Balustrade Wire Tend (N)

ULTIMA

Wire Tend (N)

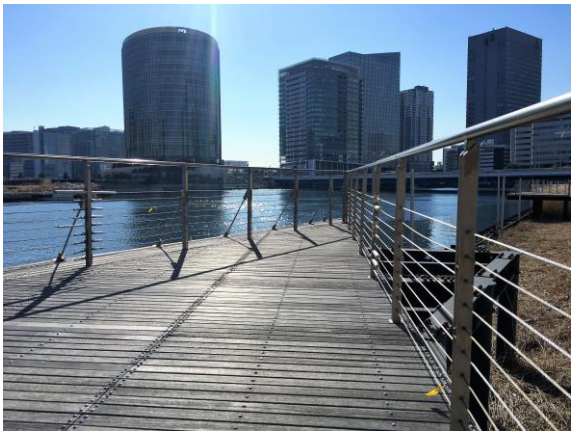
- A wire system for handrail with a beautiful form that beautifully separates space and integrates with the landscape
- Unique technology for greater strength and ease of installation
- Safe design with no deflection after installation
- Quick installation and shortened construction period
- Installation time is drastically reduced because the wire is manufactured according to the size of the space between the posts.
- No need for on-site length adjustment or processing
- Threading type, but can be installed by one person.

Wire	Threaded type: φ6
Strength test	Roughly 80% of JIS standard value (wire breaking load = 25.2KN) ＊ Close to the original strength of the wire.
Main applications	For fall prevention handrails (terraces, slopes, stairs, etc.) For safety fences and railings (around parks, green areas, various facilities, etc.) For protective fences (along seashores, etc.) For fall prevention fences (openings in facilities, etc.)
Main customers	Commercial facilities, parks, stations, seaside parks, hospitals, museums, universities, high schools, vocational schools, private residences, condominiums, and many others

Case Study

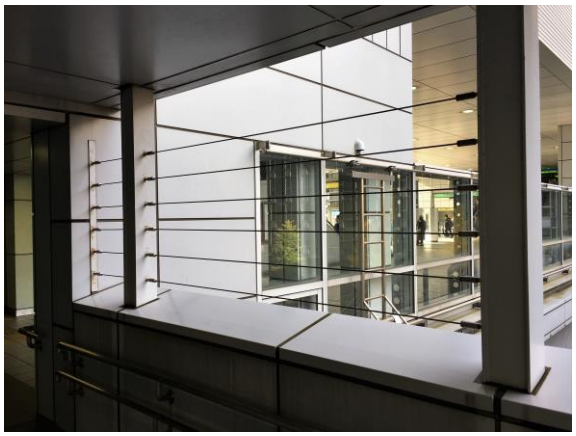
Tokyo Sky Tree

Yokohama Minato Mirai



Yokohama Portside

Yokohama Red Brick Warehouse



Station

Osaka Dotonbori

Product Specifications

Our unique technology has created a wire system for handrails with a beautiful form that beautifully separates space and integrates with the landscape.

1. Safety

- The thread side is covered to prevent tampering by not exposing the thread spanner hanging portion.
- By attaching a tamper-evident cap to the end bolt, the nut head is not exposed and cannot be removed from the outside. (Sold separately)

2. Functionality

- Safe design prevents wire deflection after installation.
- Tension adjustment is performed on the thread side, but if there is an error in the dimensions between the posts, the length can also be adjusted on the terminal side.
- Mounting pitch is within 6m and is manufactured to match the distance between the posts.

3. Constructability

- Commercially available wrenches can be used for easy on-site installation. (13mm, 14mm, 17mm)
- The terminal side has a special construction that allows the terminal at the end of the wire to spin, so the thread side can be installed by one person.
- Reliable installation and construction that is easy and simple for anyone to apply.
- Flexible and easy-to-handle stainless steel wire is used.

＊ Standard is SUS304 (7×7), but (7×19) (1×19) and SUS316 are also available on special order. However, in the case of (1×19), the thread tip may be exposed from the tip of the security case due to the longer caulking width.

4. Design

- It has a simple and beautiful form that makes the most of spatial presentation.
- The texture matches well with landscape-friendly fences.
- Wire diameters, φ6 is available. It can be used for a wide range of indoor and outdoor applications.

Strength test

Reference value / Our test value

Wire	Breaking strength (horizontal) ＊ Caulking part of end fitting is broken
Φ6	Approx. 2,200kg

＊This value is approximately 80% of the wire breaking load of 25.2KN using the configuration (7×7).

＊The above applies to the configuration (7×19) (1×19).

Attention

Precautions for installation

- Commercially available wrenches can be used for installation. (13mm, 14mm, 17mm)
- Tension adjustment is performed on the thread side. However, any errors in the dimensions between the posts can also be adjusted on the terminal side.
- When removing the security cover for maintenance, etc., grasp the cover and pull it horizontally. (If it is difficult to remove, use rubber gloves or other non-slip material.)
- M10 bolts are used for installation. The hole for the support pole should be drilled to φ11-12. However, if an intermediate post is provided and a wire protection pipe for the intermediate post (pipe diameter φ16) is used, the drilled hole should be φ17. In the case of FB, if joint bolts are not used for the intermediate strut, the drilled hole should be φ14 or more.
- Attach the supplied tamper-evident cap to the head of the end bolt after all installation is completed. When attaching the cap, tap it into place with a wooden pad or the like.
- When installed on a wooden post, the dimensions may change due to drying over time. Re-tighten the caps approximately 3 to 6 months after installation.

Notes on ordering

- Wire lengths (with threading hardware) are manufactured based on the dimensions between the posts. When ordering, please inform us of the inside or core dimensions of the support columns.
- Almost all shapes, materials, and dimensions of support poles, such as flat bars, round pipes, square pipes, and wooden poles, can be accommodated.
- The material is SUS304. When used in coastal areas, SUS316 is available by special order.
- Since this product is designed to be used in a system and safety is taken into consideration, individual parts are not sold separately.
- If there is a support pole in the middle, we recommend the use of a wire protection pipe for the middle pole to protect the wire. (Support pole: square pipe, round pipe)
- End bolts and joint bolts are sold separately.
- Test values are for wire diameter φ6. (φ5 is also available)
- Wire cannot be cut on site.
- Although rust-resistant material is used, rust may occur depending on the installation location and environment. However, even if rusting occurs, there is no functional problem.

Combination Pattern List

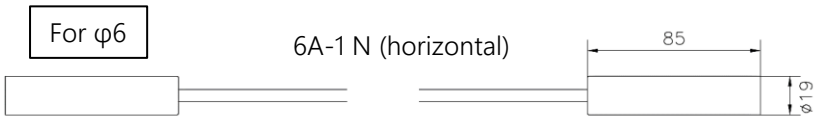
	φ6		
Tension pattern	Horizontal	Horizontal to slope	Slope
Product	6A-1 N (φ6)	6B-1 N (φ6)	6B-1 N (φ6)
Mounting post	flat bar, wood, support post, round pipe etc.		
Wire length	L=1,000～L=6,000		
Drilling size	End drilling dimensions: 11 to 12 mm dia. Hole drilling dimensions for intermediate connection: 11 to 12 mm dia. Hole drilling dimensions for intermediate through-hole: 14mm dia. Hole drilling dimensions for protection pipe: 17mm dia.		
Note	Threading type Wire cannot be cut on site Body female thread effective dimension: 10mm Can be connected		

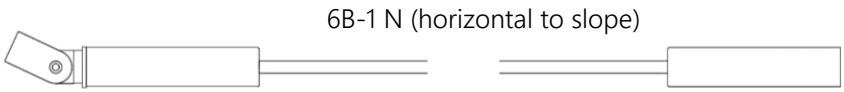
* Material is SUS304 (SUS303 in some cases). All will be production items. Please confirm delivery date separately.
* When used in coastal areas, SUS316 is available on special order. All will be production items. Please confirm delivery date separately.
* one set means that a wire of the specified size is set in the metal fittings at both ends. Each part is not sold separately.

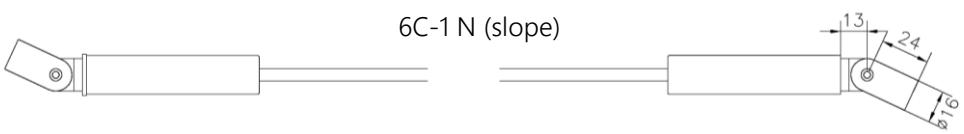
Product Specifications (tension pattern)

	Horizontal	Slope
		
Material	SUS	
Finishing	Centerless polishing followed by clear coat treatment	
Wire	Φ6 SUS304 (7×7)	
Wire length	Standard dimensions L=1,000 to L=6,000 (in 1m increments) * Please consult us for dimensions beyond the standard length.	
Note	Effective dimension of the female thread of the body: 10 mm.	

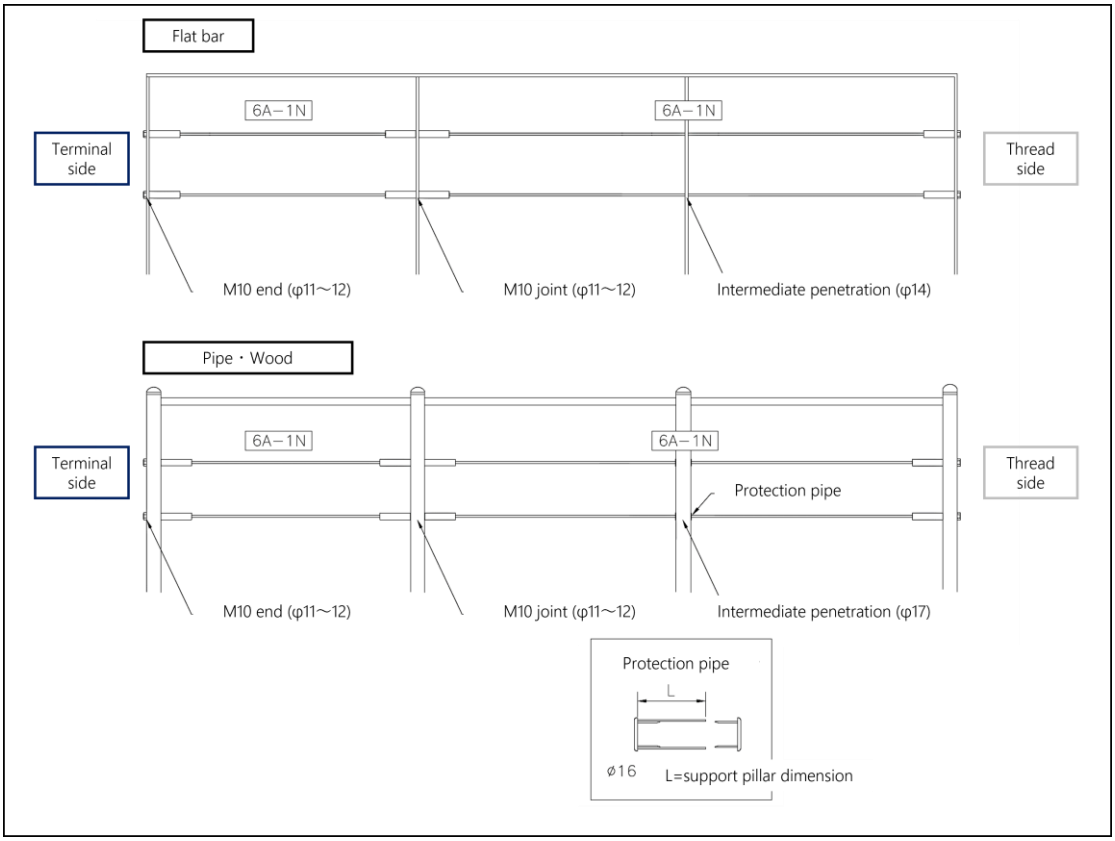
Product Drawing







Construction image (horizontal tensioning)

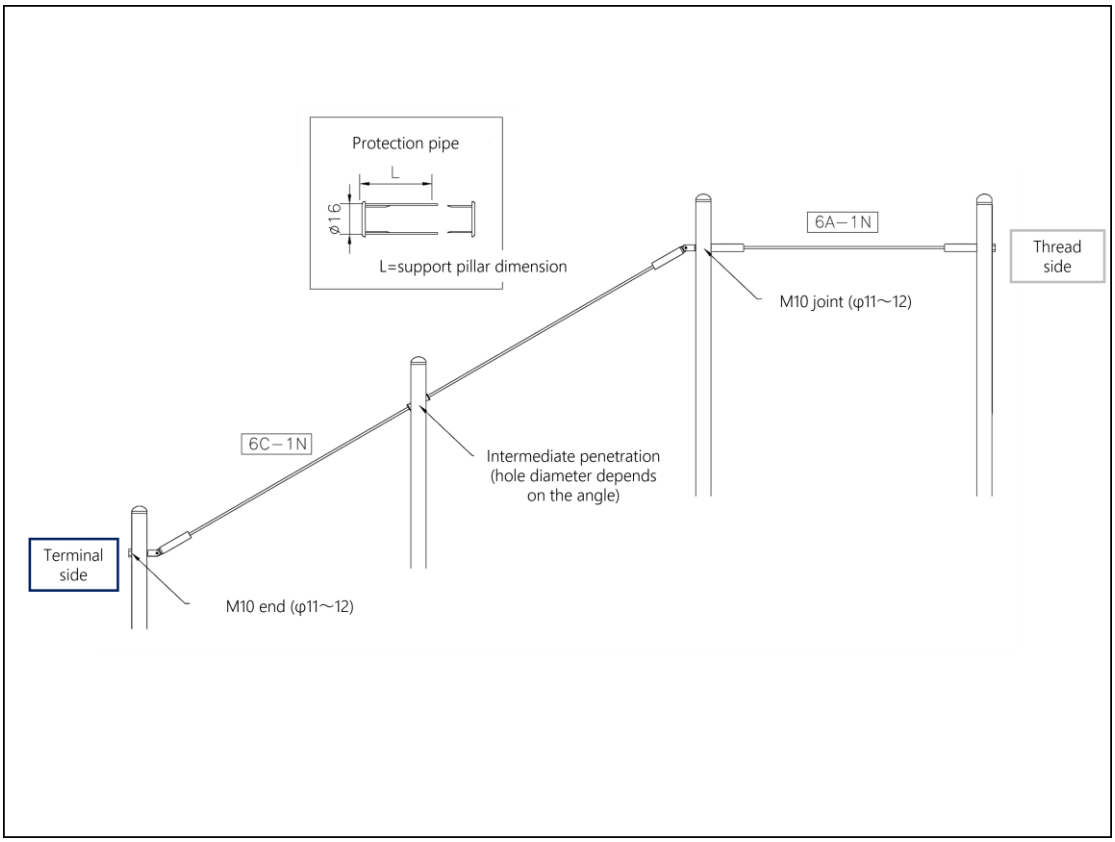


＊For both ends and joints, use M10 bolts; effective size of the female threads on the main body: 10 mm.

＊If the FB thickness is 12 mm or less, drilling of the same diameter is acceptable up to a slope of 30°. However, if the inclination is 30° and the FB thickness exceeds 12 mm, drilling of φ15 mm or more is required.

＊Copa should be thread chamfered.

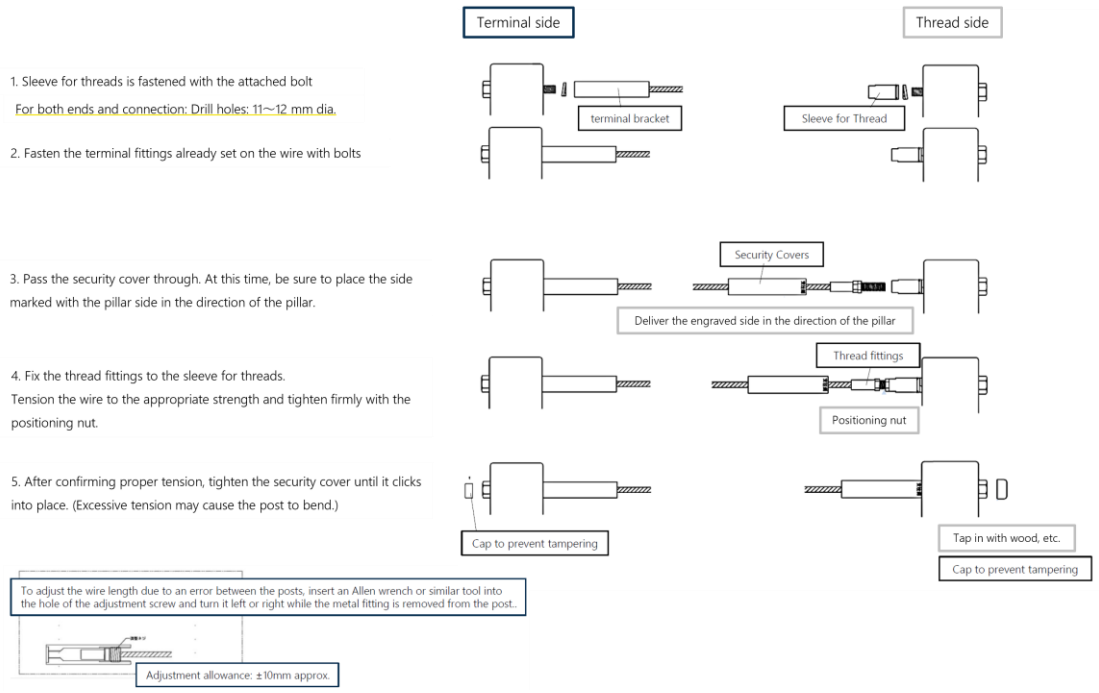
Construction image (sloping tensioning)



＊If you inform us of the "pillar and FB thickness dimensions" when you place an order, we will arrange for end bolts (with tamper-evident caps), joint bolts for intermediate pillars, and wire protection pipes for intermediate pillars that match the dimensions at the same time.
(Each sold separately)

Work Instruction (horizontal tensioning)

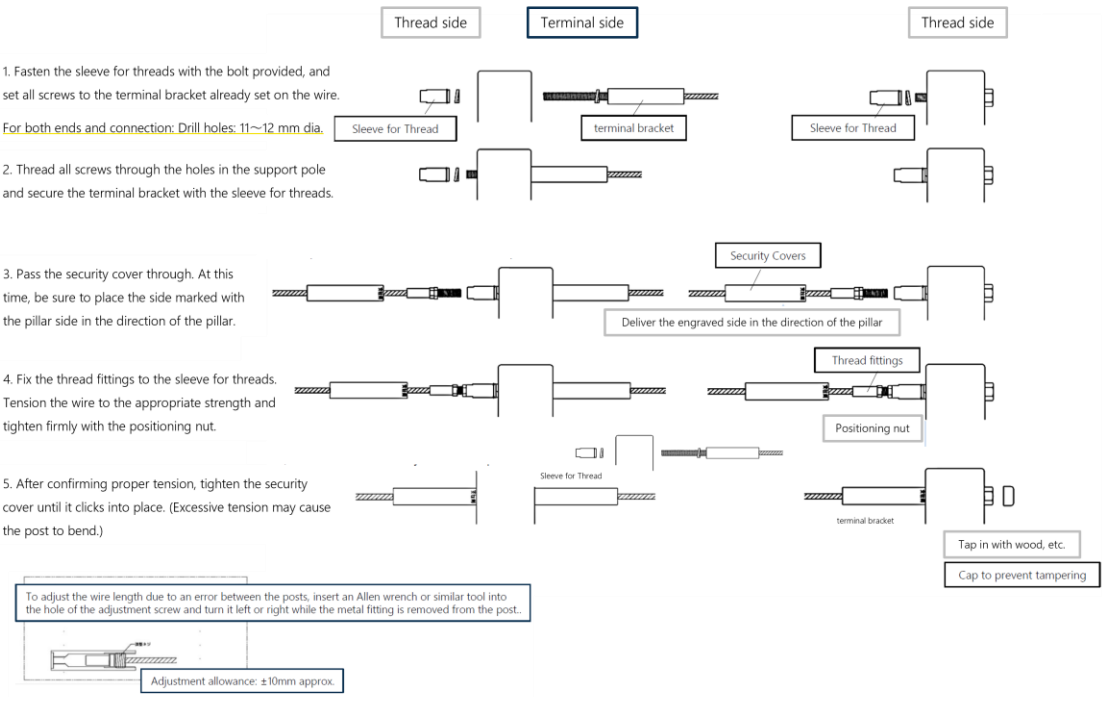
＊The installation procedure is the same for both horizontal and slope tensioning.



Construction Examples (joint part)

＊Be sure to install from the terminal bracket.

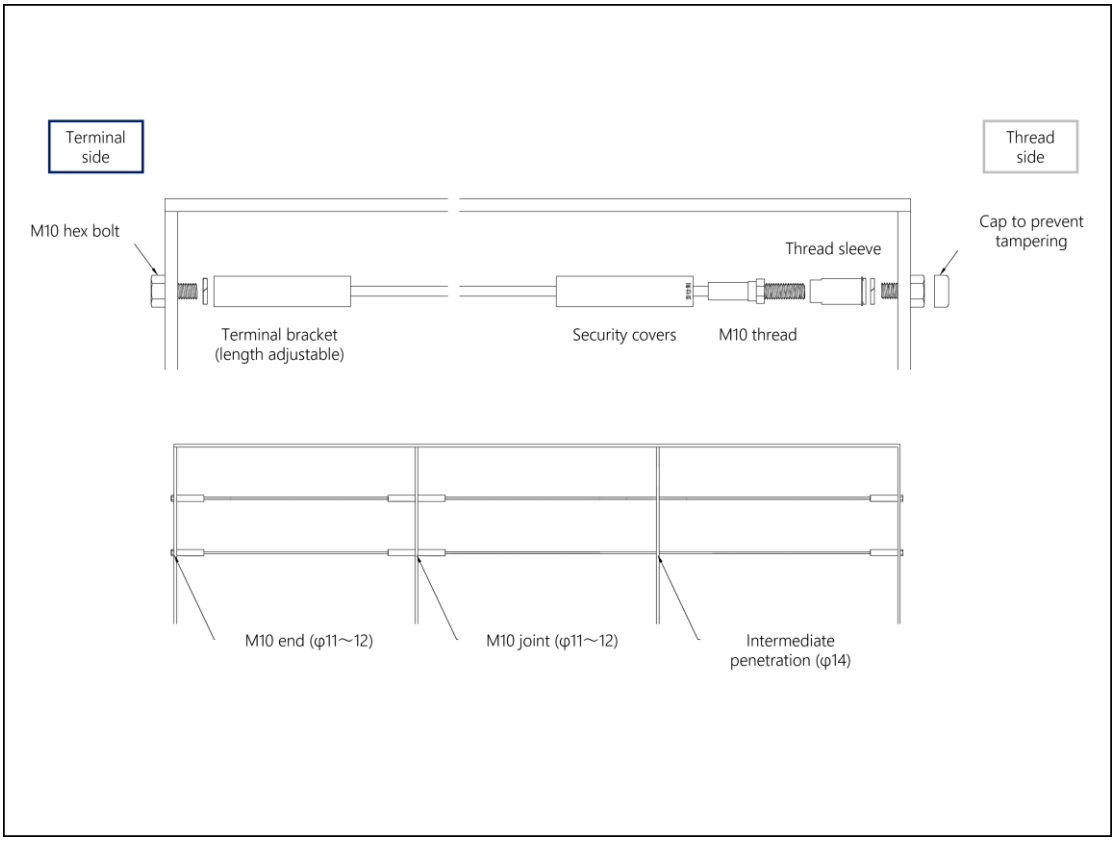
＊The installation procedure is the same for both horizontal and slope tensioning.



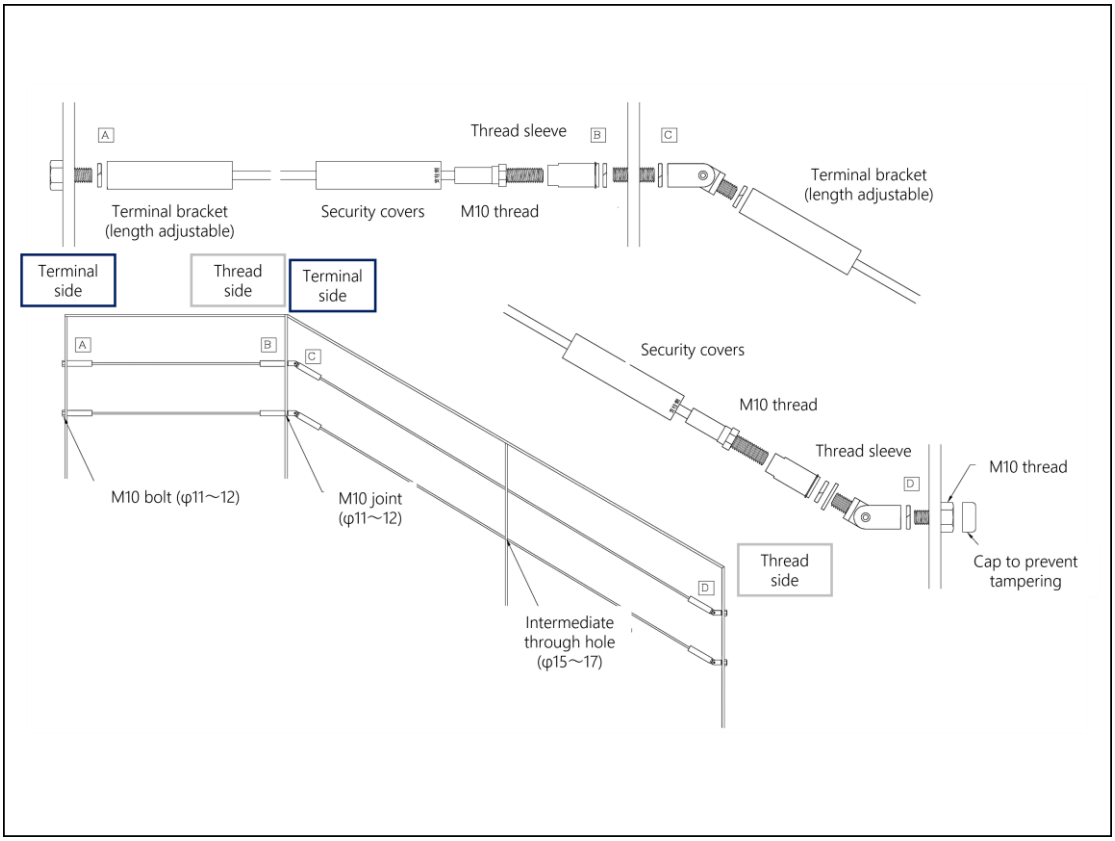
＊Wire cannot be cut on site. End bolts (including tamper-evident caps) and joint bolts sold separately.

＊To re-tighten: Remove the security cover, loosen the positioning nut, and turn the threaded metal fittings to tighten.

Construction Examples (horizontal tensioning)

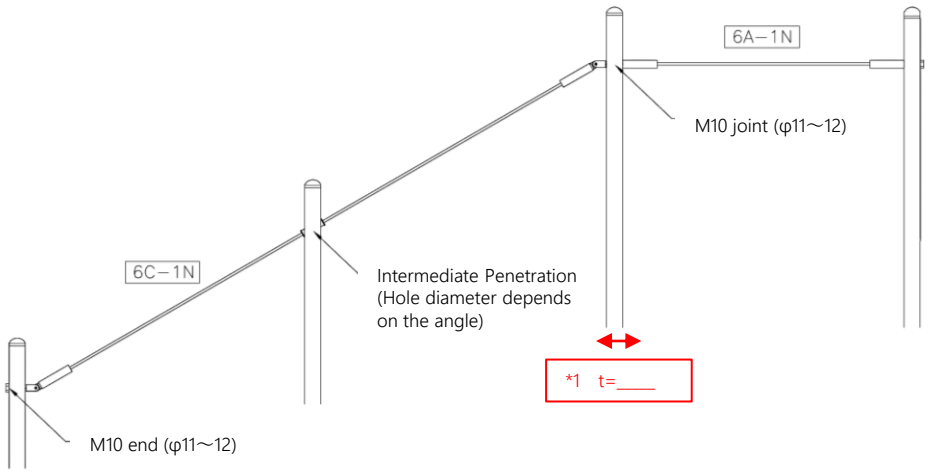


Construction Examples (sloping tensioning)



Important Information
Confirmation at the time of requesting a quotation

Please share a drawing of the Wire Tend (N) installation area (posts, wire placement, etc.)

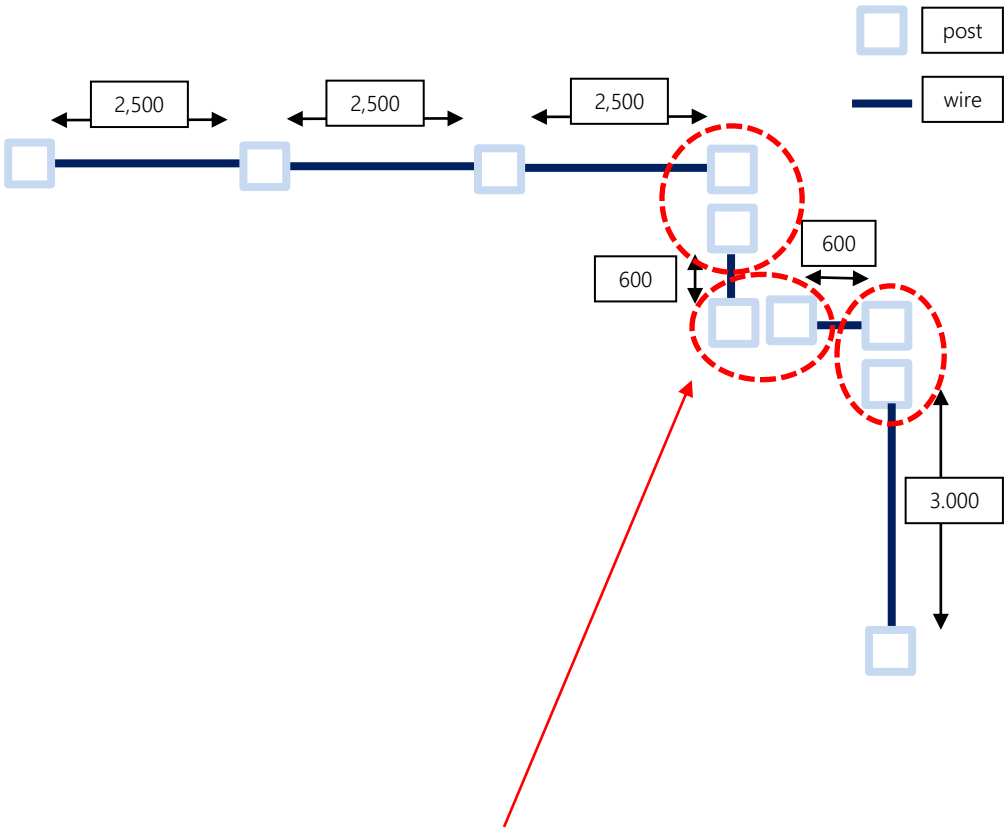


Checklist

1. Can you share a drawing of Wire Tend installation area ? ☐ Yes ☐ No
2. How to tension the wire? ☐ Horizontal ☐ Sloping ☐ Horizontal and Sloping
3. How many wire tiers? ☐ 1 ☐ 2 ☐3 ☐ 4 ☐ 5 ☐ 6 ☐ Other (_____)
4. What material is the support pole made of? ☐ Flat bar ☐ Square pipe ☐ Round pipe ☐ Other (_____)
5. What size and thickness of posts? *1 t=_____
6. What are the dimensions between posts (core dimensions or inside dimensions) ? *2 L=_____
7. If sloping, what is the slope angle? ____ degrees
8. If you are also installing posts in the corners, how many posts are to be installed in the corners? ☐ Only one ☐ 2 or more

Important Information
Confirmation of installation of corner posts

Please share a drawing of the Wire Tend (N) installation area (posts, wire placement, etc.)

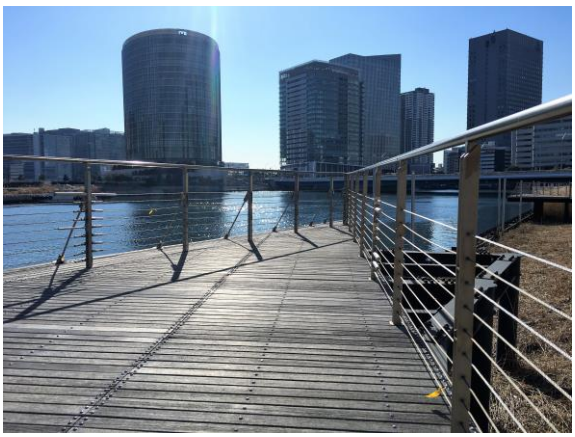


Checklist
For the corner section, the wire set can only be attached in one direction to one post. The corner section requires two posts. Please check if two corner posts are possible. If two corner posts cannot be installed, wire set welding will be used in one direction. Please confirm if welding is possible.

Case Study

Tokyo Sky Tree

Tokyo Sky Tree



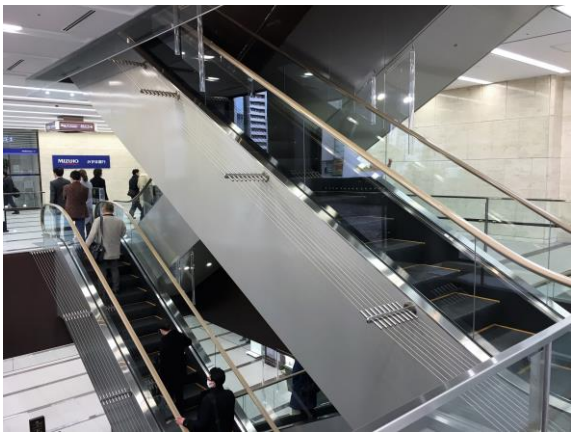
Yokohama Portside

Yokohama Minato Mirai

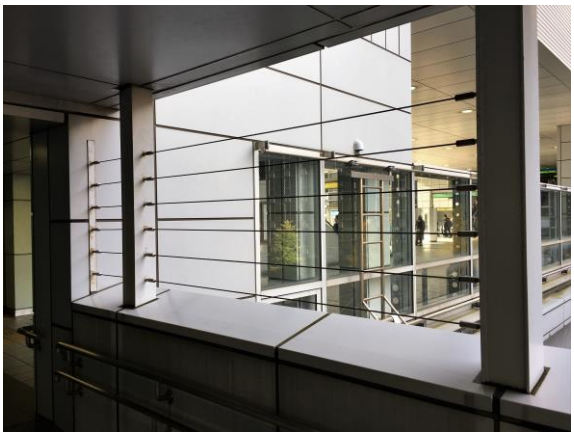
Yokohama Red Brick Warehouse

Osaka Dotonbori

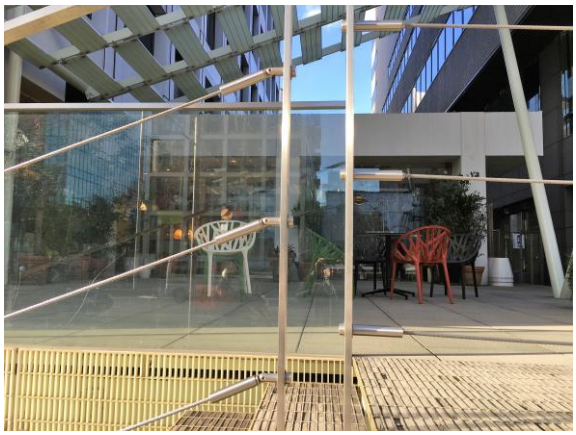
Tenant Building



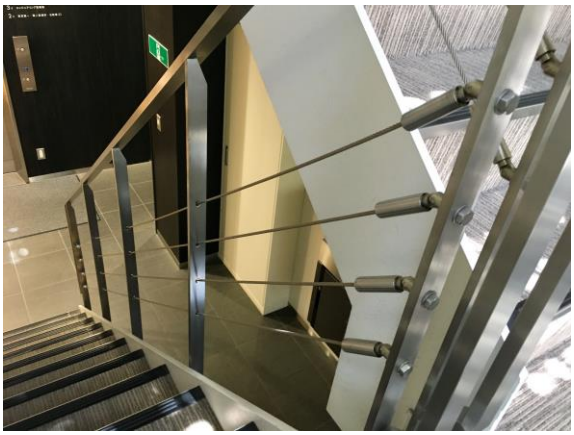
Office Building



Station



Tenant Building



Office Building

art museum

Seafront Street

Canal Street

Tenant Building


fishing harbor


Lake Chuzenji


Seafront Street (Okinawa)

FAQ

Q1. What wire diameters are available?

We have a lineup of two wire diameters: φ6mm, φ5mm. Please select the one that best suits your application.

Q2. Can the wire be cut on site?

The φ6 wire diameter is thread type.

The wire is cut in advance according to the dimension of the site and shipped, so it cannot be cut at the site. Installation is a knockdown type, so anyone can install it easily and securely.

Q3. How should I measure the length of the wire when ordering?

Please measure the internal dimensions of the post or flat bar where the wire will be installed, and place your order.

We will cut and ship the wire based on the on-site dimensions.

Q4. What should I do if I want to stretch the wire continuously?

Special joint bolts are available.

If you inform us of the dimensions of the pillar or flat bar thickness to be connected, we can arrange for joint bolts that match the dimensions.

However, these accessories are sold separately.

Q5. Can the fittings be mounted directly from the wall?

Please prepare a male anchor (effective dimension L=10mm) on the wall.

The anchor to be used is M10.

Q6. Can the metal fittings be jointed?

Both fittings are female threaded (effective dimension L=10mm). They can be jointed with all-thread bolts.

The all-head screw used is M10. Sold separately. Please contact us.

Q7. How do I install it on a wooden pole?

If the anchor bolt of the specified size cannot penetrate, we can manufacture a custom-made base with screws.

Please contact us for the delivery date.

Q8. How do I select the wire length when ordering?

We ship with a threaded fitting (φ13) attached to the end of the wire on one side.

Please let us know the internal dimension between the posts of the installation span.

Q9. Please let us know the delivery examples.

All of our products are delivered in Japan.

We have delivered to Tokyo Sky Tree, Osaka Dotonbori, Yokohama Minato Mirai, Yokohama Portside, Yurikamome Shinbashi station, Shiodome Station, and many other commercial facilities, parks, hospitals, museums, condominiums, universities, etc. throughout Japan.

ULG
Ultima Line Grip

ULTIMA Co.,Ltd.