

Ultra-tec®

CABLE RAILING SYSTEMS

Architectural
Cable Railing
Products



ISO Certified
U.S.A.
Manufacturer



March 1, 2014



AS&D
AMERICAN
STRUCTURES & DESIGN

Ultra-tec® Cable Railing Products

More choices than ever when designing a cable railing
you and your clients will be proud of.

Advantages of Swageless Fittings

Swaging is the term used for attaching fittings to the cable. Swageless fittings are installed on the cables by hand at the job site and do not require special equipment. With swageless fittings, at least one cable end does not contain a fitting when delivered to the job site. Fittings are larger than the diameter of the cable, so, since only bare cable is fed through intermediate elements between terminating end posts, holes in the intermediate elements can be drilled close to the diameter of the cable. Hence, there is a tighter fit between cable and frame than there would be if the cables were supplied with fittings on both ends.

With swageless fittings, the cables can be installed at the same time the railing frames are installed. There is no waiting for exact measurements that would be required if the cables were supplied with fittings on both ends of the cable.

Swageless fittings are generally more costly than fittings that are swaged. However, on smaller projects, using swageless fittings often results in savings when the cost of renting or purchasing the equipment necessary to swage the fittings on site is considered.

Swageless fittings are offered for use with 1/8" and 3/16" diameter cable.

Advantages of Swaged Fittings

If fittings are swaged on site when the cables are installed, the intermediate elements between terminating end posts can be drilled close to the diameter of the cable, because there are no fittings to pass through the holes in the posts. There is a tighter fit of cable to frame than there would be with the larger holes required if fittings are swaged on both ends before the cables are strung through the posts.

An alternative to swaging on site (or using swageless fittings) is to have the fittings swaged on both ends of the cable by the factory or a distributor. The disadvantages, however, are that exact measurements must be supplied for the factory or distributor to swage the fittings onto the cable and, with fittings already attached to the cables, intermediate element holes need to be drilled oversize for the fittings to pass through for installation.

Swaging requires special equipment that can be purchased or rented from the factory or a distributor. Swaged fittings are generally less expensive than swageless fittings, so on larger projects the savings in using swaged fittings may more than offset the cost of the equipment.

Front Cover

The stair system uses 2x2 stainless steel tube posts with hidden Invisiware® fittings: 2" long R-6-32 Receivers on either end of the stairs themselves; and on the flat runs, R-6-32s opposite



Cover photo courtesy of
Paramount Iron and Handrail.

S-6 swaging studs used as stop-end fittings, threaded into drilled and tapped posts.

Inset photo is a deck with 4x4 wood posts also featuring hidden fittings: 3-1/2" long R-6-62 Receivers at either end, with post protector tubes inserted in the wood posts where the cable exits the post at an angle. Using double posts at corners means two different cable runs do not have to share the same post, allowing for hidden fittings to be used everywhere.

ISO 9001 Certified



ISO 9001
QMI-SAI Global

LEED® Credit



This emblem appears on the pages of Ultra-tec® products that contain at least 65% recycled content, helping you qualify for LEED® credits.

Building Codes

When used in accordance with factory recommendations for constructing the railing frame, spacing, and supporting the cables, a railing using Ultra-tec® cable railing products will meet common infill loading requirements required by local building codes.

Ultra-tec®
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Each section is color-coded.

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Our most popular swageless fitting.



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Comes in three lengths.



PUSH-LOCK™ Stop-End Fittings, inside-of-post mount — pages 6-7
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Tensioning device



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SWAGELESS FITTINGS

SWAGED FITTINGS — TENSIONERS



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TENSIONING DEVICES REQUIRING SWAGING

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INVISIWARE® Radius Ferrule — page 16
Can be concealed inside metal or wood post.



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Can be concealed inside post.



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NON-TENSIONING FITTINGS

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RAILING KITS

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THREADED STUDS

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MOUNTING AIDS AND CABLE

EQUIPMENT, ACCESSORIES, RAILING COMPONENTS

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EQ., ACC., RAILING COMP.

Pull-Lock Stop-End Fittings

NON-TENSIONING END

Field installed Pull-Lock fittings — outside-of-post mount

No field swaging

Pull-Lock fittings are designed for use with 1x19 L.H. lay strand only. They can be used with any tensioning device on the other end, and when matched with an Invisiware Receiver tensioner (page 11), gives you a cable railing system with no visible hardware between the end posts.

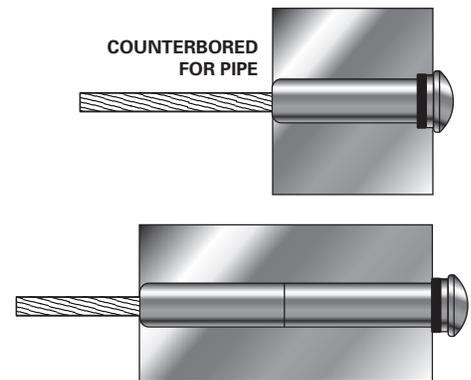
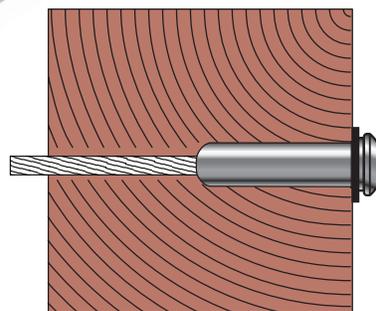
Easy to install

You can order your cables with a tensioner already on one end or you can install a tensioner on one end on site. Attach the tensioner on one end post, slip the Pull-Lock fitting into the other end post and pull the cable all the way through the Pull-Lock fitting. Tension the cables, then cut the excess cable off on the back side of the fitting with a 4-inch right angle grinder or a cutting wheel (available from the factory) that is used with your hand drill. Press on the stainless steel cap to cover the bare cable end, and you're done!



Use with metal or wood posts

Pull-Lock fittings come in three lengths, so that when used with a matching length Invisiware Receiver, post-drilling is made uniform. Pull-Lock fittings work with pipe and with round, square, or rectangular metal tubing. When used with an end post 1½" or more in thickness, the Pull-Lock fitting is hidden inside the end post, with only the head exposed on the outside of the post. Pipe ends are counterbored, so the full perimeter of the screw cap head rests on a flat surface in the pipe. The head rests on the outside wall of a flat-sided metal post. A plastic washer is included and acts as a scratch-resistant barrier between the screw cap head and the metal post. For wood applications, also order 7/16SAE stainless steel washer (page 29).



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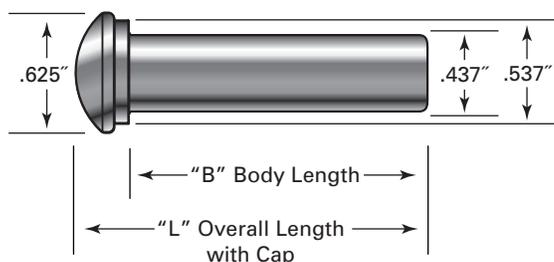
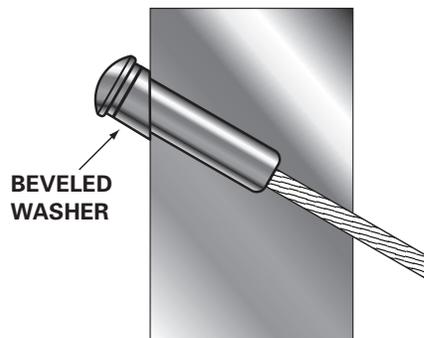
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Use Pull-Lock stop-end fittings on stairs with special beveled washers.

Special stainless steel beveled washers let you use Pull-Lock fittings on stairs and severe pitches with flat-sided metal frames. Not offered for pipe or round tubing.

STAINLESS STEEL BEVELED WASHERS	
FOR PITCH OF	ORDER PART NO.
30° - 33°	BW32-6
34° - 36°	BW35-6
37° - 39°	BW38-6



PULL-LOCK FITTINGS — OUTSIDE-OF-POST MOUNT

Pull-Lock fittings are made of type 316 stainless steel with the exception of internal components that are made of other types of stainless steel.

DESIGNED FOR USE WITH 1X19 L.H. LAY STRAND ONLY

DIMENSIONS AND FRAMING OPTIONS

FRAME OPTIONS	"B" Body Length	"L" Overall Length	1/8" cable PART NO.	3/16" cable PART NO.
Any Frame	1.562"	1.825"	PUL-4	PUL-6
1-1/2" Tube	1.562"	1.825"	PUL-4-12	PUL-6-12
2" Tube	2.030"	2.266"	PUL-4-2.030	PUL-6-2.030
2-3/8" Tube	2.405"	2.668"	PUL-4-2.375	PUL-6-2.375
3" Tube	3.030"	3.266"	PUL-4-3.030	PUL-6-3.030
3-1/4" Tube	3.280"	3.543"	PUL-4-3.280	NA

NOTE: For wood posts, also use S.S. Washer Part No. 7/16SAE.



Convenient cutting tool

To cut the cable flush with the end of the Pull-Lock fitting, a 4-inch right angle grinder with a cut-off wheel is ideal. For those who do not have that type of hand tool, a cutting tool for use with a hand drill is available. Order part no. CUT-OFF KIT (page 33).



Push-Lock Stop-End Fittings

NON-TENSIONING END

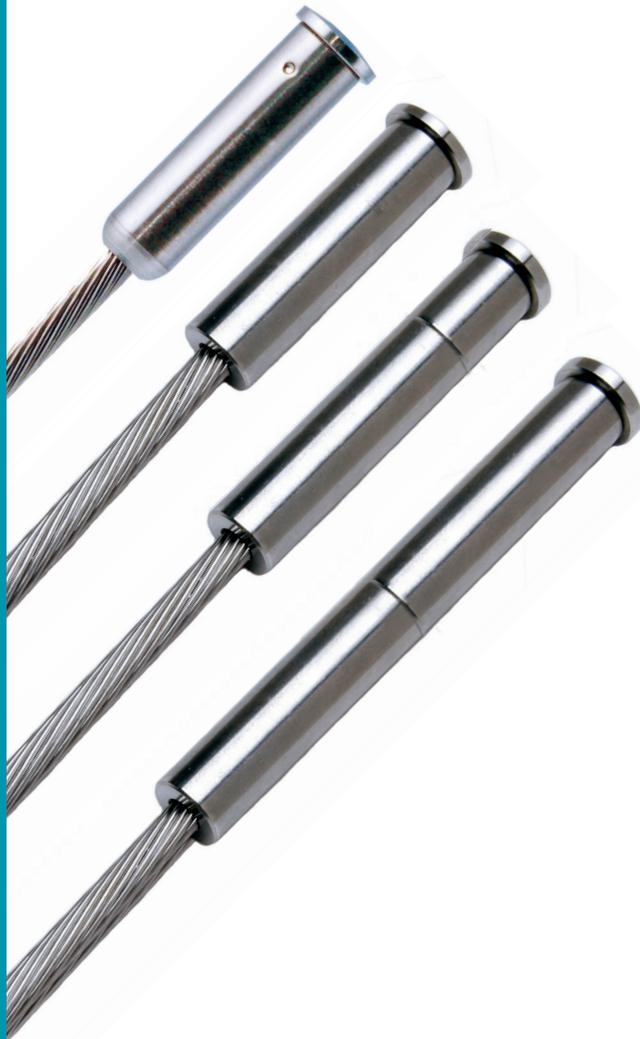
Field-installed Push-Lock fittings — outside-of-post mount

No field swaging

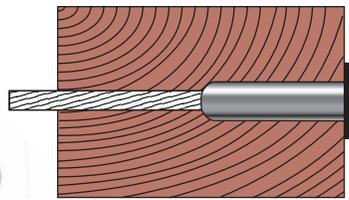
Push-Lock fittings are designed for use with 1x19 L.H. lay strand only. They can be used with any tensioning device on the other end, and when matched with an Invisiware Receiver tensioner (page 11), gives you a cable railing system with no visible hardware between the end posts.

Easy to install

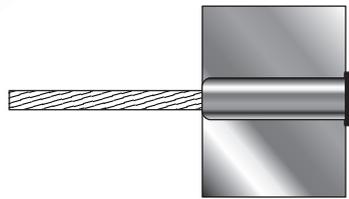
Attach the tensioner on one end post, slip the Push-Lock fitting into the other end post and cut the cable to length per the instructions. Push the cable into the Push-Lock fitting, tension the cable, and you're done!



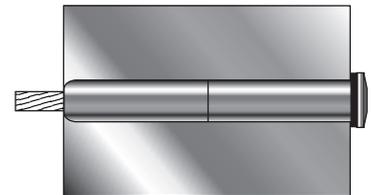
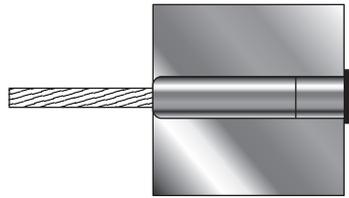
Four styles make your job easy — for any width post, wood or metal.



Push-Lock fittings with rounded nose ends rest inside your metal or wood end posts on level runs. The fitting is hidden inside the post, with only the head exposed on the outside of the post.



Push-Lock fittings with squared nose ends are available for 1½", 2", and 3" square (or rectangular) tube to create a uniform look when used opposite 1½", 2", or 3" Invisiware Receivers (which also have squared ends).



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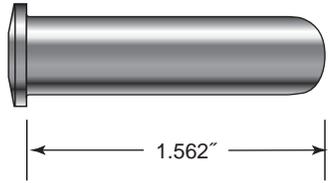


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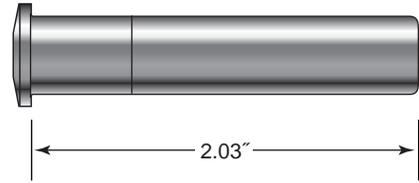
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For level runs where back side of end post is accessible

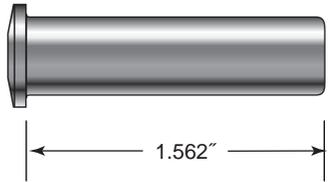
Push-Lock fittings are used on level runs. They rest in a hole in the end post. When used with an end post 1-1/2" or more in thickness, the Push-Lock fitting is hidden inside the end post, with only the head exposed on the outside of the post. Pipe ends are counterbored, so the full perimeter of the head will rest on a flat surface in the pipe. A plastic washer is included and acts as a scratch resistant barrier between the Push-Lock fitting and a metal post. The head rests on the outside wall of a flat-sided metal post or on a stainless steel washer on a wooden post. For wood applications, also order 7-16SAE stainless steel washer.



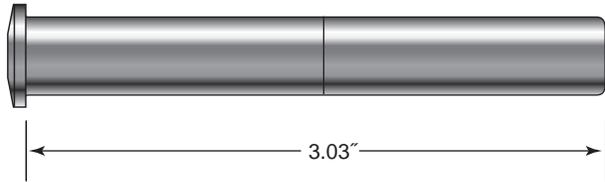
PL-4/PL-6



PL-4-2.030/PL-6-2.030



PL-4-12/PL-6-12



PL-4-3.030/PL-6-3.030

Easy to order, easy to install

Select the tensioners you wish to use. If the tensioners are swageless, order the quantity of tensioners, Push-Lock fittings and cable you will need. If you need a tensioner swaged on one end by the factory or a distributor, provide the length of each of your cable runs and the tensioners you wish to use, and your cables will be shipped to you with tensioners on one end and bare cable on the other end. The cables will be a bit longer than you need, and you will cut them to a final length and push them into the Push-Lock fittings when you install the cables in your posts.



PUSH-LOCK FITTINGS – OUTSIDE-OF-POST MOUNT

Push-Lock fittings are made of type 316 stainless steel with the exception of internal components that are made of other types of stainless steel.

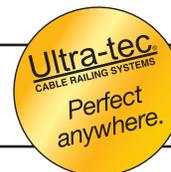
DESIGNED FOR USE WITH 1X19 L.H. LAY STRAND ONLY

CABLE DIA.	FRAME OPTIONS			
	ANY FRAME	1-1/2" TUBE or 1-1/4" PIPE	2" TUBE	3" TUBE
1/8"	PL-4	PL-4-12	PL-4-2.030	PL-4-3.030
3/16"	PL-6	PL-6-12	PL-6-2.030	PL-6-3.030

NOTE: For wood posts, also use S.S. Washer Part No. 7/16SAE.



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Ultra-tec®
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Push-Lock Stop-End Fittings

NON-TENSIONING END

Field-installed Push-Lock fittings – inside-of-post mount

No field swaging

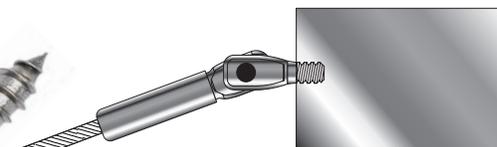
Push-Lock fittings are designed for use with 1x19 L.H. lay strand only. They can be used with any tensioning device on the other end, and our inside-mount swageless fittings are the most economical inside solution we offer.

Easy to install

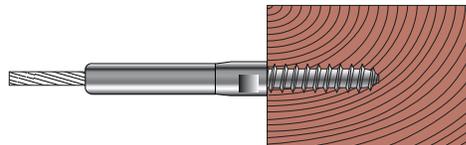
You can order your cables with a tensioner already on one end or you can install a tensioner on one end on site. Attach the tensioner on one end post, then cut the cable to length based on the Push-Lock fitting being used for the job. Push the cable into the Push-Lock fitting, tension the cable, and you're done!



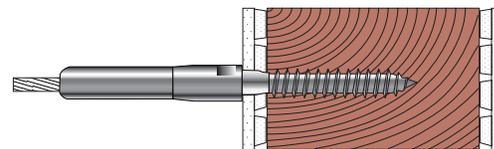
Four styles make your job easy – in metal, wood, or composite sleeve



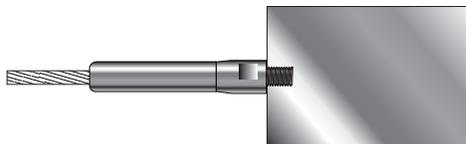
Push-Lock fittings with threaded eyes mount to lag eyes, tabs or holes on the outside of your metal or wood post for use on stairs and severe pitches.



Push-Lock Lag, Extended Lag, and Threaded Bolt fittings for straight, level runs allow you to lag or thread into the inside of the end post, depending on post composition.



The Push-Lock Lag fittings come in two parts so the lag can easily be driven into the wood post.



The Push-Lock Threaded Bolt operates as a single unit.

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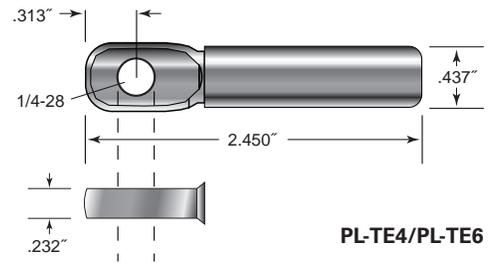


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For stairs or severe pitches

Push-Lock fittings with threaded eye ends are for use on stairs. They attach to a wood end post with a lag eye (page 29). See the drawing to determine how to interface this fitting with a metal end post or use our fixed tab or threaded tab (page 28). Mount with an SC-6 screw (page 29).



PL-TE4/PL-TE6

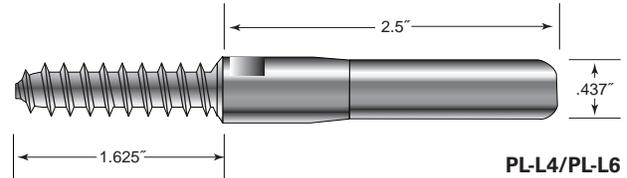
For level runs where cable must be terminated on the inside of the post

For level runs where the back side of the post is not accessible, so the cable must terminate in a fitting on the inside of the post, the Push-Lock Lag (for wood posts), the Push-Lock Extended Lag (for wood posts with composite sleeves), and the Push-Lock Threaded Bolt (for metal posts) address those needs.

The Push-Lock Lag is actually two components that fit together: the lag and the Push-Lock coupler. The lag is broached for an Allen wrench on one end to make it easy to screw into the post. Once installed, thread the Push-Lock coupler onto the lag and you're ready to insert the cable.

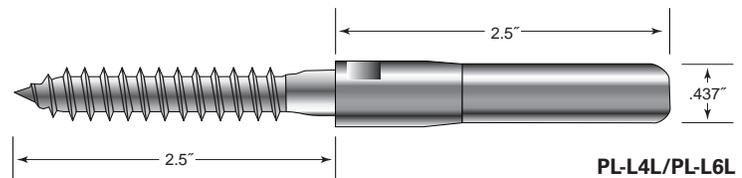
The Push-Lock Threaded Bolt is a single unit which threads into a pre-drilled and tapped hole. Once securely tightened against the post, you're ready to insert the cable.

Neither the Push-Lock Lag nor the Push-Lock Threaded Bolt are tensioning devices, so the other end of the cable run will require a tensioner.

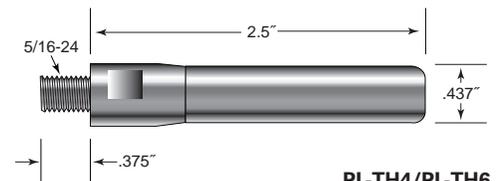


PL-L4/PL-L6

Drill 9/32" pilot hole for Push-Lock lags



PL-L4L/PL-L6L



PL-TH4/PL-TH6

Easy to order, easy to install

Select the tensioners you wish to use. If the tensioners are swageless, order the quantity of tensioners, Push-Lock fittings and cable you will need. If you need a tensioner swaged on one end by the factory or a distributor, provide the length of each of your cable runs and the tensioners you wish to use, and your cables will be shipped to you with tensioners on one end and bare cable on the other end. The cables will be a bit longer than you need, and you will cut them to a final length and push them into the Push-Lock fittings when you install the cables in your posts.



PUSH-LOCK FITTINGS — INSIDE-OF-POST MOUNT

Push-Lock fittings are made of type 316 stainless steel with the exception of internal components that are made of other types of stainless steel.

DESIGNED FOR USE WITH 1X19 L.H. LAY STRAND ONLY

CABLE DIA.	LEVEL or STAIR RUN	FRAME OPTIONS				USE WITH SCREW NO.	FOR WOOD, USE WITH LAG EYE NO.	FOR METAL, USE WITH TAB NO.
		1-1/2" TUBE or 1-1/4" PIPE	OTHER FRAMES	WOOD	WOOD WITH COMP. SLEEVE			
1/8"	For level runs	PL-TH4	PL-TH4	PL-L4	PL-L4-L	NA	NA	NA
	For stair runs	PL-TE4	PL-TE4	PL-TE4	NA	SC-6	LE-6	TT-6B
3/16"	For level runs	PL-TH6	PL-TH6	PL-L6	PL-L6-L	NA	NA	NA
	For stair runs	PL-TE6	PL-TE6	PL-TE6	NA	SC-6	LE-6	TT-6B

Receivers with Push-Lock Stud

TENSIONER

Field installed Push-Lock studs require no swaging or special tools.

No field swaging

Similar to our Invisiware® receivers (see page 9), but when used with Push-Lock studs there is no need to swage the threaded stud onto the cable. Receivers with Push-Lock swageless studs can be used with any fitting on the other end, but **when used with our other swageless fittings, both ends can be put on the cable by hand** without any swaging or special tools.

Easy to install

Push-Lock studs are designed for use with 1x19 L.H. lay strand only. Push the cable into the Push-Lock swageless stud, where it will be securely held inside the fitting. The receiver is female-threaded to accept the male-threaded end of the fitting. The head of the receiver is broached for an Allen wrench. To tension the cable, use an Allen wrench to rotate the receiver around the threaded end of the stud.

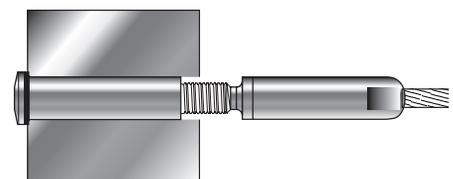


PUSH-LOCK™
STUD

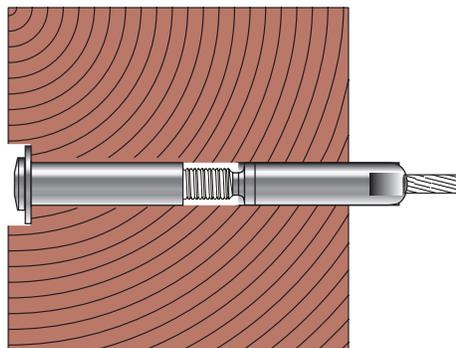
RECEIVER

The receiver with Push-Lock stud rests inside your metal or wood end post.

Use with metal or wood posts



2x2 metal post



4x4 wood post

For use in wood, the fitting can rest against the outside of the end post or the post can be counterbored with the fitting recessed in the post. For wood applications, a larger diameter washer is needed to distribute the load over a wider surface. See 7/16 SAE stainless steel washer (page 29).

For stairs or severe pitches

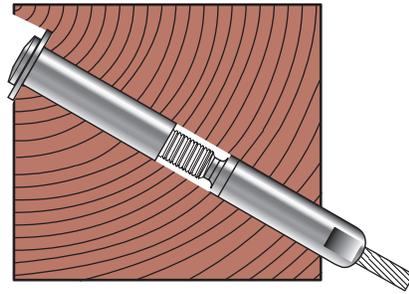
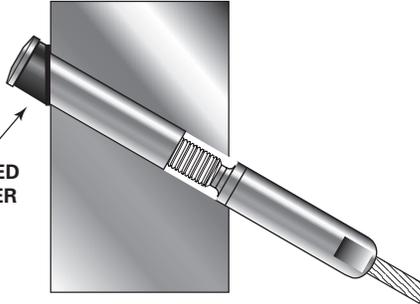
Special stainless steel beveled washers let you use Push-Lock tensioners on stairs or severe pitches with flat-sided metal and wood posts. (Not offered for pipe or round tubing.) For wood posts, also order 1/2 SAE stainless steel washer (page 29).



STAINLESS STEEL
BEVELED WASHERS

FOR PITCH OF	ORDER PART NO.
30° - 33°	BW32-6
34° - 36°	BW35-6
37° - 39°	BW38-6

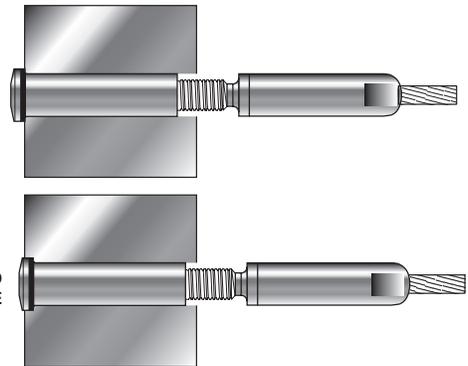
BEVELED
WASHER



For level runs

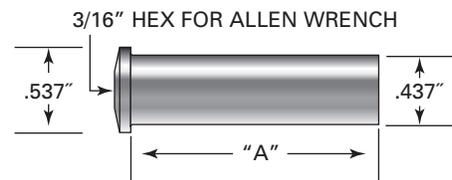
Receivers with Push-Lock studs rest in a hole inside the end post. Pipe ends are counterbored, so the full perimeter of the screw cap head rests on a flat surface in the pipe. The head rests on the outside wall of a flat-sided metal post. A plastic washer is included and acts as a scratch-resistant barrier between the screw cap head and the metal post. For wood applications, a larger diameter washer is needed to distribute the load over a wider surface. For wood, also order 7/16 SAE stainless steel washer (page 29).

COUNTERBORED
FOR PIPE



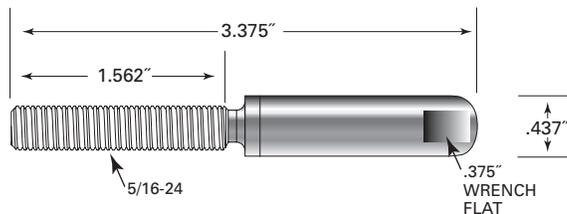
Invisiware® Receivers are made of type 316 stainless steel.
PART NUMBERS IN BOLD TYPE. ORDER SWAGELESS STUD SEPARATELY.

CABLE DIA.	USE WITH SWAGELESS STUD NO.	A = LENGTH OF RECEIVER BODY							
		1.582"	1.812"	2.030"	2.301"	2.375"	2.530"	3.030"	3.5625"
1/8"	PLST-4	R-6-12	R-6-22	R-6-32	R-6-42	R-6-72	R-6-82	R-6-52	R-6-62
3/16"	PLST-6								



Push-Lock Swageless Stud

The Push-Lock swageless stud is installed onto the end of the cable by hand, by pushing the cable into the fitting where it is held securely inside. No swaging is required, and, other than a cable cutter, no special tools are needed.



Push-Lock™ swageless studs are made of type 316 stainless steel with the exception of internal components that are made of other types of stainless steel.
DESIGNED FOR USE WITH 1X19 L.H. LAY STRAND ONLY

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

Push-Lock Turnbuckle

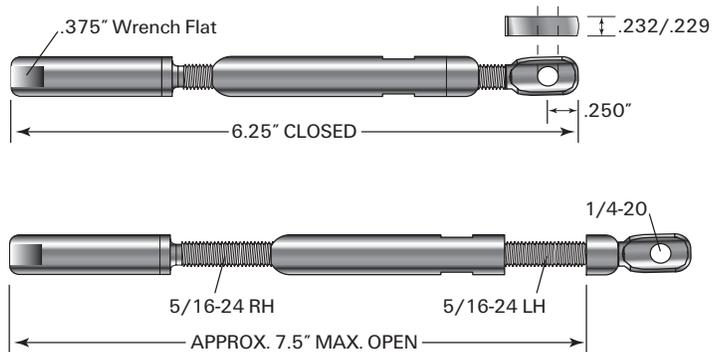
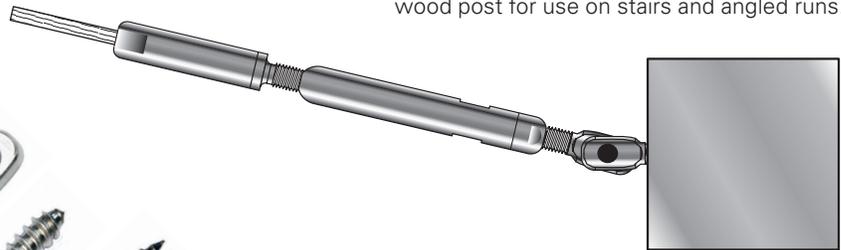
TENSIONER

The Push-Lock tensioner for inside-of-post applications.

Easy to install

Push-Lock Turnbuckles are typically used as a second tensioning device on longer runs. They are a combination of our Adjust-a-Body tensioners and Push-Lock Studs, and are available with whatever connecting end is necessary. Whether wood posts, metal posts, sleeved posts, or even concrete; level runs or stairs, the Push-Lock Turnbuckle is our most universal fitting.

Push-Lock Turnbuckles with Threaded Eyes mount to lag eyes, tabs, or holes on the outside of your metal or wood post for use on stairs and angled runs.



Swageless Fittings

PUSH-LOCK™ TURNBUCKLE with THREADED EYE

CABLE DIA.	PART NO.	USE WITH MOUNTING SCREW NO.*	OPTIONS FOR MOUNTING TO END POSTS	
			FOR METAL POSTS, USE WITH MOUNTING TAB NO.	FOR WOOD POSTS, USE WITH
1/8"	PL-TB-TE-4	SC-6	TT-6B	LE-6
3/16"	PL-TB-TE-6			

*Order SC-6 Screw Separately.

PUSH-LOCK TURNBUCKLE with HANGER BOLT, THREADED BOLT, EXTENDED LENGTH HANGER BOLT, or ANCHOR BOLT

1/8" cable				3/16" cable			
wood post	metal post	sleeved post (>4½" outside diameter)	concrete post	wood post	metal post	sleeved post (>4½" outside diameter)	concrete post
PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.
PL-TB-HB-4	PL-TB-TB-4	PL-TB-HBL-4	PL-TB-AB-4	PL-TB-HB-6	PL-TB-TB-6	PL-TB-HBL-6	PL-TB-AB-6

Push-Lock fittings are made of type 316 stainless steel, with the exception of internal components that are made of other types of stainless steel.

DESIGNED FOR USE WITH 1X19 L.H. STRAND ONLY



10
3/1/14

Ultra-tec
CABLE RAILING SYSTEMS



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Invisiware® Receivers

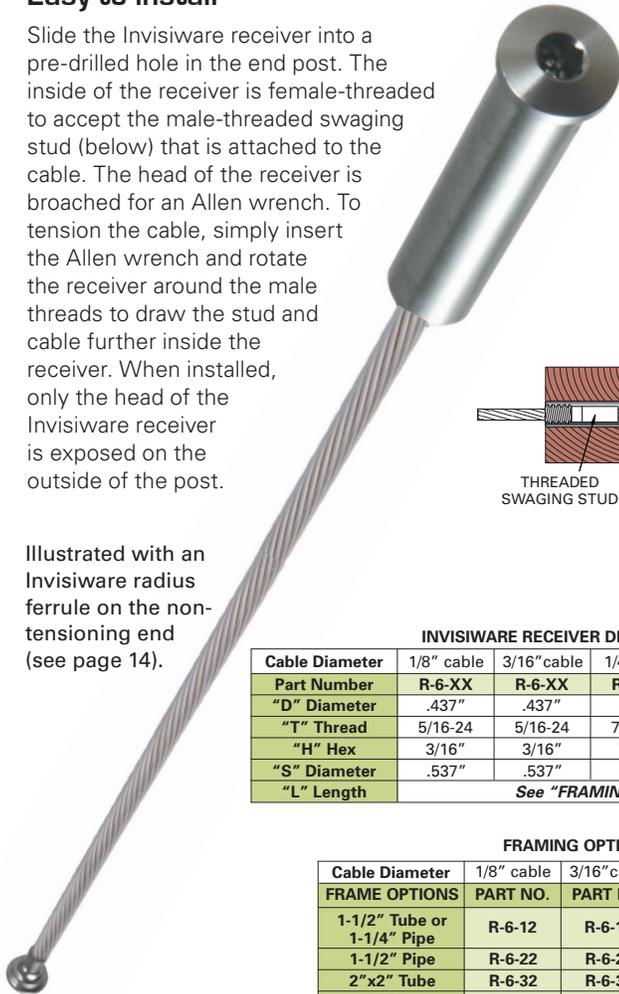


The tensioners that are hidden inside the post.

Easy to install

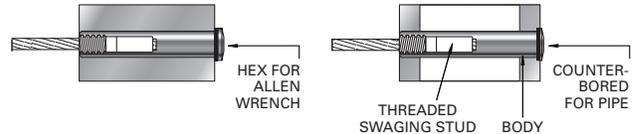
Slide the Invisiware receiver into a pre-drilled hole in the end post. The inside of the receiver is female-threaded to accept the male-threaded swaging stud (below) that is attached to the cable. The head of the receiver is broached for an Allen wrench. To tension the cable, simply insert the Allen wrench and rotate the receiver around the male threads to draw the stud and cable further inside the receiver. When installed, only the head of the Invisiware receiver is exposed on the outside of the post.

Illustrated with an Invisiware radius ferrule on the non-tensioning end (see page 14).

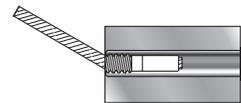
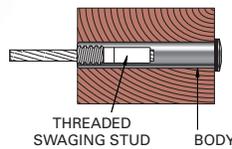


Use with metal or wood — on level runs or stairs

Invisiware receivers are used with pipe and with round, square or rectangular metal tubing. Pipe ends are counterbored, so the full perimeter of the head rests on a flat surface in the pipe. The head rests on the outside wall of a flat-sided metal post. A plastic washer is included and acts as a scratch resistant barrier between the head of the receiver and the metal post.



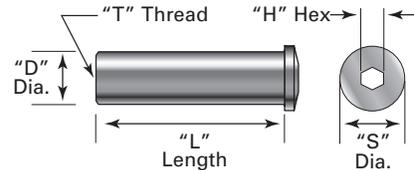
For use in wood, the Invisiware receiver can rest against the outside of the post or the post can be counterbored with the receiver recessed in the post. For wood applications, also order 7/16 SAE stainless steel washer (page 29).



You do not have to drill your holes at an angle to use Invisiware receivers on stairs or severe pitches up to 35 degrees.

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				



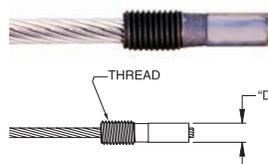
FRAMING OPTIONS FOR INVISIWARE RECEIVER

Cable Diameter	1/8" cable	3/16" cable	1/4" cable	5/16" cable	3/8" cable	"L" Length
1-1/2" Tube or 1-1/4" Pipe	R-6-12	R-6-12	NA	NA	NA	1.562"
1-1/2" Pipe	R-6-22	R-6-22	R-8-22	NA	NA	1.812"
2"x2" Tube	R-6-32	R-6-32	R-8-32	R-12-32	R-12-32	2.030"
2" Pipe	R-6-42	R-6-42	R-8-42	R-12-42	R-12-42	2.301"
2-3/8" Tube	R-6-72	R-6-72	NA	NA	NA	2.375"
2-1/2" Tube	R-6-82	R-6-82	NA	NA	NA	2.530"
3" Tube*	R-6-52	R-6-52	R-8-52	R-12-52	R-12-52	3.030"
3-1/4" Tube	R-6-3.280	R-6-3.280	NA	NA	NA	3.280"
4x4 Wood Post or 3-1/2" Tube	R-6-62	R-6-62	NA	NA	NA	3.5625"

*Use with 2"x1" and 3"x1" double end post construction illustrated in the Design Guide for Metal Railings. Order Swaging Stud separately.

Invisiware Threaded Swaging Stud

This part is swaged onto the end of the cable and used with the Invisiware receiver (above). When used with the Invisiware welded receiver (see page 29) in a metal end post it becomes a stop-end (non-tensioning end) fitting that is completely hidden inside the end post. The threaded surface is coated with a baked-on molybdenum-based dry film lubricant, to prevent the threads from binding when tensioned and in extreme environments.

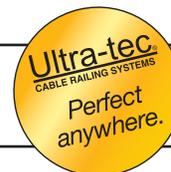


TYPE 316 STAINLESS STEEL – MOLY COATED

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



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Ultra-tec®
CABLE RAILING SYSTEMS



Adjust-A-Jaw[®] Tensioners

Sleek, stainless steel tensioners that mount on the outside of your post.



Easy to install

You can use our Invisiware fixed tabs or threaded tabs (page 28) or lag eyes (page 29) to mount Adjust-A-Jaw tensioners to your end posts. Or you can mount them using flat bar or angle iron welded to your post with holes drilled to accept the clevis. See the tabulated drawing and chart below to determine how this fitting interfaces with your end post.

The clevis has a male thread that mates with the female thread within the body of the tensioner. The swaging ferrule is swaged onto the cable and holds the cable inside the body. The body rotates on the cable and provides a considerable amount of take-up during tensioning with an open-end wrench. After tensioning, the lock nut locks the assembly in place.

Use on level runs or stairs

Adjust-A-Jaw tensioners are precision machined, streamlined devices that are used where a high-tech look is desired, where you may wish to see hardware on your railing, or where you are unable to use Invisiware receivers (page 11) because there is no access to the back of the end post.



Unlike many common turnbuckles, Adjust-A-Jaw tensioners have **no sharp edges, no crevices to collect dust and dirt, no unsightly nuts on the end, ugly swaged shanks or anything that will scratch or snag.**

TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	*USE WITH FERRULE NO.	*USE WITH SCREW NO.	"D" DIA.	"E" THREAD	"G"	"K"	"L" CLOSED	"L" OPEN	"Ln"	"Lr"	"T"
1/8"	A-J62	F-4	SC-6	.260"	¼-28	.260"	.56"	4.30"	5.99"	.375"	2.75"	5/16-24 LH
3/16"	A-J62	F-6	SC-6	.260"	¼-28	.260"	.56"	4.30"	5.99"	.375"	2.75"	5/16-24 LH
1/4"	A-J82	F-8	SC-8	.390"	3/8-24	.313"	.75"	4.87"	6.43"	.500"	3.00"	7/16-20 LH
5/16"	A-J122	F-10	SC-8	.390"	3/8-24	.348"	.87"	6.74"	9.28"	.620"	4.50"	9/16-18 RH
3/8"	A-J122	F-12	SC-8	.390"	3/8-24	.348"	.87"	6.74"	9.28"	.620"	4.50"	9/16-18 RH

*Order Ferrule and Screw Separately.

Adjust-A-Body® Tensioners

They all work the same,
only the mounting ends are different.



Easy to install

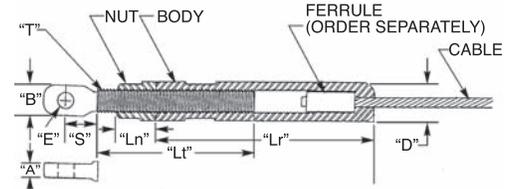
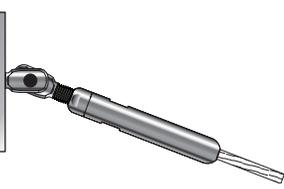
The mounting end on each of our Adjust-A-Body® tensioners has a male thread that mates with the female thread within the body of the tensioner. The swaging ferrule is swaged onto the cable and holds the cable inside the body. The body rotates on the cable and provides a considerable amount of take-up during tensioning with an open-end wrench. After tensioning, the lock nut locks the assembly in place.

Tensioners Requiring Swaging



Adjust-A-Body® with Threaded Eye Tensioner

Used on straight runs or stairs like the Adjust-A-Jaw® tensioners (see page 11), **these fittings cost a lot less than the Adjust-A-Jaw® tensioners.** You can use our Invisiware® fixed tabs or threaded tabs (page 28) or lag eyes (page 29), to mount this tensioner to your end posts. Or you can mount them using flat bar or angle iron welded to your post with holes drilled to accept the clevis. See the tabulated drawing and chart below to determine how this fitting interfaces with your end post.



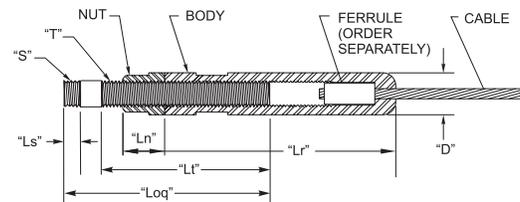
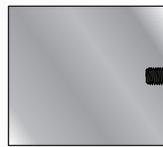
TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	*USE WITH FERRULE NO.	*USE WITH SCREW NO.	"E" THREAD	"A"	"B"	"S"	"T"	"Lt"	"Ln"	"Lr"	"D"
1/8"	A-JTE6	F-4	SC-6	1/4-28	.233"/.229"	.500"	.44"	5/16-24 L.H.	2.00"	.375"	2.75"	.500"
3/16"	A-JTE6	F-6	SC-6	1/4-28	.233"/.229"	.500"	.44"	5/16-24 L.H.	2.00"	.375"	2.75"	.500"
1/4"	A-JTE8	F-8	SC-8	3/8-24	.295"/.285"	.844"	.68"	7/16-20 L.H.	2.50"	.500"	3.00"	.625"

*Order Ferrule and Screw Separately.

Adjust-A-Body® with Threaded Bolt Tensioner

Used on straight runs, this tensioner screws into a drilled and tapped hole in your metal post. **Here is a real money-saver, because there is no need for special tees with holes, welded tabs, or any other mounting device.** Recommended for level runs using a minimum schedule 80 pipe or square or rectangular steel tubing with a minimum .250" wall.



TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	*USE WITH FERRULE NO.	"S"	"T"	"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"	.500"
3/16"		F-6								
1/4"	A-JTB8	F-8	5/16-24	7/16-20 L.H.	.375"	2.50"	3.125"	.500"	3.00"	.625"
5/16"	A-JTB12	F-10	1/2-20	1/2-20 L.H.	.62"	3.00"	4.00"	.62"	4.50"	.744"
3/8"		F-12								

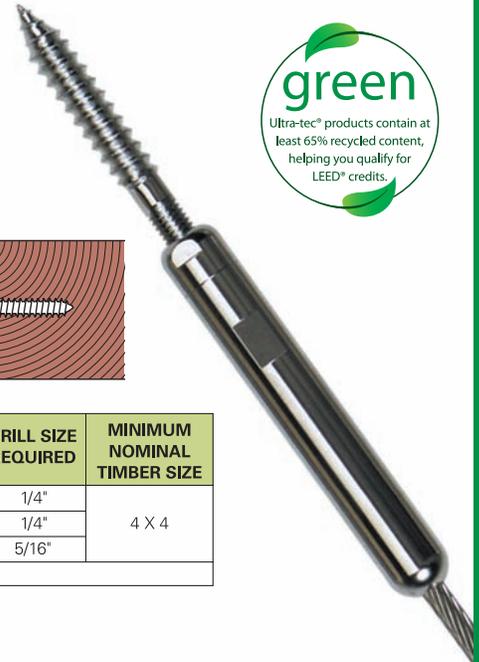
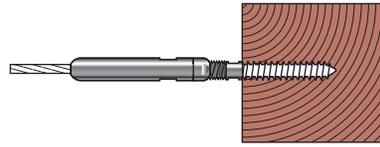
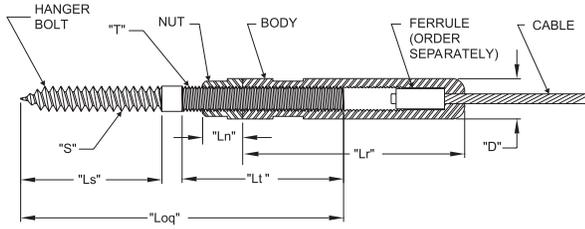
*Order Ferrule Separately.



Adjust-A-Body® with Hanger Bolt Tensioner

This tensioner screws right into your wooden end post.

There is no need for special mounting hardware.



TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	*USE WITH FERRULE NO.	"S"	"T"	"Ls"	"Lt"	"Loq"	"Ln"	"Lr"	"D"	DRILL SIZE REQUIRED	MINIMUM NOMINAL TIMBER SIZE
1/8"	A-JB6	F-4	5/16"	5/16-24 L.H.	1.50"	2.00"	3.75"	.375"	2.75"	.500"	1/4"	4 X 4
3/16"	A-JB6	F-6	5/16"	5/16-24 L.H.	1.50"	2.00"	3.75"	.375"	2.75"	.500"	1/4"	
1/4"	A-JB8	F-8	7/16"	7/16-20 L.H.	2.00"	2.50"	4.75"	.500"	3.00"	.625"	5/16"	

*Order Ferrule Separately.

Adjust-A-Body® with Extended Length Hanger Bolt Tensioner

Same as the above tensioner, except the **hanger bolt is 3" long**, allowing you to penetrate deeper into the post or wall if necessary. Offered for use with 1/8" and 3/16" cable.



TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NUMBER	*USE WITH FERRULE NO.	"S"	"T"	"Ls"	"Lt"	"Loq"	"Ln"	"Lr"	"D"	DRILL SIZE REQ.	MIN. NOMINAL TIMBER SIZE
1/8"	A-JB6-L	F-4	5/16"	5/16-24 L.H.	1.50"	2.00"	5.25"	.375"	2.75"	.500"	1/4"	4 x 4
3/16"		F-6										

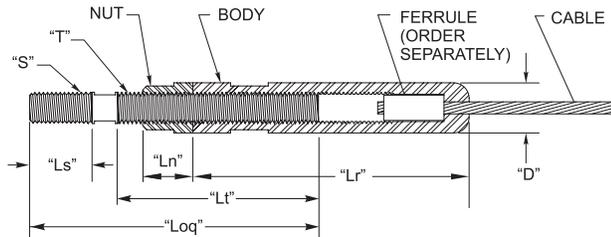
*Order Ferrule Separately.



Adjust-A-Body® with Concrete Anchor Bolt Tensioner

Here is an easy, practical way to attach your tensioner to a concrete wall.

The end screws into a commonly available concrete anchor (not included). Order the concrete anchor separately from your local building supply outlet.



TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	*USE WITH FERRULE NO.	"S"	"T"	"Ls"	"Lt"	"Loq"	"Ln"	"Lr"	"D"	USE WITH "RED HEAD" BRAND CONCRETE ANCHOR	
											CARBON STEEL	STAINLESS
1/8"	A-JAB6	F-4	3/8-16	5/16-24 L.H.	.500"	2.313"	3.188"	.375"	2.75"	.500"	RM-38	SRM-38
3/16"	A-JAB6	F-6									RM-12	SRM-12
1/4"	A-JAB8	F-8	1/2-13	7/16-20 L.H.	1.125"	2.500"	3.938"	.500"	3.00"	.625"	RM-12	SRM-12

*Order Ferrule Separately.

Tensioners Requiring Swaging



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Ultra-tec®
 CABLE RAILING SYSTEMS

Non-Tensioning Stop-End Fittings

Save money by using these less expensive fittings where you do not need a tensioner on both ends of your cable run.

Where to use these fittings

Often you do not need a tensioning device on both ends of your cable. This applies where your run is relatively short or where you are cutting and swaging the cables on site (and can get more precise measurements than having the cables pre-cut by the factory or distributor).

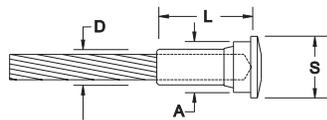


Invisiware Radius Ferrule

Often used in combination with the Invisiware receiver (page 9), **this fitting is also hidden inside the end post** with only the head exposed on the outside of the post. When installed, it looks the same as the Invisiware receiver except it costs much less.

Invisiware radius ferrules are used with pipe and with round, square or rectangular metal tubing. Pipe ends are counterbored, so the full perimeter of the head rests on a flat surface in the pipe. The head rests on the outside wall of a flat-sided metal post. A plastic washer is included and acts as a scratch-resistant barrier between the head of the fitting and the metal post.

For use in wood, the Invisiware radius ferrule can rest against the outside of the post or the post can be counterbored with the radius ferrule recessed in the post. For wood applications, also order stainless steel washer (page 29).



TYPE 316 STAINLESS STEEL

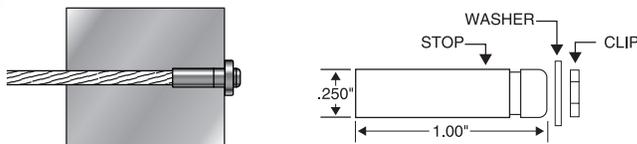
CABLE DIA.	PART NO.	"D" DIAMETER AFTER SWAGED	"L" LENGTH AFTER SWAGED	"S" HEAD DIAMETER	"A" SHOULDER DIAMETER
1/8"	RF-4	.250"	.750"	.537"	.437"
3/16"	RF-6	.250"	.750"	.537"	.437"
1/4"	RF-8	.375"	1.000"	.646"	.531"
5/16"	RF-10	.500"	1.000"	.865"	.687"
3/8"	RF-12	.500"	1.000"	.865"	.687"

Ultra-tec Clip-on Stop

Ideal for use with cables that are cut and the fittings are attached at the factory or by the distributor. Intermediate posts can be drilled for the 1/4" stop to pass through. **No field swaging is required.** Or you can swage them in the field if you wish. A special clip and washer secure the stop to the end of the cable.

Pipe or round tubing end posts are counterbored so the full perimeter of the head of the stop rests on a flat surface in the pipe. The stop rests against the outside wall of a flat-sided post.

For swaging at the factory or by a distributor, determine the hardware to use on the tensioning end of the cable, then check with the factory or distributor to determine the cable lengths to be provided with the swaged fittings attached. Stop, washer and clip are included. Available for 1/8" and 3/16" cable.



TYPE 316 STAINLESS STEEL

CABLE DIA.	FOR USE WITH	PART NO.	WASHER DIA.
1/8"	WOOD POST	COS-4	59/64" (.922")
3/16"	WOOD POST	COS-6	59/64" (.922")
1/8"	METAL POST	COS-4M	15/32" (.468")
3/16"	METAL POST	COS-6M	15/32" (.468")

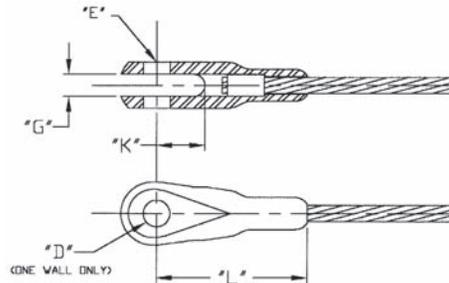
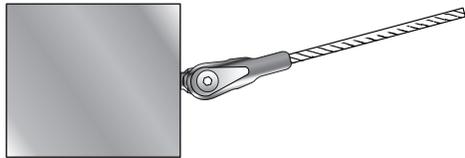


Ultra-tec Fixed Jaw

Often used with our Adjust-A-Jaw tensioner (page 11), because it is **shaped to match the clevis end on the Adjust-A-Jaw tensioner but costs considerably less**. It can be used on level runs and on stairs and severe pitches.

The Ultra-tec Fixed Jaw also makes an attractive fitting where a high-tech look is desired, where you may wish to see hardware on your railing, or if you are unable to use Invisiware radius ferrules, Ultra-tec Clip-on Stops, or Push-Lock fittings because there is no access to the back of the end post.

You can use our Invisiware fixed tabs or threaded tabs (page 28) or lag eyes (page 29) to mount the Ultra-tec Fixed Jaw fittings to your end posts. Or you can mount them using flat bar or angle iron welded to your post with holes drilled to accept the clevis. See the tabulated drawing and chart below to determine how this fitting interfaces with your end post.



TYPE 316 STAINLESS STEEL

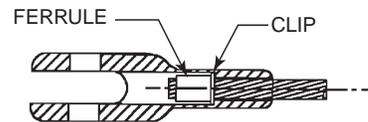
CABLE DIA.	PART NO.	*USE WITH FERRULE NO.	*USE WITH SCREW NO	"D" DIA.	"E" THREAD	"G"	"K"	"L"
1/8"	F-J62	F-4	SC-6	.260"	1/4-28	.260"	.56"	1.75"
3/16"	F-J62	F-6	SC-6	.260"	1/4-28	.260"	.56"	1.75"
1/4"	F-J82	F-8	SC-8	.390"	3/8-24	.313"	.75"	2.12"
5/16"	F-J122	F-10	SC-8	.390"	3/8-24	.348"	.87"	2.25"
3/8"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

*Order Ferrule and Screw Separately.

Ultra-tec Clip-on Fixed Jaw

Same as our Ultra-tec Fixed Jaw fittings, except the cable is attached to the fitting with a special clip that is installed on site by hand. The cable is supplied by the factory or distributor with a tensioner on one end and a ferrule on the other end.

There is no field swaging. You simply slip the ferrule end of the cable through the body of the fixed jaw, slip on the special clip, then pull the cable back through the body to secure the cable inside. Check with the factory or distributor to determine cable lengths to be supplied with swaged fittings. Available for 1/8" and 3/16" cable only.



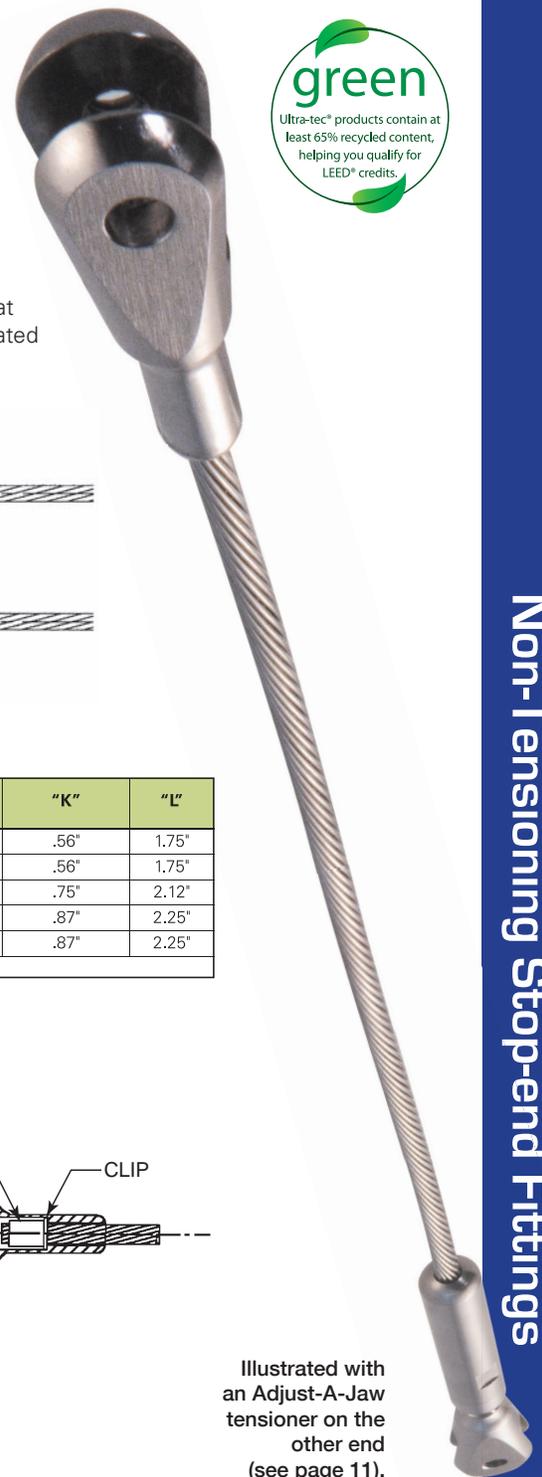
Illustrated with an Adjust-A-Jaw tensioner on the other end (see page 11).

TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	*USE WITH FERRULE NO.	*USE WITH SCREW NO.	"D" DIA.	"E" THREAD	"G"	"K"	"L"
1/8"	F-JC2-4	F-4	SC-6	.260"	1/4-28	.260"	.56"	1.75"
3/16"	F-JC2-6	F-6	SC-6	.260"	1/4-28	.260"	.56"	1.75"

*Order Ferrule and Screw Separately.

See Fixed Jaw Drawing Above







Cable Railing Kits



Complete DIY stainless steel cable railing assembly kits for lengths from 5' to 60'.

Cables are ready to install in your deck, balcony, stairs or other DIY railing project.

All stainless steel cable railing assemblies come with cable railing hardware fittings for both ends of your cable run, all washers and fasteners necessary, 1/8" or 3/16" diameter type 316 stainless steel cable, and instructions. All Ultra-tec kits come in lengths of 5-25' in 5' increments with one tensioner and a swageless stop end. Most also come in lengths up to 50'. Kits with tensioners at both ends are available for going around two corners in 30-60' lengths. Budget-oriented threaded studs kits are also available. With all kits, you will cut the cables to their proper lengths on site.

Kit Assemblies

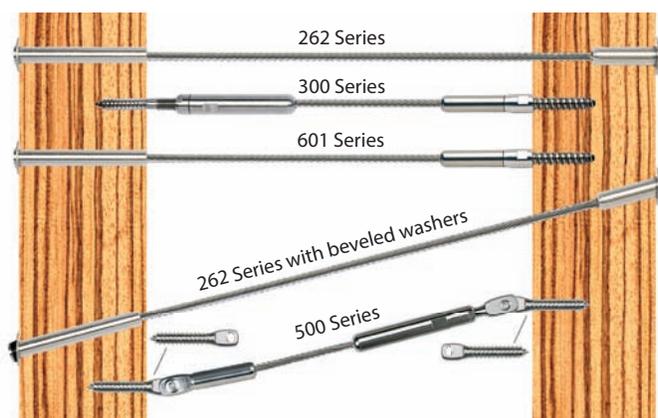
Fitting combinations for wood posts

For level runs:

- 262 Series (outside to outside)
3½" Invisiware Receiver to Pull-Lock.
- 300 Series (inside to inside)
Adjust-a-Body® with Hanger Bolt to Push-Lock™ Lag.
- 601 Series (outside to inside)
3½" Invisiware Receiver to Push-Lock Lag.

For stairs, pitched runs:

- 262 Series (outside to outside)
Invisiware Receiver to Pull-Lock with beveled washers.
- 500 Series (inside to inside)
Push-Lock with Threaded Eye to Adjust-a-Body with Threaded Eye. Lag eyes on both ends.



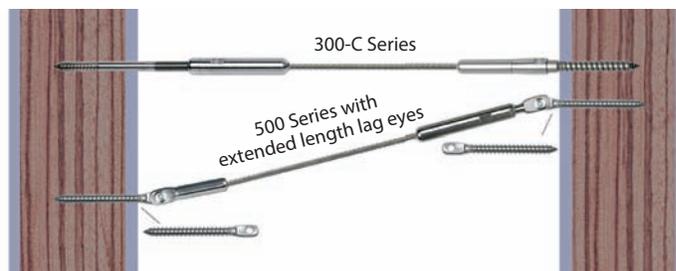
Fitting combinations for wood posts with composite sleeves

For level runs:

- 300-C Series (inside to inside) is for use with wood posts with composite sleeves with an outside diameter greater than 4½". Adjust-a-Body with Extended Length Hanger Bolt to Push-Lock with Extended Length Lag.

For stairs, pitched runs:

- Use 500 Series with extended length lag eyes on both ends.



Fitting combinations for metal posts

For level runs:

- 200 Series* (outside to outside)
Invisiware Receiver to Pull-Lock.
- 401 Series (inside to inside) Adjust-a-Body with Threaded Bolt to Push-Lock with Threaded Bolt.
- 700 Series* (outside to inside)
Invisiware Receiver to Push-Lock with Threaded Bolt.

For stairs, pitched runs:

- 200 Series* (outside to outside)
Invisiware Receiver to Pull-Lock with beveled washers.
- 500 Series (inside to inside)
Push-Lock with Threaded Eye to Adjust-a-Body with Threaded Eye. Threaded tabs on both ends.

* 212 and 702 series are for use with 1½" metal posts;
232 and 703 are for use with 2" metal posts.





For outside-of-post to outside-of-post applications, use the 200 series:

If wood posts, use the 262 series.

The tensioning device is a 3½" long Invisiware Receiver, which installs flush through the wood post on one end. A Pull-Lock fitting is installed through the other end.

If 1½" metal posts, use the 212 series; if 2", use the 232 series; if 2-3/8", use the 224 series.

The tensioning device is a 1½" (or 2" or 2-3/8") long Invisiware Receiver, which installs flush through the metal post on one end. A Pull-Lock fitting of the same length is installed through the other end.

200 Series Railing Kits

Cable Length	1/8" cable				3/16" cable			
	wood post	1½" metal post	2" metal post	2-3/8" metal post	wood post	1½" metal post	2" metal post	2-3/8" metal post
	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.
5'	26205	21205	23205	22405	26205-6	21205-6	23205-6	22405-6
10'	26210	21210	23210	22410	26210-6	21210-6	23210-6	22410-6
15'	26215	21215	23215	22415	26215-6	21215-6	23215-6	22415-6
20'	26220	21220	23220	22420	26220-6	21220-6	23220-6	22420-6
25'	26225	21225	23225	22425	26225-6	21225-6	23225-6	22425-6
30'	26230	22430	22430	22430	26230-6	22430-6	22430-6	22430-6
40'	26240	22440	22440	22440	26240-6	22440-6	22440-6	22440-6
50'	26250	22450	22450	22450	26250-6	22450-6	22450-6	22450-6



For inside-of-post to inside-of-post applications, use the 300 or 400 series:

If wood posts, use the 300 series.

The tensioning device is an Adjust-a-Body® with Hanger Bolt, which lags into the wood post on one end. A Push-Lock Lag is lagged into the other end.

If wood posts with composite sleeves, use the 300-C series.

If outside diameter of composite sleeve is greater than 4½", the tensioning device is an Adjust-a-Body with Extended Length Hanger Bolt, which passes through the sleeve and lags into the wood post on one end. A Push-Lock Extended Lag does the same on the other end.

If metal posts, use the 401 series. The tensioning device is an Adjust-a-Body with Threaded Bolt, which threads into the metal post on one end. A Push-Lock Threaded Bolt is threaded into the other end.

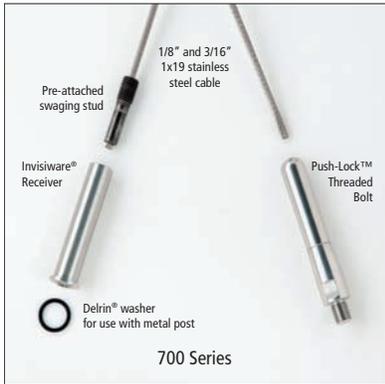


300 Series, 300-C Series, 401 Series Railing Kits

Cable Length	1/8" cable			3/16" cable		
	wood post	wood post composite sleeve	any size metal post	wood post	wood post composite sleeve	any size metal post
	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.
5'	30005	30005-C	40105	30005-6	30005-C6	40105-6
10'	30010	30010-C	40110	30010-6	30010-C6	40110-6
15'	30015	30015-C	40115	30015-6	30015-C6	40115-6
20'	30020	30020-C	40120	30020-6	30020-C6	40120-6
25'	30025	30025-C	40125	30025-6	30025-C6	40125-6
30'	30030	30030-C	40130	30030-6	30030-C6	40130-6
40'	30040	30040-C	40140	30040-6	30040-C6	40140-6
50'	30050	30050-C	40150	30050-6	30050-C6	40150-6



Kit Assemblies continued



For outside-of-post to inside-of-post applications, use the 600 or 700 series:

If wood posts, use the 601 series.

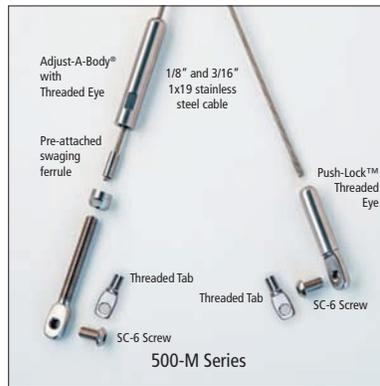
The tensioning device is a 3½" long Invisiware Receiver, which installs flush through the wood post on one end. A Push-Lock Lag is lagged into the other end.

If 1½" metal posts, use the 702 series; if 2", use the 703 series.

The tensioning device is a 1½" (or 2") long Invisiware Receiver, which installs flush through the metal post on one end. A Push-Lock Threaded Bolt is threaded into the other end.

600 Series and 700 Series Railing Kits

Cable Length	1/8" cable			3/16" cable		
	wood post	1½" metal post	2" metal post	wood post	1½" metal post	2" metal post
	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.
5'	60105	70205	70305	60105-6	70205-6	70305-6
10'	60110	70210	70310	60110-6	70210-6	70310-6
15'	60115	70215	70315	60115-6	70215-6	70315-6
20'	60120	70220	70320	60120-6	70220-6	70320-6
25'	60125	70225	70325	60125-6	70225-6	70325-6
30'	60130	77330	77330	60130-6	77330-6	77330-6
40'	60140	77340	77340	60140-6	77340-6	77340-6
50'	60150	77350	77350	60150-6	77350-6	77350-6



For stairs, use the 200 series (with beveled washers) or use the 500 series.

Use 500-W series for wood posts, 500-C series for wood posts with composite sleeves with an outside diameter of greater than 4-1/2", and 500-M for metal posts.

The tensioning device is an Adjust-a-Body with Threaded Eye, which attaches via mounting screw to the lag eye or threaded tab. A Push-Lock with Threaded Eye attaches the same way to the other end.

Series 500 Kits for Stairs

Cable Length	1/8" cable			3/16" cable		
	wood post	wood post with composite sleeve	metal post	wood post	wood post with composite sleeve	metal post
	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.
5'	50005-W	50005-C	50005-M	50005-6W	50005-6C	50005-6M
10'	50010-W	50010-C	50010-M	50010-6W	50010-6C	50010-6M
15'	50015-W	50015-C	50015-M	50015-6W	50015-6C	50015-6M
20'	50020-W	50020-C	50020-M	50020-6W	50020-6C	50020-6M
25'	50025-W	50025-C	50025-M	50025-6W	50025-6C	50025-6M
30'	50030-W	50030-C	50030-M	50030-6W	50030-6C	50030-6M
40'	50040-W	50040-C	50040-M	50040-6W	50040-6C	50040-6M
50'	50050-W	50050-C	50050-M	50050-6W	50050-6C	50050-6M



Kit Assemblies for Runs with Two Turns (up to 180°)

Fitting combinations for wood posts

For level runs:

- 272 Series (outside to outside)
3 1/2" Invisiware Receiver to
1 1/2" Receiver with Push-Lock Stud.
- 371 Series (inside to inside)
Adjust-a-Body with Hanger Bolt to
Push-Lock Turnbuckle with Hanger Bolt.
- 672 Series (outside to inside)
Adjust-a-Body with Hanger Bolt to
1 1/2" Receiver with Push-Lock Stud.



Fitting combinations for wood posts with composite sleeves

For level runs:

- 371-C Series (inside to inside)
Same as 371 Series with Extended Length
Hanger Bolts on both ends.



Fitting combinations for metal posts

For level runs:

- 272 Series (outside to outside)
3 1/2" Invisiware Receiver to
1 1/2" Receiver with Push-Lock Stud.
- 471 Series (inside to inside)
Adjust-a-Body with Threaded Bolt
to Push-Lock Turnbuckle with Threaded Bolt.
- 773 Series (outside to inside)
Adjust-a-Body with Threaded Bolt to
1 1/2" Receiver with Push-Lock Stud.



For outside-of-post to outside-of-post applications, for either wood or metal posts, use the 272 series:

The tensioning devices are a 3-1/2" long Invisiware Receiver, which installs through the post on one end, and a Push-Lock Stud with a 1-1/2" long Receiver which is installed through the other end.

Series 272 Railing Kits

Cable Length	1/8" cable	3/16" cable
	PART NO.	PART NO.
30'	27230	27230-6
40'	27240	27240-6
50'	27250	27250-6
60'	27260	27260-6



Kit Assemblies for Runs with Two Turns (up to 180°) continued



For inside-of-post to inside-of-post applications, use the 371 or 471 series:

If wood posts, use the 371 series.

The tensioning devices are an Adjust-a-Body with Hanger Bolt, which lags into the post on one end, and a Push-Lock Turnbuckle with Hanger Bolt, which lags into the other end.

If wood posts with composite sleeves, use the 371-C series.

If outside diameter of composite sleeve is greater than 4½", the fittings are the same as in the 371 series, but with extended length hanger bolts on both ends.

If metal posts, use the 471 series.

The tensioning devices are an Adjust-a-Body with Threaded Bolt, which threads into the post on one end, and a Push-Lock Turnbuckle with Threaded Bolt on the other end.

371 Series, 371-C Series, 471 Series Railing Kits

Cable Length	1/8" cable			3/16" cable		
	wood post	wood post composite sleeve	any size metal post	wood post	wood post composite sleeve	any size metal post
30'	37130	37130-C	47130	37130-6	37130-C6	47130-6
40'	37140	37140-C	47140	37140-6	37140-C6	47140-6
50'	37150	37150-C	47150	37150-6	37150-C6	47150-6
60'	37160	37160-C	47160	37160-6	37160-C6	47160-6

For outside-of-post to inside-of-post applications, use the 672 or 773 series:

If wood posts, use the 672 series.

The tensioning devices are a Push-Lock Stud with 1½" Receiver that installs through the post on one end, and an Adjust-a-Body with Hanger Bolt which lags into the other end.

If metal posts, use the 773 series.

The tensioning devices are a Push-Lock Stud with 1-1/2" Receiver that installs through the post on one end, and an Adjust-a-Body with Threaded Bolt on the other end.

672 Series and 773 Series Railing Kits

Cable Length	1/8" cable		3/16" cable	
	wood post	metal post	wood post	metal post
30'	67230	77330	67230-6	77330-6
40'	67240	77340	67240-6	77340-6
50'	67250	77350	67250-6	77350-6
60'	67260	77360	67260-6	77360-6

Multi-Purpose Budget Kits for 1/8" Cable

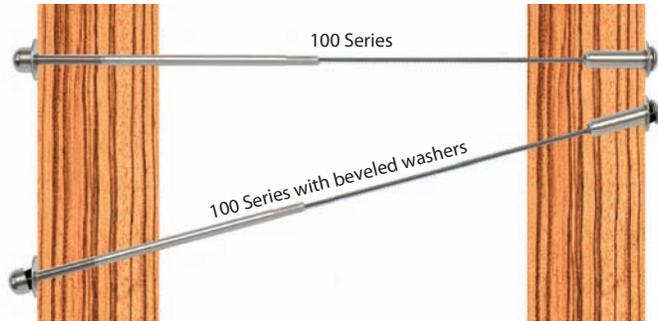
Fitting combinations for wood posts

For straight runs:

100 Series (outside to outside)
7 1/2" long threaded stud to Pull-Lock.

For stairs, pitched runs:

100 Series (outside to outside)
7 1/2" long threaded stud to Pull-Lock with beveled washers
(BW-.250-32 for stud, BW32-6W for Pull-Lock).



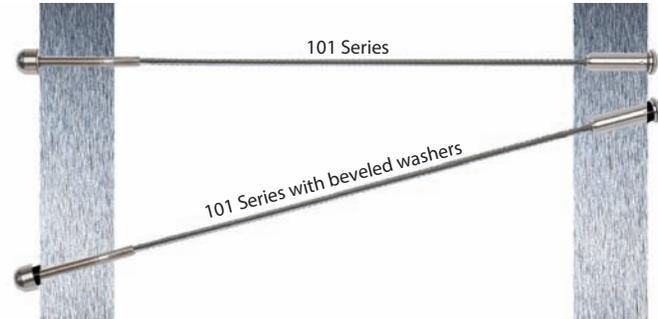
Fitting combinations for metal posts

For straight runs:

101 Series (outside to outside)
2 1/2" long threaded stud to Pull-Lock.

For stairs, pitched runs:

101 Series (outside to outside)
2 1/2" long threaded stud to Pull-Lock with beveled washers
(BWV-.250-32 for stud, BW32-6 for Pull-Lock).



Important Notes for Budget Kits:

- Outside attachments can only be used if your end posts are not obstructed on the back side.
- Corners require two posts because the cable itself, being rigid, will not cooperate in bending cleanly through a single post.
- When you go through a corner post (no more than 45° at any post), you will need to prevent the cable from slicing into the wood as it exits the post on an angle by using a Post Protector Tube (CS-TUBE-6).
- If you are installing a railing with a pitch, you will need beveled washers for both ends.

Simple, functional approach to cable railing.

Limited to outside-of-post to outside-of post configuration.

If wood posts, use the 100 series.

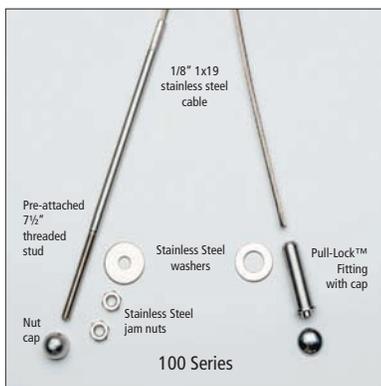
The tensioning device is a 7-1/2" long threaded stud which installs through one end post, with a Pull-Lock stop end fitting on the other end.

If metal posts, use the 101 series.

The tensioning device is a 2-1/2" long threaded stud which installs through one end post, and a Pull-Lock stop end fitting on the other end.

100 Series and 101 Series Railing Kits

Cable Length	wood post	metal post
	PART NO.	PART NO.
5'	10005	10105
10'	10010	10110
15'	10015	10115
20'	10020	10120
25'	10025	10125
30'	10030	10130
40'	10040	10140
50'	10050	10150



218 Stewart Rd SE, Pacific, WA 98047
P: 253-833-4343 • F: 253-833-4545
www.americanstructures.com



Ultra-tec®
CABLE RAILING SYSTEMS



Stainless Steel Threaded Studs

An outside-of-post to outside-of-post configuration is the only scenario in which economical threaded studs may be used. The threaded studs are a basic, functional fitting, not a hide-in-the-post solution. Two jam nuts and some metal thread will extend beyond the back of the post on the ends. For 1/8" cable applications, an end cap covers this hardware. For 3/16" cable, an acorn nut finishes the assembly. (Jam nuts, acorn nuts, end caps, and washers ordered separately). Cable lines will need to be offset where perpendicular cable runs intersect in a shared corner post.

The longer studs are meant for use with wood posts, the shorter for metal. Threaded studs may be used on both ends of cable runs, which typically requires the fittings be swaged at the factory. They may also be used with swageless fittings, which allows for trimming to exact length in the field. Threaded studs are also available as part of a pre-packaged kit for 1/8" cable. Please see page 25 of the catalog for more information.



7.5" Stud for 1/8" cable

Order part no. **HS4-25F2.00C4-7.50**



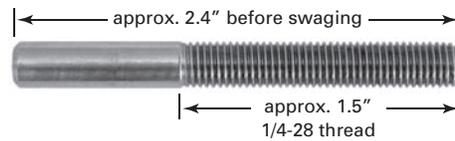
5" Stud for 1/8" cable

Order part no. **HS4-25F1.50C4-5.00**



2.5" Stud for 1/8" cable

Order part no. **HS4-25F1.50C2**

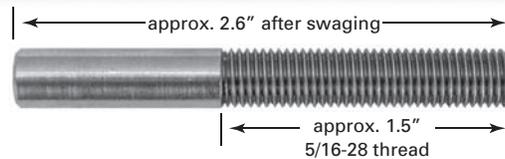


Stainless Steel Fasteners and Washers for Threaded Studs used with 1/8" cable

FASTENER	PART NO.	FLAT WASHER	PART NO.
1/4-28 END CAP	NYL-1/4-28-C4-CAP	5/8" OD for metal posts	FW-1/4-625-050-S
1/4-28 JAM NUT	JN-1/4-28-S	1" OD for wood posts	FW-9/32-1.00-050-S

2.5" Stud for 3/16" cable

Order part no. **HS6-1F1.5C2**



Stainless Steel Fasteners and Washers for Threaded Studs used with 3/16" cable

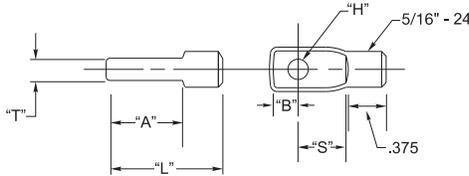
FASTENER	PART NO.	FLAT WASHER	PART NO.
5/16-24 ACORN NUT	AN-5/16-24-S-R	9/16" OD for metal posts	FW-5/16-562-060-S
5/16-24 JAM NUT	JN-5/16-24-S-R	1" OD for wood posts	FW-5/16-1.00-050-S

Mounting Aids



Invisiware Threaded Tab

Here's a real time and money-saver. The Invisiware threaded tab screws into a drilled and tapped hole on the inside wall of the end post for mounting an Adjust-A-Jaw or Adjust-A-Body tensioner, Ultra-tec Fixed Jaw, or Push-Lock fitting with threaded eye. **You save the expense of welding tees or tabs onto your end post.** Recommended only when you are using a minimum schedule 80 pipe end post or a square or rectangular steel end post with a minimum .250" wall.



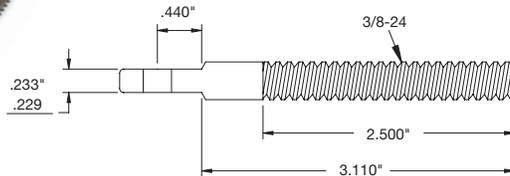
TYPE 316 STAINLESS STEEL

CABLE DIA.	PART NO.	"H"	"S"	"T"	"A"	"B"	"L"
1/8"	TT-6B	.265"	.500"	.233"/.229"	.813"	.313"	1.250"
3/16"	TT-6B	.265"	.500"	.233"/.229"	.813"	.313"	1.250"
1/4"	TT-8B	.390"	.625"	.295"/.285"	1.250"	.375"	1.625"
5/16"	TT-8B	.390"	.625"	.295"/.285"	1.250"	.375"	1.625"
3/8"	TT-8B	.390"	.625"	.295"/.285"	1.250"	.375"	1.625"

Mounting Aids

Invisiware Extended Length Threaded Tab

Extended length, same as above except there is no need to thread the hole in your end post. Cut to desired length and secure to end post with acorn nut and thread sealant.



CABLE DIA.	PART NO.	Use with S.S. Acorn Nut*
1/8" & 3/16"	TT-6B-L	AN-3/8-24-S

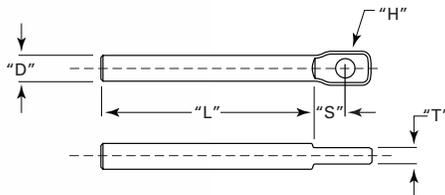
*Order Acorn Nut separately (see page 29).



Invisiware Fixed Tab

Welded into an end post to make **a strong tab for use in mounting an Adjust-A-Jaw or Adjust-A-Body tensioner, Ultra-tec Fixed Jaw, or Push-Lock fitting with threaded eye.**

The Invisiware fixed tab is cut to length if necessary, inserted in a hole drilled through the post and welded to the outside wall. The welded surface is then ground to the original contour of the post, thus hiding the weld.



AVAILABLE IN CARBON STEEL AND STAINLESS STEEL

CABLE DIA.	PART NO.	"D"	"H"	"S"	"T"	"L"
1/8"	F-T6-5*	.375"	.265"	.44"	.233"/.229"	3.11"
3/16"	F-T6-5*	.375"	.265"	.44"	.233"/.229"	3.11"
1/4"	F-T8-5*	.562"	.390"	.68"	.295"/.285"	3.00"

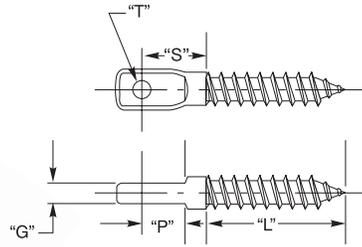
*Specify "A" for Carbon Steel or "B" for Type 304 Stainless Steel





Ultra-tec Lag Eye

A convenient, easy-to-install means for attaching an Adjust-A-Jaw or Adjust-A-Body tensioner, Ultra-tec Fixed Jaw, or Push-Lock fitting with threaded eye to a wood post.



Post with an Ultra-tec® Fixed Jaw attached.

Ultra-tec Lag Eyes are made of Type 316 stainless steel.

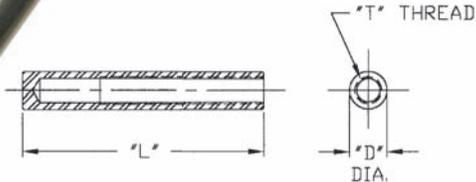
CABLE DIA.	PART NO.	"G"	"T"	"S"	"L"	"P"	DRILL SIZE REQUIRED	MIN. NOMINAL TIMBER SIZE
1/8"	LE-6	.232" / .228"	.256"	.420"	1.50"	.260"	9/32"	4x4
3/16"	LE-6	.232" / .228"	.256"	.420"	1.50"	.260"	9/32"	4x4
1/4"	LE-8	.255" / .265"	.385"	1.188"	2.00"	.688"	3/8"	4x4

Extended Length Lag Eyes with 3-inch Thread

CABLE DIA.	PART NO.	"G"	"T"	"S"	"L"	"P"	DRILL SIZE REQUIRED	MIN. NOMINAL TIMBER SIZE
1/8"	LE-6L	.232" / .228"	.256"	.420"	3.00"	.260"	9/32"	4x4
3/16"								

Invisiware Welded Receiver

A fixed end, non-tensioning device, the Invisiware welded receiver provides **a sturdy, threaded receptacle in the end post for an Invisiware swaging stud (see page 11)**. The Invisiware welded receiver is cut to length if necessary, inserted in a hole drilled through the post and welded to the outside wall. The welded surface is then ground to the original contour of the post, thus hiding the weld.



AVAILABLE IN CARBON STEEL AND STAINLESS STEEL

CABLE DIA.	PART NO.	USE WITH STUD NO.	"D"	"T"	"L"
1/8"	W-R6-5*	S-4	.437"	5/16-24	2.82"
3/16"	W-R6-5*	S-6	.437"	5/16-24	2.82"
1/4"	W-R8-5*	S-8	.531"	7/16-20	2.82"

*Specify "A" for Carbon Steel or "B" for Type 304 Stainless Steel

Mounting Screws

Stainless steel socket-head screws for mounting Adjust-A-Jaw and Adjust-A-Body with Threaded Eye tensioners, Ultra-tec Fixed Jaws, or Push-Lock fittings with threaded eye.



PART NO.	THREAD	Used with Hardware for Cable Diameters
SC-6	1/4-28	1/8", 3/16"
SC-8	3/8-24	1/4", 5/16", 3/8"

Stainless Steel Washers and Nuts



PART NO.		WASHER O.D.	WASHER I.D.	USED WITH HARDWARE FOR CABLE DIAMETERS
7/16SAE	WASHER	59/64"	15/32"	1/8" and 3/16"
1/2SAE	WASHER	1-1/16"	17/32"	1/4"
AN-3/8-24-S	ACORN NUT	Used with Extended Length Threaded Tab		

Cable Grommets



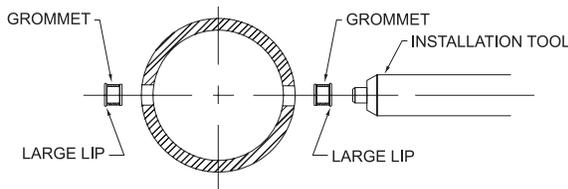
Cable grommets are offered for popular cable diameters of 1/8", 3/16" and 1/4". **They help prevent rust in exterior applications or elsewhere where moisture is a factor**, by providing a barrier between the cable and the painted or powder-coated surface through which the cable is drawn when being installed. 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®.

Delrin® is a registered trademark of E.I. DuPont de Nemours & Co.

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

CABLE DIA.	INTERMEDIATE POST MATERIAL (Not slotted for stairway)				INTERMEDIATE POST MATERIAL SLOTTED FOR STAIRWAY PITCH UP TO 37°		
	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.



CABLE DIA.	END POST MATERIAL USING RADIUS FERRULE, PUSH-LOCK or PULL-LOCK FITTINGS	
	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 with 1-1/4" pipe counterbored for use with 1-1/2" Push-/Pull-Locks, or with 2" or 3" tube if using like-length Push-/Pull-Locks.

Cable

Sizes offered. Five sizes of cable are offered for the Ultra-tec Cable Railing System: 1/8", 3/16", 1/4", 5/16" and 3/8".

Cable construction. For most applications, we recommend 1x19 construction, type 316 stainless steel cable. 1x19 construction cable is engineered to hold static loads without stretching, and it is relatively stiff. Other cable constructions can be used, such as 7x7 or 7x19, but they are rarely recommended because of their elevated levels of stretch and lower breaking strengths in comparison to 1x19 construction (see chart below).

Swaging — attaching fittings to cable.

Our swageless fittings do not require swaging, since the hardware is attached to the cable by hand. Other Ultra-tec hardware is swaged using hydraulic presses that apply up to 55 tons of pressure to swage the fittings. Ultra-tec portable swagers are available for purchase or rent, or in many cases the factory can supply cable with fittings attached. It is worth noting that fittings

cannot be successfully swaged onto 1x19 construction cable using hand swagers offered by others. In those instances, less desirable constructions must be used. That is never the case with Ultra-tec hardware.

Cable coating. Cable can be special ordered with a PVC coating in any standard (PMS) color. PVC coated cable is not shown in our Design and Fabrication Guide for Metal Framed Railings, so special caution should be used if you are considering coated cable because hole specifications for frame components can change and, in some cases, special hardware may be required. If you are interested in using coated cable, please contact the factory for any necessary special hardware or design specifications.



MINIMUM BREAKING STRENGTHS (in Lbs.) FOR TYPE 316 STAINLESS STEEL CABLE

CABLE DIA.	1x19	7x7	7x19
1/8"	1,780	1,360	1,300
3/16"	4,000	3,300	2,900
1/4"	6,900	5,500	4,900
5/16"	10,600	7,600	7,600
3/8"	14,800	11,700	11,000



Cable Cleaner
See page 33

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Equipment, Accessories, Railing Components

Cable Cutter

For burr-free cutting of cable.

For light-duty use to cut 1/8" cable, order **C-7HIT** (not pictured)

To cut cable 1/4" diameter and under, order **C-9**

To cut cable up to 3/8" diameter, order **C-12**



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 (see next page).

Order **610 SWAGER**



Cable Gripping Pliers

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

Order **PLIERS**



Shipping Container/ Tool Box

With compartments for cable cutting and installation tools.

Order **610 TOOL BOX**



Cable Release

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



Radius Ferrule/ Clip-on Stop Gauge

Use this gauge to confirm that the radius ferrules and clip-on stops have been properly swaged. The fitting is properly swaged if it fits into the appropriate slot.

Order **RF-GAUGE**



Model 650 Swager

For swaging 1/8" through 3/8" diameter Ultra-tec cable fittings. Use with Air Over or Electric Hydraulic Pump (see next page).

Order **650 SWAGER**



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**



Shipping Container/ Tool Box

With compartments for cable cutting and installation tools.

Order **650 TOOL BOX**



Cables can be provided pre-swaged with fittings attached ready to install, or you can cut the cables and swage the fittings in your shop or on the job site. Tools and equipment for cutting the cables and swaging the fittings can be rented or purchased from the factory.

Air Over Hydraulic Pump

Air driven. Powers Model 610 or 650 Swager. Requires an air compressor capable of delivering at least 5.8 c.f.m. at 90 p.s.i. 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**



Electric Hydraulic 120V Pump

Increases swaging speed versus the Air Over Hydraulic Pump.

Order
HYD PUMP-ELECTRIC



Cable Tension Gauges

Check the tension on your cables with these easy-to-use gauges.

For cable diameter of 1/8", 3/16" and 1/4", order **MODEL PT-CR TENSION GAUGE**

For cable diameter of 1/4" through 3/8", order **MODEL PT-3 TENSION GAUGE**



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**

Cut-off Tool

Used 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, then 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**



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 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.

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 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.

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



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**

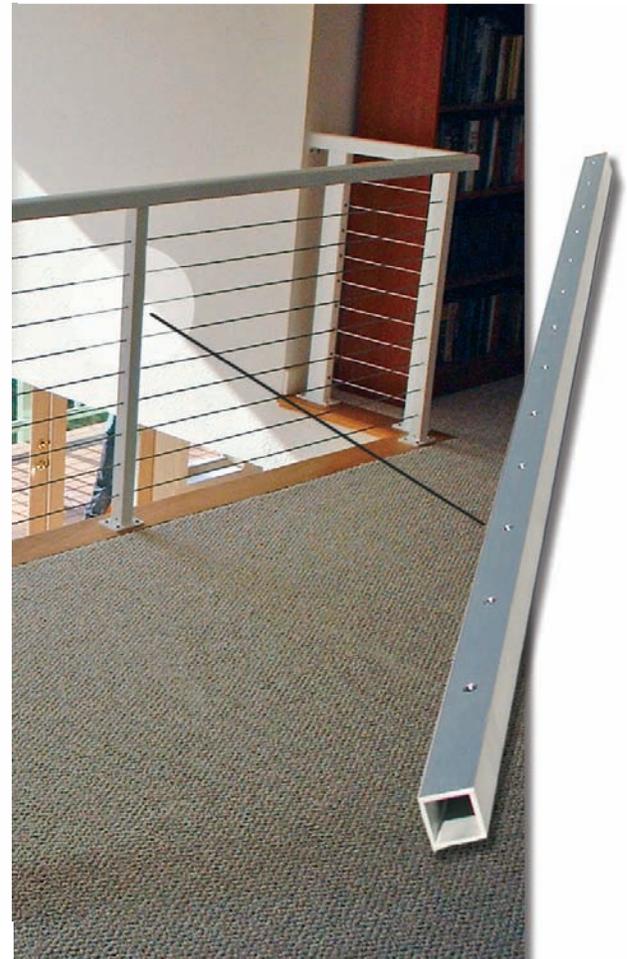
Anodized Aluminum Cable Brace for Stairs

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**



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**

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", #4 Finish Stainless Steel.

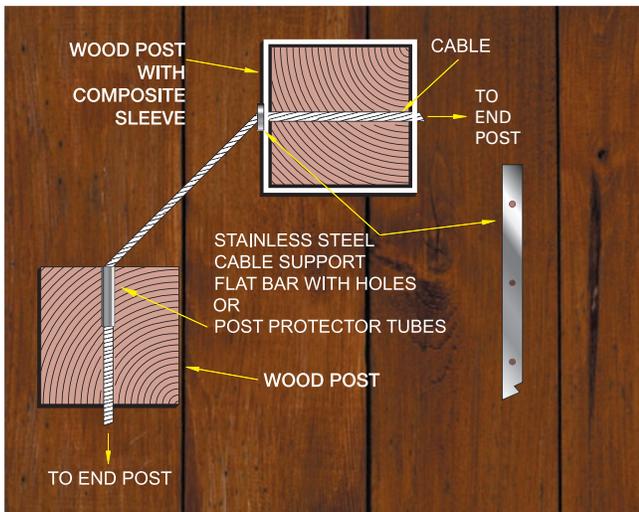
Order **FLP-CBS**



Stainless Steel Cable Support

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 in long. Lags onto the outside of a wood post with composite sleeve to allow cable to exit post on an angle, protecting the sleeve from the cable.

Order **CS-34.5-SS-10** or **CS-40.5-SS-12**

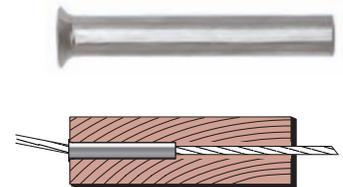


Stainless Steel Post Protector Tube

The post protector tube is inserted into a wood post where the cable enters/exits the post at an angle to keep the cable from biting into the wood.

Order **CS-TUBE-6** for 1/8" and 3/16" dia. cable

Order **CS-TUBE-8** for 1/4" dia. cable



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.

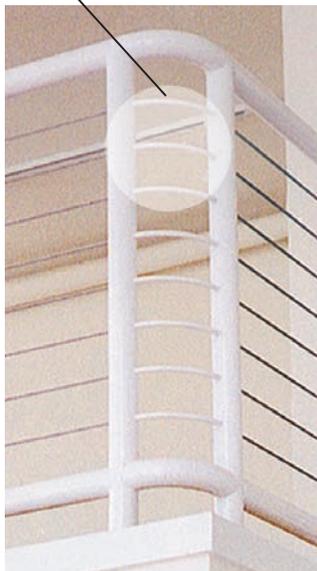


Contact factory for **DRILL GUIDE ORDER FORM**

Corner Section Tubes

Available for 4" radius in carbon or stainless steel.

Order **CORNER SECTION TUBE** and specify carbon or stainless, and cable diameter being used.



Hanger Bolt Driver

Use to install Adjust-A-Body with Hanger Bolt tensioners. Makes driving hanger bolts fast and easy.

Order **DRIVER HB-6N** for 1/8" and 3/16" dia. cable



Heavy Duty Hanger Bolt Driver

Robust design intended for multiple installations, many jobs.

Order **HB-6 DRIVER** for 1/8" and 3/16" dia. cable



Beveled Washers (for flat-sided frames only)

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



Order Part No.	Use with Cable Dia.	Stair/Slope Pitch
BW32-6	1/8" or 3/16"	30° - 33°
BW35-6	1/8" or 3/16"	34° - 36°
BW38-6	1/8" or 3/16"	37° - 39°
BW32-8	1/4"	30° - 33°
BW35-8	1/4"	34° - 36°
BW38-8	1/4"	37° - 39°
BW32-12	5/16" or 3/8"	30° - 33°
BW35-12	5/16" or 3/8"	34° - 36°
BW38-12	5/16" or 3/8"	37° - 39°

Stainless Steel Spacers

Used between two structural steel posts or flat bars for a "double end post" type construction. .970" length.



Order Part No.	Outside Dia.	Wall Thickness	Use with Receivers & Welded Receivers:
SPC-R6	5/8"	.083"	1/8" and 3/16" diameter cable
SPC-R8	3/4"	.095"	1/4" diameter cable





Ultra-tec®

CABLE RAILING SYSTEMS

Engineering data is available for Ultra-tec cable railing products. For more information or to speak with a representative, please call 800-851-2961.

The Cable Connection
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Carson City, Nevada 89706
800.851.2961
775.885.1443
Fax: 775.885.2734
E-mail: info@ultra-tec.com
www.ultra-tec.com



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