washer to install between the shoulder of the fitting and the end post to protect the surface of the finish as the fitting is installed.
- Cable attaches to the fitting via our Push-Lock® locking wedge system which requires no special tools.



CABLE DIA.	PART NO.
1/8"	PL-FM-MS-4
3/16"	PL-FM-MS-6

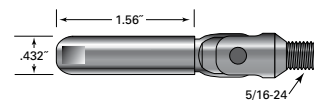
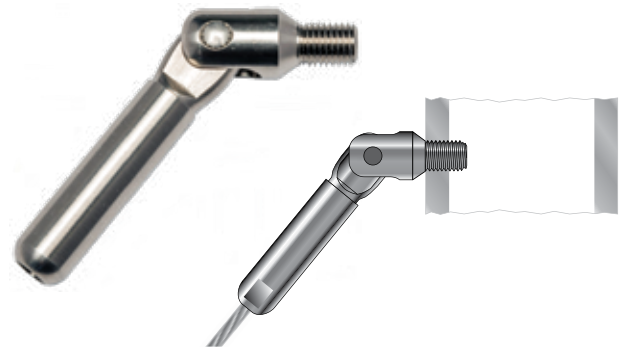
Push-Lock® Threaded Clevis



Exposed, swageless, face-of-the-post-mounted fitting suitable for level or pitched runs, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

- Can be used with any tensioning fitting on the opposite end of the run.
- Fitting is installed into a pre-drilled and tapped hole in the end post.
- Cable attaches to the body via our Push-Lock® locking wedge system which requires no special tools.

While this fitting can be used on pitched or level runs, it's most appropriate for pitched runs because the body of the fitting pivots at the clevis.



CABLE DIA.	PART NO.
1/8"	PL-CL-RP-4
3/16"	PL-CL-RP-6

Push-Lock® Threaded Eye and Threaded Tab or Lag Eye



Exposed, swageless, non-tensioning, face-of-the-post-mounted fitting suitable for use on level or pitched runs and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

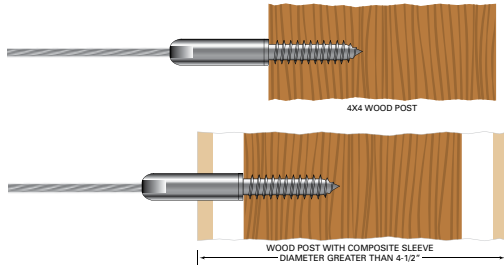
- Must be used with a tensioning fitting on the opposite end of the run.

- **FOR METAL:** Fitting attaches to the end post by installing a Threaded Tab into a pre-drilled and tapped hole.
- **FOR WOOD:** Fitting attaches to the end post by installing a Lag Eye into a pre-drilled and tapped hole and attaching the Push-Lock® Threaded Eye to the threaded Lag Eye with a button head screw.
- Cable attaches to the fitting via our Push-Lock® locking wedge system which requires no special tools. Screw and Threaded Tab OR Lag Eye are sold separately, (see information on page 5.)

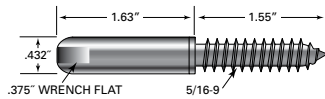
Push-Lock® Lag



Exposed, swageless, non-tensioning, face-of-the-post-mounted fitting suitable for use on level runs only, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

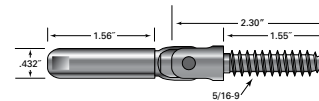
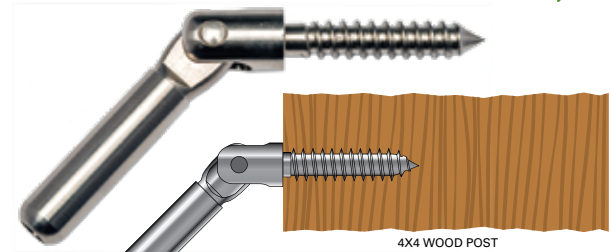


CABLE DIA.	PART NO.
1/8"	PL-LAG-4
3/16"	PL-LAG-6



- Must be used with a tensioning fitting on the opposite end of the run.
- Fitting is installed into a pre-drilled hole in the wood end post by rotating the fitting (with a wrench placed onto wrench flats machined into the fitting) to drive the lag thread into the hole until the fitting shoulder is flush with the post face. Because the wrench flat is at the back of the fitting, it can be used with sleeved posts as well.
- Cable attaches to the fitting via our Push-Lock® locking wedge system which requires no special tools.

Push-Lock® with Lag Clevis



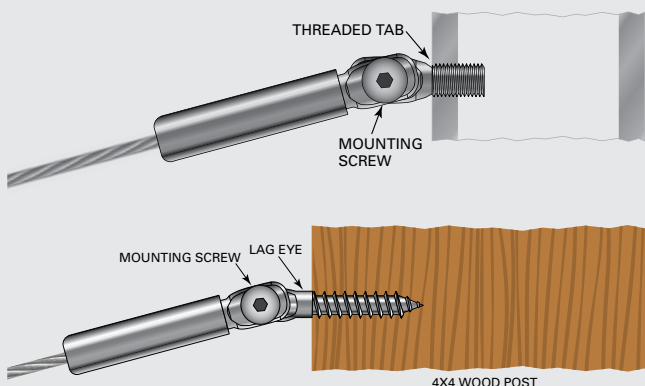
CABLE DIA.	PART NO.
1/8"	PL-LAG-CL-TE4-1
3/16"	PL-LAG-CL-TE6-1

Exposed, swageless, non-tensioning, face-of-the-post-mounted fitting suitable for level or pitched runs, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

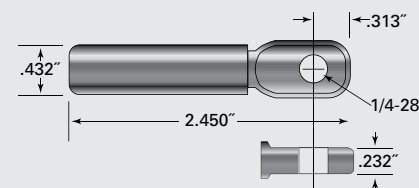
- Can be used with any tensioning fitting on the opposite end of the run.
- Fitting is installed into a pre-drilled hole in the wood end post. Drive the lag thread into the hole until the fitting shoulder is flushed with the post face.
- Cable attaches to the body via our Push-Lock® locking wedge system which requires no special tools.

Additionally available in extended length lag versions.*

While this fitting can be used on pitched or level runs, it is most appropriate for pitched runs because the body of the fitting pivots at the clevis.



CABLE DIA.	PART NO.	WOOD METAL		
		USE WITH SCREW NO.	USE WITH LAG EYE NO.	USE WITH TAB NO.
1/8"	PL-TE4	SC-6	LE-6	TT-6B
3/16"	PL-TE6	SC-6	LE-6	TT-6B



While this fitting can be used on pitched or level runs, it is most appropriate for pitched runs because the Threaded Eye portion of the fitting pivots at the Lag Eye or Threaded Tab.

Pull-Lock®



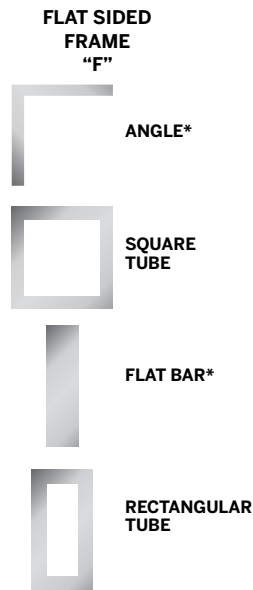
Concealed, swageless, non-tensioning, through-the-post-mounted fitting suitable for use on level or pitched runs, and is available for 1/8", 3/16", and 1/4" diameter 1x19 stainless steel cable.

- Must be used with a tensioning fitting on the opposite end of the run.
- Fitting is installed into a pre-drilled hole in the end post.
- Using the Pull-Lock® fitting on level or pitched runs requires enough clearance on the back side of the end post to install the fitting through the back side of the post. That amount of clearance depends on the length of Pull-Lock® chosen.
- Fitting is furnished with a Delrin® or flat washer to install between the shoulder of the fitting and the end post to protect the surface of the finish tension is applied.
- Cable attaches to the fitting via our Push-Lock® locking wedge system which requires no special tools.

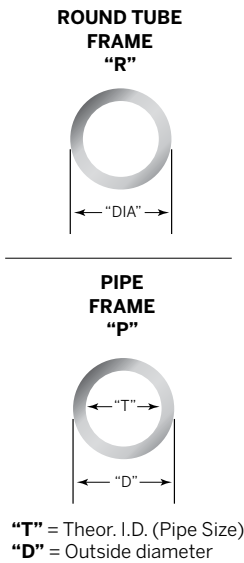
This fitting is similar to the Push-Lock®, except the cable passes through the Pull-Lock®, meaning you can cut the excess cable where it exits the fitting – no need to measure the cable before cutting. This feature eliminates the need for taking accurate cable length measurements (as is required when using a Push-Lock® fitting).

The Pull-Lock® can be used on a pitched run in a hole drilled horizontally through the end post. The cable will exit the fitting at an angle. To properly use this fitting on a pitch, it's recommended you choose a Pull-Lock® that is the same length as the cross section of your end post.

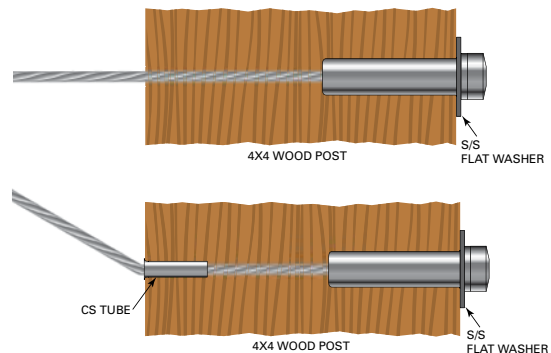
This fitting can be used on a pitched application, using the same horizontally drilled method for 4x4 wood posts, by installing a post protector tube into the face of the post where the cable exits at an angle (the post protector tube protects the face of the post from abrasion and furrowing as the cable is tensioned). Post protector tube is **sold separately** (see page 4).



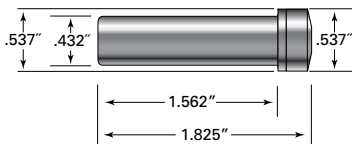
* Pull-Lock® fittings cannot be used with angle shapes or flat bar in pitch applications unless the post hole is drilled at the angle of the stair rake and a beveled washer is used.



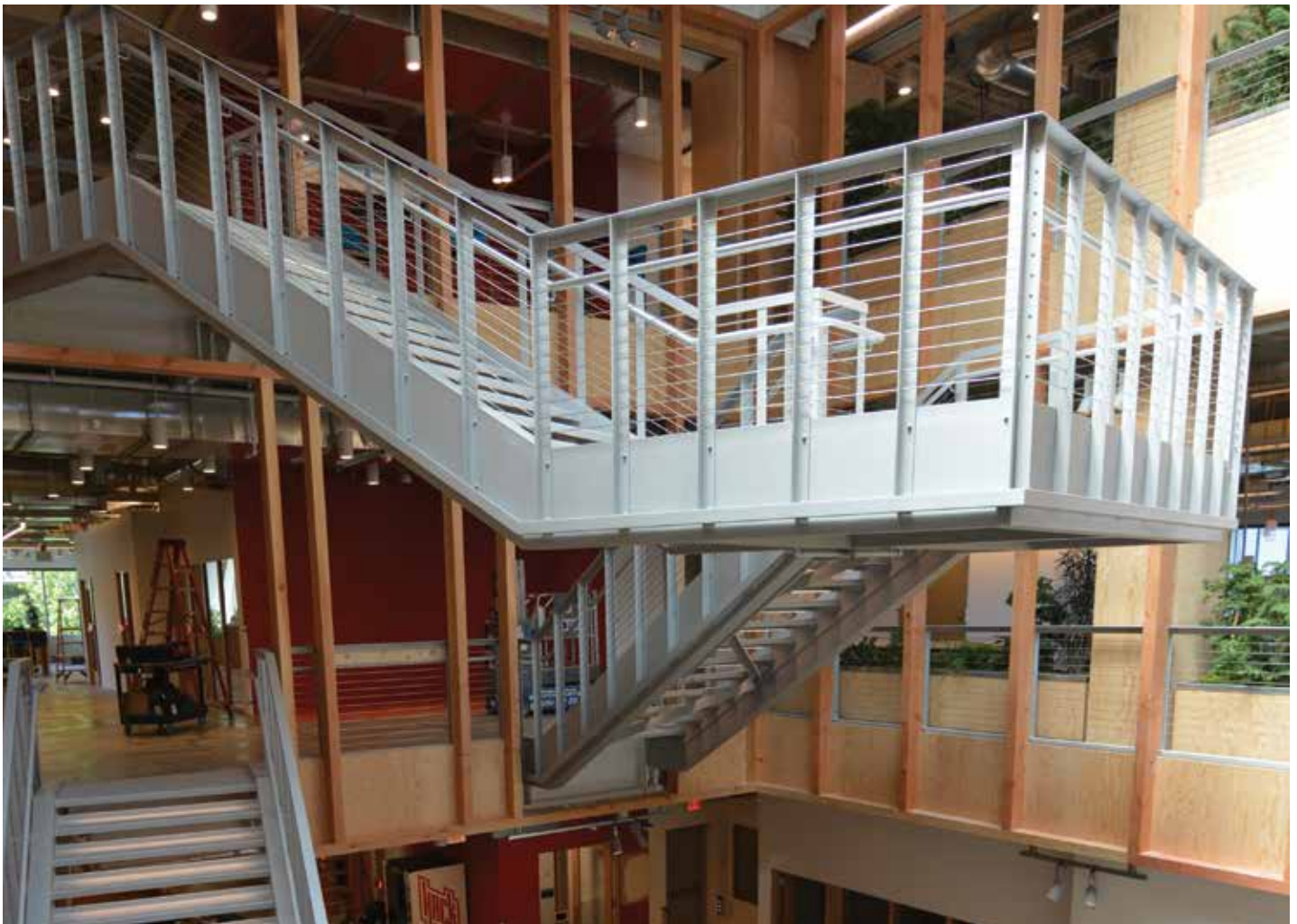
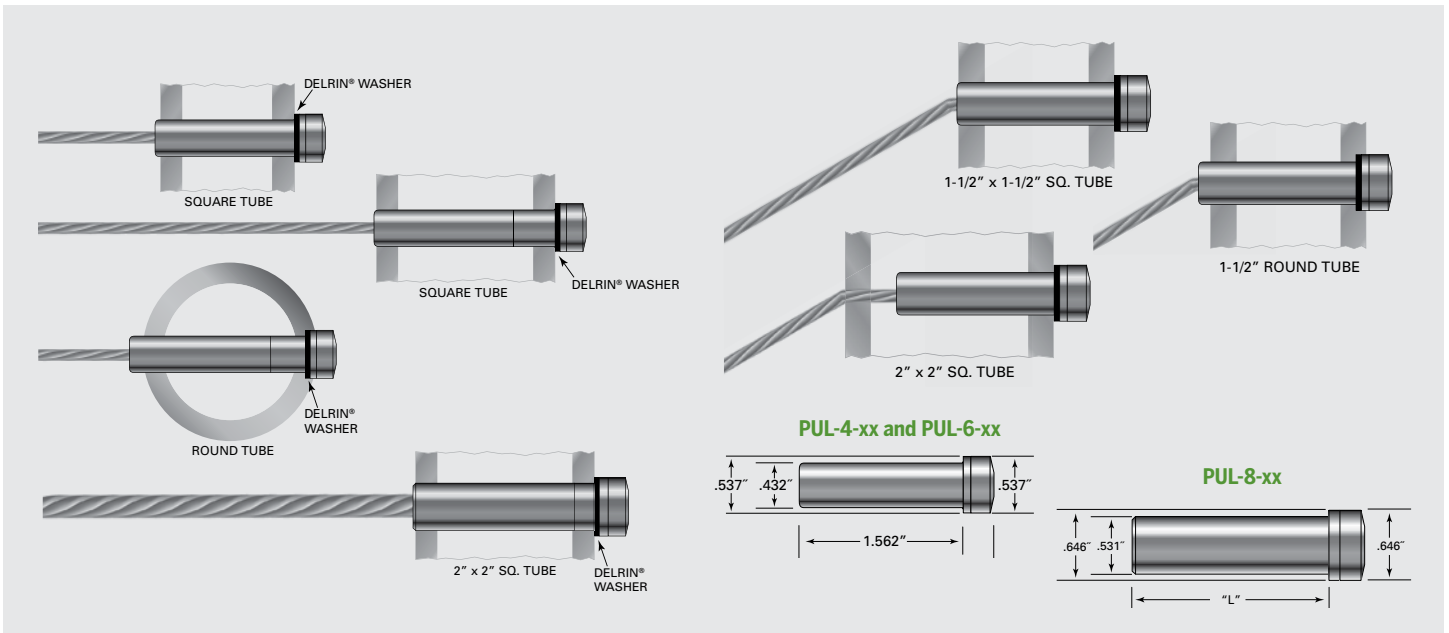
SIZE	"T"	"D"
1-1/4"	1.25"	1.66"
1-1/2"	1.50"	1.91"
2"	2.00"	2.375"



FRAMING OPTIONS FOR PULL-LOCK® FITTINGS



1/8" CABLE PART NO.	3/16" CABLE PART NO.	1/4" CABLE PART NO.	FRAME "F"	FRAME "R"	FRAME "P"	"L" LENGTH
PUL-4-12	PUL-6-12	N/A	1-1/2"	1-1/2"	1-1/4"	1.562"
PUL-4-1.810	PUL-6-1.810	PUL-8-22	N/A	N/A	1-1/2"	1.810"
PUL-4-2.030	PUL-6-2.030	PUL-8-32	2"	2"	N/A	2.030"
PUL-4-2.300	PUL-6-2.300	N/A	N/A	N/A	2"	2.300"
PUL-4-2.375	PUL-6-2.375	N/A	2-3/8"	2-3/8"	N/A	2.375"
PUL-4-3.030	PUL-6-3.030	N/A	3"	3"	N/A	3.030"
PUL-4-2.530	PUL-6-2.530	N/A	2-1/2"	2-1/2"	2-1/2"	2.530"
PUL-4-3.030	PUL-6-3.030	N/A	3-1/2"	3-1/2"	3"	3.030"
PUL-4-12	PUL-6-12	N/A	4" x 4"	N/A	N/A	1.562"



SWAGED TENSION FITTING

Adjust-A-Body® with Concrete Anchor Bolt

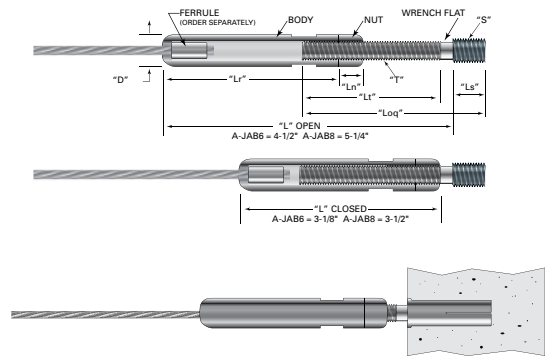


Exposed, swaged, tensioning, face-of-the-surface-mounted fitting recommended for level runs terminating at a concrete surface only. Fitting is available for 1/8", 3/16", and 1/4" diameter 1x19 stainless steel cable.

- Can be used with any fitting on the opposite end of the run.
- A concrete anchor is driven into a pre-drilled hole in the concrete surface.
- Short thread of the Anchor Bolt portion of the fitting is threaded into the concrete anchor.
- Cable is retained within the body portion of the fitting by a ferrule swaged onto the end of the cable. (see page 7)
- Lock Nut is installed all the way onto the exposed machine thread of the Anchor Bolt, followed by the body, which is secured onto the anchor bolt, creating tension on the cable.

- Once sufficient tension is achieved, Lock Nut is secured against the end of the body to prevent the fitting from loosening.

Use of this fitting requires an appropriately sized ferrule swaged onto the cable. Ferrule sold separately, see information on page 9. We recommend the Red Head® Concrete Anchor, available for purchase at many building supply retailers and distributors throughout the U.S..



TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	USE WITH FERRULE NO.	"S"	"T" THREAD	"LS"	"LT"	"LOQ"	"LN"	"LR"	"D"	USE WITH "RED HEAD" BRAND	
											CARBON STEEL	STAINLESS
1/8"	A-JAB6	F-4	3/8-16	5/16-24 LH	.500"	2.313"	3.188"	.375"	2.75"	.490"	RM-38	SRM-38
3/16"	A-JAB6	F-6										
1/4"	A-JAB8	F-8	1/2-13	7/16-20 LH	1.125"	2.500"	3.938"	.500"	3.00"	.617"	RM-12	SRM-12



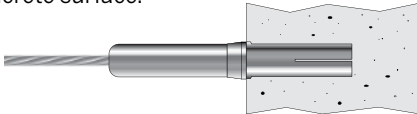
SWAGELESS NON-TENSIONING FITTING

Push-Lock® Concrete Anchor Bolt

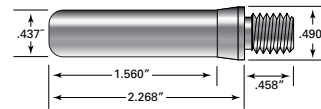


Exposed, swageless, non-tensioning, face-of-the-surface-mounted fitting suitable for use on level runs only, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

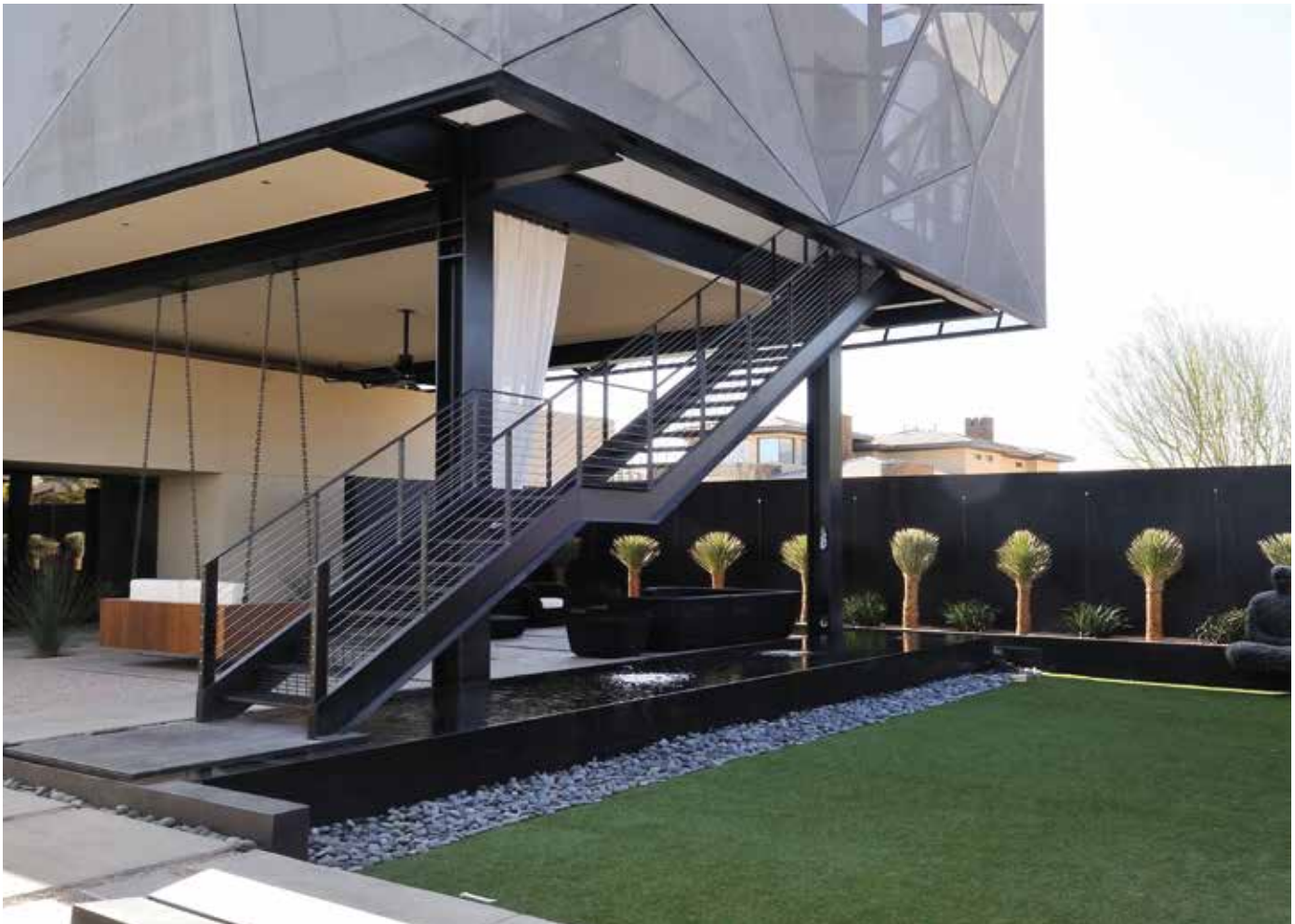
- Must be used with a tensioning fitting on the opposite end of the run.
- Concrete anchor is driven into a pre-drilled hole in the concrete surface.



- Anchor Bolt portion of the fitting is threaded into the Concrete Anchor.
- Cable attaches to the fitting via our Push-Lock® locking wedge system which requires no special tools.
- We recommend the Red Head® Concrete Anchor, available for purchase at many building supply retailers and distributors throughout the U.S..



CABLE DIA.	PART NO.
1/8"	PL-AB4
3/16"	PL-AB6



EQUIPMENT, ACCESSORIES, RAILING COMPONENTS

Swager Rentals

Find yourself needing to cut and swage cables in the field? We have swager kits available for rent that come complete with the swager head, hydraulic pump, cable cutters, cable gripping pliers, and other tools to help ensure you have the everything you need to successfully complete your cable installation.

The 650 Kit comes with an electric pump; the 610 comes with a pump that requires a compressor. For the 610, you need to supply an air compressor to power the pump and the swager. Requirements are minimum 5.8 CFM at 90 PSI and a minimum 20 gallon tank. Air pressure should be regulated to a minimum of 120 PSI, not to exceed 140 PSI. Each of the components in the rental kits is also available for sale separately.



650 Swager Rental Kit for 1/8", 3/16", 1/4", 5/16", and 3/8" cable



610 Swager Rental Kit for 1/8" and 3/16" cable only

Model 650 Swager

For swaging 1/8" through 3/8" diameter Ultra-tec® cable fittings. Use with Air Over or Electric Hydraulic Pump.

Order 650 SWAGER



Electric Hydraulic 120V Pump

Increases swaging speed versus the Air Over Hydraulic Pump. No compressor needed.

Order HYD PUMP-ELECTRIC



650 Shipping Container/ Tool Box

With compartments for cable cutting and installation tools and either air over or electric pump. Mounted to 4x4 risers for safer, easier loading/off-loading.

Order 650 TOOL BOX



Model 610 Swager

Hand held. For swaging 1/8" and 3/16" diameter Ultra-tec® cable fittings. Use with Air Over or Electric Hydraulic Pump.

Order 610 SWAGER



Air Over Hydraulic Pump

Air driven. Powers Model 610 or 650 Swager. Requires an air compressor capable of delivering at least 5.8 CFM at 90 PSI and a minimum 20-gallon tank. Minimum 1/4" I.D. air hose with a 1/4" male pipe thread required (not included).

Order HYD PUMP-AIR



610 Shipping Container/ Tool Box

With compartments for cable cutting and installation tools and air over pump.

Order 610 TOOL BOX



Cable Cutter

For burr-free cutting of cable. For light-duty use to cut 1/8" cable,

Order C-7

To cut cable 1/4" diameter and under, **Order C-9** (pictured).

To cut cable up to 3/8" diameter.

Order C-12



Cable Gripping Pliers

Locking pliers with machined jaws to grip the cable as you are tensioning the cable. This keeps the cable from turning and prevents damage to the cable when cable is being tensioned.

Order PLIERS



Cable Release

Releases cable from Push-Lock® and Pull-Lock® type fittings before cables are tensioned. For 1/8" cable only.

Order PL-KEY



PL Lag Driver

Use the driver when installing a Push-Lock® with a lag. This helps align the socket with the wrench flat for an easier installation.

Order PL LAG DRIVER



Radius Ferrule Gauge

Use this gauge to confirm that the Radius Ferrule has been properly swaged. The fitting is properly swaged if it fits into the appropriate slot.

Order RF-GAUGE



Grommet Installation Tool Set

Needed to properly install grommets. Place grommet on tool, align grommet over hole, and tap lightly with a hammer (hammer not provided with rental tools).

Order GROMMET TOOL SET



Cable Tension Gauge

Check the tension on your cables with these easy-to-use gauges. For cable diameter of 1/8", 3/16" and 1/4".

Order PT-CR

For cable diameter of 1/4" through 3/8",
Order PT-3



Industrial Pre-Tensioner

Commercial Pre-Tensioner is recommended to be used when installing cable with lengths longer than 70' and threading through multiple posts. This tool allows you to pretension the cable at an intermediate post location. Use the gauge to measure the cable tension.



Order PRETENSIONER01

Pre-Tensioner

A Pre-Tensioner can be used when installing longer runs of cable. It allows you to tension the cable through the last intermediate post, making it easy to connect to the last (end) post. When renting installation tools, Pre-Tensioners must be requested.



Order PT-250

Pre-Tensioner Locking Pliers

Special Pre-Tensioner Locking Pliers are used with the Pre-Tensioner. Each cable diameter requires individual pliers which must be ordered separately.

For 1/8" cable, **Order VGJ-PT4C**

For 3/16" cable, **Order VGJ-PT6C**

For 1/4" cable, **Order VGJ-PT8C**

For 5/16" cable, **Order VGJ-PT10C**

For 3/8" cable, **Order VGJ-PT12C**

Cable Brace Connectors

Plastic plugs with screws for attaching to wood or aluminum frame and wood deck. Available in bags of 20.

Order BRACE CONNECTOR



Cable Brace Connectors for Stairs

Plastic plugs with beveled bottoms for attaching to wood or aluminum frame on a stair rake. Available in bags of 20.

Order BRACE CONNECTOR-STAIR



Drill Guide

Drill straight holes through your wood posts with a steel drill guide. Use the drill guide to drill your pilot holes. Subsequent drilling will follow pilot holes. Clamp the guide to post and drill. It is best to drill one side, then the other. When ordering, allow space for clamps. A 6"-long drill bit is included that can also be used to drill your cable through-holes. Contact factory for **DRILL GUIDE ORDER FORM**.



Stainless Steel Spacers

Used to support thin-walled double end post design or allow for Receiver extension in a stair system.



TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	LENGTH	OUTSIDE DIA.	WALL THICKNESS
1/8", 3/16"	SPC-R6-.500	.500"	5/8"	.083"
1/8", 3/16"	SPC-R6	.970"	5/8"	.083"
1/4"	SPC-R8	.970"	3/4"	.095"

Beveled Washers (for flat-sided frames only)

Made of stainless steel for use with Invisiware® Receivers, Push-Lock® tensioners and Pull-Lock® fittings on stairways or slopes where you need to drill your end post holes at an angle.



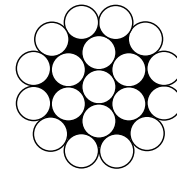
TYPE 316 STAINLESS STEEL FOR -6 AND -8 BWS

CABLE DIA.	STAIR/SLOPE PITCH	PART NO.
1/8", 3/16"	30° - 33°	BW32-6
		XBW32-6-B2
	34° - 36°	BW35-6
		XBW35-6-B2
1/4"	37° - 39°	BW38-8
	30° - 33°	BW32-8
	34° - 36°	BW35-12
5/16", 3/8"	37° - 39°	BW38-12
	30° - 33°	BW32-12



Cable

Five sizes of cable are offered for use with the Ultra-tec® Cable Railing Fitting and Hardware: 1/8", 3/16", 1/4", 5/16", and 3/8".



1 x 19
Non-Flexible

MINIMUM BREAKING STRENGTH (IN LBS.)
FOR 1X19 STRAND TYPE 316 STAINLESS STEEL CABLE

CABLE DIAMETER	1/8"	3/16"	1/4"	5/16"	3/8"
BREAKING STRENGTH	1,780	4,000	6,900	10,600	14,800

We recommend 1x19 construction, Type 316 stainless steel cable for cable railing applications. 1x19 strand cable is engineered to hold static loads without stretching, and is relatively stiff.

Isolation Bushing

When placed over the fitting before inserting into the post, this bushing is used to prevent bimetallic corrosion.

Order B-687-562-437



Cut-off Tool

Use to cut cable flush with the end of Pull-Lock® fittings, and to cut excess threads off stud-type tensioners. Includes mandrel and two cut-off wheels.

Order CUT-OFF KIT



Stainless Steel Cleaner and Protectant

Dissolves minor corrosion and leaves a protective coating that lasts for months. Includes an 8-oz. spray-on rust and stain remover and a 4-oz. bottle of protectant.

Order E-Z CLEAN



Anodized Aluminum Cable Brace

3/4" x 3/4" tube, 42" long for cutting down to any size rail height. Holes pre-drilled at 3-1/8" on center, 13 holes total. For use between structural posts to keep cables code compliant on level runs. Use cable brace plugs to attach to top and bottom rail or deck.

Order CB-42-AN-AL-13



Black Aluminum Cable Brace

Order CB-42-BL-AL-13

Anodized Aluminum Cable Brace for Stairs

3/4" x 3/4" tube, 42" long for cutting down to any size rail height. Comes undrilled so slots can be field-drilled to match cable array.

Order CB-42-AN-AL



Black Aluminum Cable Brace for Stairs

Order CB-42-BL-AL

Stainless Steel Cable Brace

1/4" x 1" in 2 lengths, for 36" and 42" high rails. Holes pre-drilled at 3-1/8" on center, 10 holes in short length, 12 holes in long. For use between structural posts to keep cables code compliant on level runs. Weld to metal frames; use cable brace floor plates for attaching to wood. Type 316 Stainless Steel

Order CB-34.5-SS-10 or CB-40.5-SS-12



Stainless Steel Cable Brace for Stairs

1/4" x 1" in 2 lengths, for 36" and 42" high rails. Slots pre-drilled at 3-1/8" on center, 10 slots in short length, 12 holes in long. For use between structural posts to keep cables code-compliant on stair runs. Weld to metal frames; use cable brace floor plates for attaching to wood. Must be field-chamfered to match stair angle. Type 316 Stainless Steel

Order CBS-34.5-SS-10 or CBS-40.5-SS-12

Stainless Steel Cable Brace Floor Plates

For mounting cable braces to top or bottom rail or deck.

2-1/4" x 1-1/4" x 1/4"

Type 316 Stainless Steel

Order FLP-CBS



Cable Grommets

Cable grommets are offered for popular cable diameters of 1/8", 3/16" and 1/4". They help prevent rust in exterior applications or where moisture is a factor, by providing a barrier between the cable and the painted or powder-coated surface through which the cable is drawn when being installed. They help prevent noise in interior applications by dampening vibration in the cables. Ultra-tec® cable grommets are installed (after the paint or powder coating is applied) into holes in intermediate posts, cable braces and, in the case of the Invisiware® Radius Ferrule, Push-Lock®, and Pull-Lock®

fittings into the end post holes through which the cable exits. They are offered in black UV resistant Delrin®.

Order cable grommets by diameter of cable and post through which the cable will be drawn.

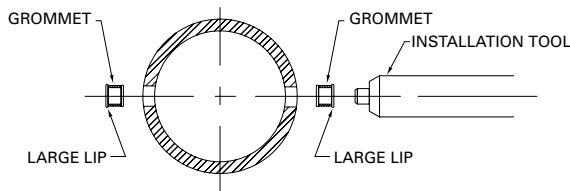
- GI grommets available for stair post slotted holes



	INTERMEDIATE POST MATERIAL (NOT SLOTTED FOR STAIRWAY)				INTERMEDIATE POST MATERIAL SLOTTED FOR STAIRWAY PITCH UP TO 37°		
CABLE DIA.	SCHEDULE 40 1-1/4" 1-1/2" 2" PIPE	SQ. OR RECT. TUBE WITH .120" WALL	1/4" CABLE BRACE OR SQ. OR RECT. TUBE WITH .250" WALL	1/2" FLAT BAR	SCHEDULE 40 1-1/4" 1-1/2" 2" PIPE	SQ. OR RECT TUBE WITH .120" WALL	1/4" CABLE BRACE OR SQ. OR RECT. TUBE WITH .250" WALL
1/8", 3/16"	G-C6-1	G-C6-2	G-C6-4	G-C6-.500	GI-C6-1	GI-C6-2	GI-C6-4
1/4"	G-C8-1	G-C8-2	G-C8-4	NA	GI-C8-1	GI-C8-2	GI-C8-4

Cable grommets are available in lots of 100 each.

- GI grommets available for stair post slotted holes.



	END POST MATERIAL USING RADIUS FERRULE, PUSH-LOCK® OR PULL-LOCK® FITTINGS	
CABLE DIA.	SCHEDULE 80 1-1/4"*, 1-1/2" OR 2" PIPE	SQ. OR RECT. TUBE WITH .250" WALL*
1/8" & 3/16"	G-C6-3	G-C6-4
1/4"	G-C8-3	G-C8-4

*Cable grommets not required for Push- or Pull-Lock® applications where fitting extends through both walls of post frame.



ULTRA-TEC®

CABLE RAILING REFERENCE GUIDE

CABLE TYPE & SIZE

We always recommend using 1x19 Type 316 stainless steel L/H lay strand (or cable) for railing infill for its:

- strength
- diameter
- resistance to corrosion
- compatibility with our Type 316 stainless steel hardware
- commercial availability
- affordability

For commercial or public installation we recommend 3/16" as a minimum cable diameter. With very large-scale projects, sometimes 1/4" is also recommended, depending on the application. 5/16" and 3/8" cable (and fittings) are also available for projects where a specific look is desired.

Important Note: 1x19 L/H lay cable is the only strand configuration that will work with swageless fittings. Most "store-bought" cable is either 7x7 or 7x19 strand. Neither are recommended for cable railing because of their elevated levels of stretch and lower breaking strengths in comparison to 1x19 construction.

5 CABLE & FITTING OPTIONS

The following are various cable and fittings combinations, along with a brief explanation of each. These illustrate what you would receive if you need a 10-foot run for wood end posts, using through-the-post Invisiware® fittings. (While we are only showing what you will need for one cable run, most railings will require 10-12 sets of cable for any given run.)



Questions? We're here to assist you in determining what will work best for you. Please contact us for help!

1 Cut-To-Length Cables With One Factory-Swaged Fitting, One Swageless Fitting

Provide us approximate field measurements for each cable run. We factory swage the tensioner to one end. A swageless non-tensioning fitting is included for you to install on the other end. The cable is delivered 3" longer than needed for each run to be trimmed to exact length onsite. For Pull-Lock® swageless fittings, use a cut-off wheel to cut the cable as closely as possible to where it exits the fitting.

- You do not have to supply exact field measurements from post to post.
- The holes drilled through the intermediate posts can be just slightly larger than the cable diameter for a tight fit around the cable.
- It helps reduce cable deflection.



2 Cut-To-Length Cables With Both Ends Factory-Swaged

Provide exact field measurements for each cable run. We cut and swage both ends of the cable to final installation length and ship them to you for your project.

- The swage-on fittings are more economical and you don't have to swage the cable in the field.
- Drill intermediate holes slightly larger than the smallest fitting swaged to the cable.
- Saves on time and labor.



3 Cable On A Spool, Swage-On Fittings, Swagar Rental Kit

Spoiled bulk cable, a swager rental kit and swage-on fittings are provided. You will do all the cutting and swaging of cables on the job.

- We provide you with the components and the means to put them together.
- You can use our economical swage-on fittings on both ends of the cable.
- Drill the holes through the intermediate posts slightly larger than the cable diameter for a tight fit around the cable.
- It helps to reduce cable deflection.



4 Cut-To-Length Cables With One Factory-Swaged Fitting, One Fitting To Be Swaged In The Field

Provide exact field measurements for each cable run. We cut the cable to final installation length and factory swage one end to the cable. We ship the pre-cut cable and the fitting for the other end, you swage it on in the field (either with one of our rental swagers or yours, if you own one). No further trimming necessary.

Or, you provide a longer measurement than necessary. We cut the cable longer than needed for each run and factory swage one end to the cable. We ship you the pre-cut cable and the fitting for the other end, you trim to final length and swage the other fitting in the field.



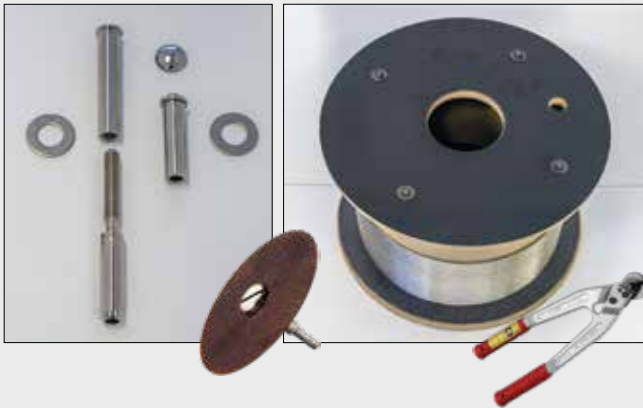
- Drill the holes through your intermediate posts slightly larger than the cable diameter for a tight fit around the cable.
- It helps to reduce cable deflection.



5 Cable On A Spool, Swageless Fittings

Spooled bulk cable and separate swageless fittings will be provided. You will cut the cable and attach swageless fittings on site. We recommend Felco®-type cable cutters (the best way to cut cable) for Push-Lock® swageless fittings, and a cut-off wheel (best way to cut cable close to a fitting) for Pull-Lock® swageless fittings.

- You can assemble all cables without any swaging whatsoever.
- Drill the holes through your intermediate posts slightly larger than the cable diameter for a tight fit around the cable.
- It helps to reduce cable deflection.



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Engineering data, downloadable specifications and drawings are available for Ultra-tec® cable railing products. For more information or to speak with a representative, please call 800.851.2961.

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Ultra-tec® products are available through: