



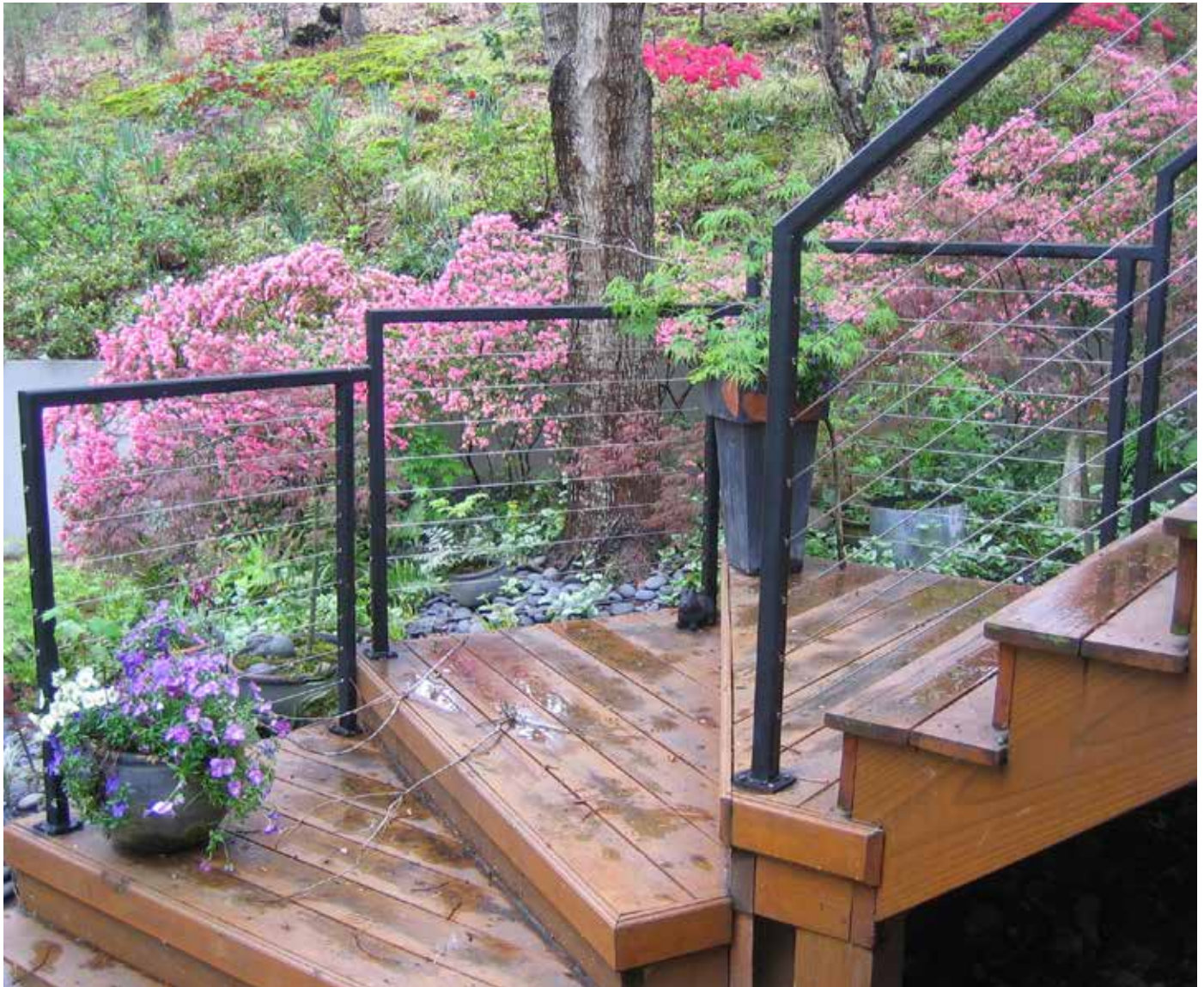
ARCHITECTURAL
IRON DESIGNS, INC.

authorized dealer of

Ultra-tec®
CABLE RAILING INFILL

Cable Railing Infill for Metal Posts

Ultra-Tec, the ultimate cable railing infill, offers concealed hardware which allows for unobstructive views and easy installation. Ultra-Tec is available in pre-cut cable lengths or spools of cable for larger jobs.



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ULTRA-TEC® CABLE RAILING SWAGED OPTION



Option 1: Cable on a spool, swage-on fittings, swager rental kit

For larger cable installations consider spooled bulk cable, swage-on fittings and a swager rental kit. Choose your cable size and feet required, Invisiware® Stud, Invisiware® Receiver and your non-tensioning Invisiware® Radius Ferrule.

Step 1: Choose cable size and feet required

Ultra-Tec® recommends using 1x19 Type 316 stainless steel L/H lay strand (or cable) for railing infill because of its strength, for its diameter, its resistance to corrosion, and its compatibility with stainless steel hardware. Choose from 1/8" and 3/16" diameters. 1/4", 5/16" and 3/8" cable is also available.



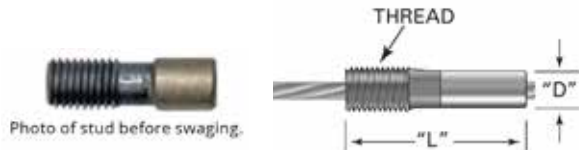
1/8" CABLE PER FOOT*	PART NO.
100FT	4AS2-100FT
500FT	4AS2-500FT

3/16" CABLE PER FOOT*	PART NO.
100FT	6AS2-100FT
500FT	6AS2-500FT

**spooling fee will apply*

Step 2: Choose Invisiware® Stud

The Invisiware® Stud 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.



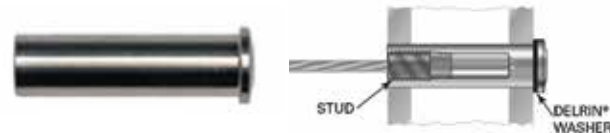
CABLE DIA.	ITEM	THREAD	"L"	"D" DIAMETER AFTER SWAGING
1/8"	S-4	5/16-24	1.180"	.250"
3/16"	S-6	5/16-24	1.140"	.250"

Scan the QR Code to view a video which demonstrates swaging threaded studs onto cable.

Step 3: Choose an Invisiware® Receiver to use with the Invisiware® Stud

The Invisiware® Receiver is to be used with the Invisiware® Stud. This combination is a concealed, swaged, tensioning, through-the-post-mounted fitting that is suitable for level runs. Choose your Invisiware® Receiver from the chart to the right.

Tension is created by rotating the Receiver (with a hex wrench inserted into its broached end) and drawing the Stud into the Receiver.



FRAMING OPTIONS FOR INVISIWARE® RECEIVER

CABLE DIA. FRAME OPTIONS	1/8" CABLE PART NO.	3/16" CABLE PART NO.	LENGTH
1-1/2" Tube* or 1-1/4" Pipe	R-6-12	R-6-12	1.56"
1-1/2" Pipe	R-6-22	R-6-22	1.81"
2" x 2" Tube*	R-6-32	R-6-32	2.03"
2" Pipe	R-6-42	R-6-42	2.30"
2-3/8" Tube*	R-6-72	R-6-72	2.405"
2-1/2" Tube*	R-6-82	R-6-82	2.53"
3" Tube*	R-6-52	R-6-52	3.03"
3-1/2" Tube*	R-6-62	R-6-62	3.5625"

*ROUND OR SQUARE TUBE

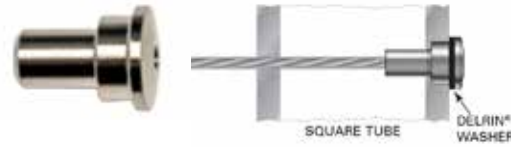
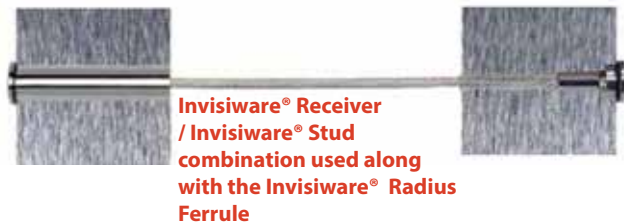
ULTRA-TEC® CABLE RAILING SWAGED OPTION

Option 1: *continued* (Cable on a spool, swage-on fittings, swager rental kit)

Step 4: Choose a swaged or swageless option.

Invisiware® Radius Ferrule (swaged option)

The Invisiware® Radius Ferrule is a concealed, swaged, non-tensioning, through-the-post-mounted fitting that is suitable for pitched or level runs.

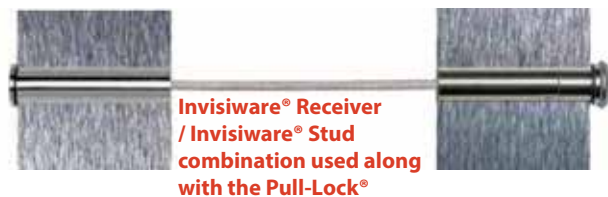


CABLE DIA.	PART NO.	"D" DIA. AFTER SWAGED	"L" LENGTH AFTER SWAGED	"S" HEAD DIA.	"A" SHOULDER DIA.
1/8"	RF-4	.250"	.750"	.537"	.437"
3/16"	RF-6	.250"	.750"	.537"	.437"

Pull-Lock® (swageless option)

The Pull-Lock® is a concealed, swageless, non-tensioning, through-the-post-mounted fitting that is suitable for use on level or pitched runs.

The Pull-Lock® must be used with a tensioning fitting on the opposite end of the run.



METAL FRAMING OPTIONS FOR PULL-LOCK® FITTINGS

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

Step 5: 610 Swager Rental Kit

This Swager Rental Kit will be needed if you are wanting to cut and swage cables yourself in the field, we rent swager kits that come complete with the swager head, hydraulic pump, cable cutters, cable gripping pliers, and other tools to help ensure you have what you need to successfully complete your cable installation. 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.



Scan the QR Code to view a video which demonstrates swaging studs onto cable and installing Invisiware® Receivers in metal posts.



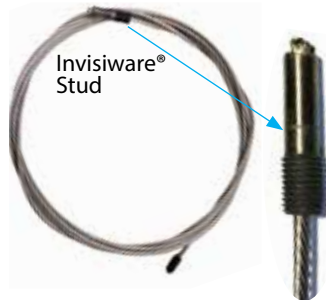
ULTRA-TEC® CABLE RAILING SWAGELESS OPTION



Option 2: Cut-to-length cables with one factory-swaged fitting and one swageless end ready for the Pull-Lock®

Step 1: Choose a cable assembly for metal posts. Available in 1/8" and 3/16"

Each cable length is provided with an Invisiware® Stud and a washer. Choose a receiver to hold the Invisiware® Stud and a Pull-Lock for the opposite end of the cable run, that fits your tubing size and you will be ready to install.



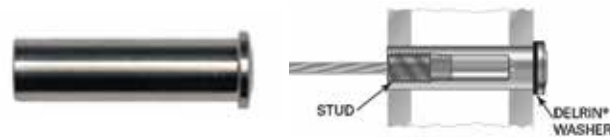
1/8" CABLE LENGTHS	MODEL
5'	4AS2-S4-5FT
10'	4AS2-S4-10FT
15'	4AS2-S4-15FT
20'	4AS2-S4-20FT
25'	4AS2-S4-25FT
30'	4AS2-S4-30FT
40'	4AS2-S4-40FT
50'	4AS2-S4-50FT

3/16" CABLE LENGTHS	MODEL
5'	6AS2-S6-5FT
10'	6AS2-S6-10FT
15'	6AS2-S6-15FT
20'	6AS2-S6-20FT
25'	6AS2-S6-25FT
30'	6AS2-S6-30FT
40'	6AS2-S6-40FT
50'	6AS2-S6-50FT

Step 2: Choose an Invisiware® Receiver to use with the factory installed Invisiware® Stud

The Invisiware® Receiver is to be used with the Invisiware® Stud. This combination is a concealed, swaged, tensioning, through-the-post-mounted fitting that is suitable for level runs. Choose your Invisiware® Receiver from the chart to the right.

Tension is created by rotating the Receiver (with a hex wrench inserted into its broached end) and drawing the Stud into the Receiver.



FRAMING OPTIONS FOR INVISIWARE® RECEIVER

CABLE DIA. FRAME OPTIONS	1/8" CABLE PART NO.	3/16" CABLE PART NO.	LENGTH
1-1/2" Tube* or 1-1/4" Pipe	R-6-12	R-6-12	1.56"
1-1/2" Pipe	R-6-22	R-6-22	1.81"
2" x 2" Tube*	R-6-32	R-6-32	2.03"
2" Pipe	R-6-42	R-6-42	2.30"
2-3/8" Tube*	R-6-72	R-6-72	2.405"
2-1/2" Tube*	R-6-82	R-6-82	2.53"
3" Tube*	R-6-52	R-6-52	3.03"
3-1/2" Tube*	R-6-62	R-6-62	3.5625"

*ROUND OR SQUARE TUBE

Step 3: Choose a Pull-Lock®

The Pull-Lock® is a concealed, swageless, non-tensioning, through-the-post-mounted fitting that is suitable for use on level or pitched runs.

The Pull-Lock® must be used with a tensioning fitting on the opposite end of the run.



METAL FRAMING OPTIONS FOR PULL-LOCK® FITTINGS

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

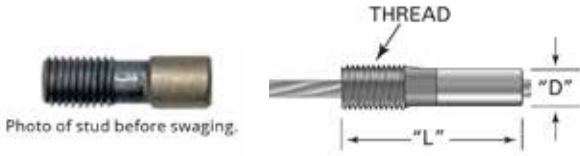
Scan the QR Code to view a video which demonstrates installing Pull-Lock® fittings.



ULTRA-TEC® CABLE RAILING INVISIWARE® STUD / RECEIVER

Invisiware® Stud

The Invisiware® Stud 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.



CABLE DIA.	ITEM	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"

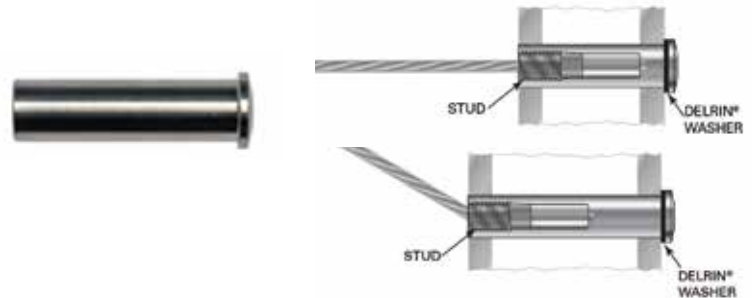


Invisiware® Receiver / Invisiware® Stud Combination

The Invisiware® Receiver with Invisiware® Stud combination is a concealed, swaged, tensioning, through-the-post-mounted fitting that is suitable for level runs. Receivers and studs are available for 1/8" and 3/16" diameter 1x19 stainless steel cable; 1/8" and 3/16" sizes are also suitable for pitched applications.

The Invisiware® Receiver with Invisiware® Stud can be used with any other fitting on the opposite end of the run. This fitting is placed and concealed within a pre-drilled hole in the metal end post. The 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. The stud is swaged onto one end of the cable and is inserted 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.

This fitting in 1/8" and 3/16" cable sizes can also be used in pitched applications using the same method (including a horizontally drilled hole) described previously. This fitting is commonly paired with a Pull-Lock® on the opposite end of the run. The Receiver/Pull-Lock® terminal combination is available for 1/8" and 3/16" cable sizes.



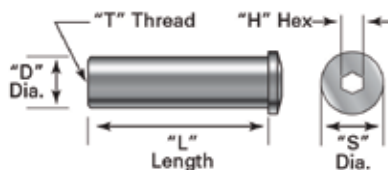
FRAMING OPTIONS FOR INVISIWARE® RECEIVER

CABLE DIA. FRAME OPTIONS	1/8" CABLE PART NO.	3/16" CABLE PART NO.	LENGTH
1-1/2" Tube* or 1-1/4" Pipe	R-6-12	R-6-12	1.56"
1-1/2" Pipe	R-6-22	R-6-22	1.81"
2" x 2" Tube*	R-6-32	R-6-32	2.03"
2" Pipe	R-6-42	R-6-42	2.30"
2-3/8" Tube*	R-6-72	R-6-72	2.405"
2-1/2" Tube*	R-6-82	R-6-82	2.53"
3" Tube*	R-6-52	R-6-52	3.03"
3-1/2" Tube*	R-6-62	R-6-62	3.5625"

*ROUND OR SQUARE TUBE

INVISIWARE® RECEIVER DIMENSIONS

CABLE DIA. PART NUMBER	1/8" CABLE R-6-XX	3/16" CABLE R-6-XX
"D" Diameter	.437"	.437"
"T" Thread	5/16-24	5/16-24
"H" Hex	3/16"	3/16"
"S" Diameter	.537"	.537"
"L" Length	See "FRAMING OPTIONS" Table	



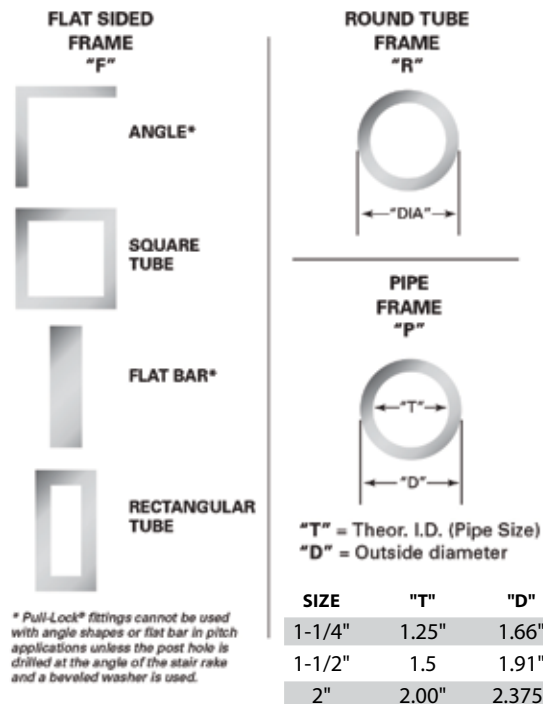
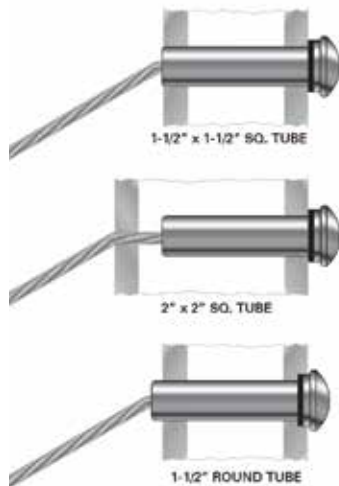
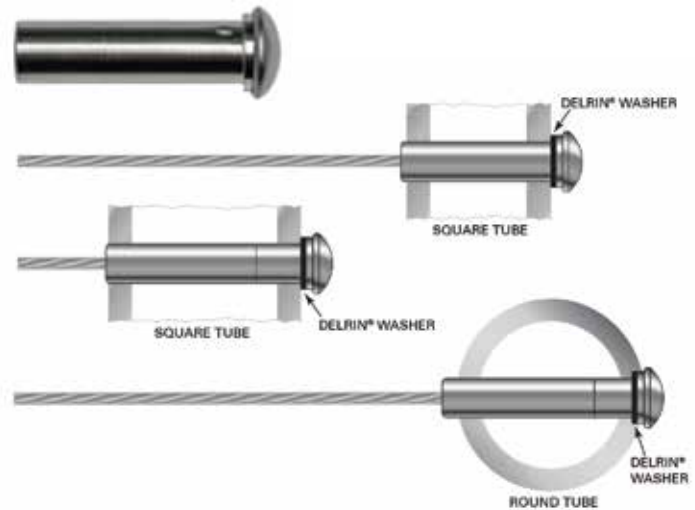
ULTRA-TEC® CABLE RAILING PULL-LOCK®

Pull-Lock®

The Pull-Lock® is a concealed, swageless, non-tensioning, through-the-post-mounted fitting that is suitable for use on level or pitched runs, and is available for 1/8" and 3/16" diameter 1x19 stainless steel cable.

The Pull-Lock® must be used with a tensioning fitting on the opposite end of the run. This 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. This fitting 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. The cable attaches to the fitting via our Push-Lock® locking wedge system which requires no special tools.

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 is recommended that you choose a Pull-Lock® that is the same length as the cross section of your end post.



METAL FRAMING OPTIONS FOR PULL-LOCK® FITTINGS

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

Scan the QR Code to view a video which demonstrates installing Pull-Lock® fittings.



ULTRA-TEC® CABLE RAILING RADIUS FERRULE

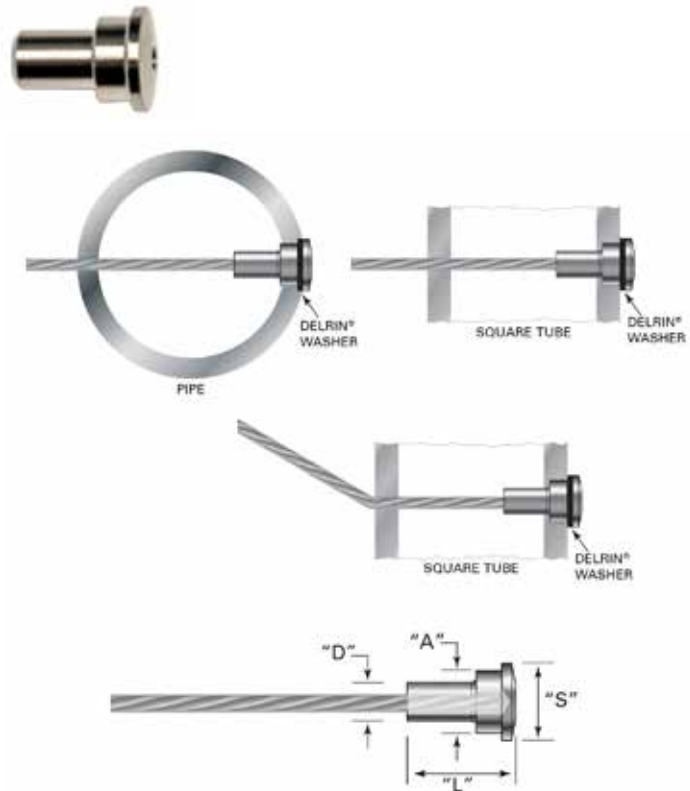
Invisiware® Radius Ferrule

The Invisiware® Radius Ferrule is a concealed, swaged, non-tensioning, through-the-post-mounted fitting that is suitable for pitched or level runs. This fitting is available for 1/8", 3/16", 1/4", 5/16", and 3/8" diameter 1x19 stainless steel cable.

The Invisiware® Radius Ferrule must be used with a tensioning fitting on the opposite end of the run. It is the least expensive through-the-post fitting that we offer. This fitting has a head shaped to appear like the Invisiware® Receiver from the outside of the post (like the Invisiware® Receiver, the Invisiware® Radius Ferrule is concealed within the post). For these two reasons it is recommended to use the Invisiware® Radius Ferrule on one end of your cable run and an Invisiware® Receiver and Stud on the opposite end whenever practical to do so. The only reason not to consider this fitting as your non-tensioning end would be if you preferred to use a non-swaged solution.

This fitting installs into a hole drilled through the face of the post (to accommodate the cable at minimum) and a hole through the back side of the post to accommodate the fitting (see our Hardware Mounting / Hole Boring Guide). It also requires that you have at least 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). This fitting 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.

Using this fitting on pitched applications for 1/8" and 3/16" cable sizes simply requires kinking the cable where it exits the face of the post after initial tensioning. A kink is achieved by placing a piece of wood onto the cable where it exits the face of the post and striking it lightly with a hammer to create the kink.



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"

Scan the QR Code to view a video which demonstrates swaging Ferrules onto Cable.



610 Swager Rental Kit

This Swager Rental Kit will be needed if you are wanting to cut and swage cables yourself in the field, we rent swager kits that come complete with the swager head, hydraulic pump, cable cutters, cable gripping pliers, and other tools to help ensure you have what 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.



ULTRA-TEC® CABLE RAILING ACCESSORIES

OPTIONAL ACCESSORIES

Cable Release

ITEM: **PL-KEY**

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



Beveled Washers (for flat-sided frames only)

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

PART NO.	CABLE DIA.	STAIR/SLOPE PITCH
BW32-6	1/8" / 3/16"	30°-33°
BW35-6	1/8" / 3/16"	34°-36°
BW38-6	1/8" / 3/16"	37°-39°



Isolation Bushing

ITEM: **B-687-562-437**

These bushings are placed over a fitting, such as the Receiver or Pull-Lock, before inserting into the post. By doing so the risk of bimetallic corrosion is reduced.



Cable Grommets

Sold in packages of 100



INTERMEDIATE POST MATERIAL (Not slotted for stairway)

CABLE DIA.	SCH. 40 PIPE 1-1/4", 1-1/2" AND 2"	SQUARE OR RECTANGULAR TUBE WITH .120 WALL	1/4" CABLE BRACE or SQUARE OR RECTANGULAR TUBE WITH .250 WALL	1/2" FLAT BAR
1/8" & 3/16"	G-C6-1	G-C6-2	G-C6-4	G-C6-.500

INTERMEDIATE POST MATERIAL SLOTTED FOR STAIRWAY PITCH UP TO 37°

CABLE DIA.	SCH. 40 PIPE 1-1/4", 1-1/2" AND 2"	SQUARE OR RECTANGULAR TUBE WITH .120 WALL	SQUARE OR RECTANGULAR TUBE WITH .250 WALL
1/8" & 3/16"	GI-C6-1	GI-C6-2	GI-C6-4

END POST MATERIAL USING RADIUS FERRULE, OR PULL-LOCK® FITTINGS*

CABLE DIA.	SCH. 40 PIPE 1-1/4", 1-1/2" AND 2"	SQUARE OR RECTANGULAR TUBE WITH .250 WALL
1/8" & 3/16"	G-C6-3	G-C6-4

* Cable grommets are not required for applications where the end fittings extend through both walls of post frames.



Cut-off Tool

ITEM: **CUT-OFF-KIT**

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



Cable Tension Gauge

ITEM: **PT-CR**

Check the tension on your cables with this easy to use gauge.



Cable Cutters

For burr-free cutting of cable.

ITEM: **C-7**

To cut 1/8" cable



ITEM: **C-9**

To cut 3/16" or 1/4" cable

Stainless Steel Cleaner and Protectant

ITEM: **E-Z-CLEAN**

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.

