

A background image of a chain-link fence, rendered in a light, semi-transparent grey color, covering the entire page.

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# **Chain-link fence installation**

## Assembly of chain-link fence

### Material

Fence is usually delivered in rolls of 25 meters each, in heights of 600, 800, 1000, 1200, 1500, 1800 and 2000 mm, and also 2000 mm with three lines of barbed wire (industry standard). Additionally, 3000 and 4000 mm and other heights may be used.

For fence installation, one typically also needs:

- \* 2 end posts with tension bars and details
- \* 7 line posts with details for each roll of fence
- \* n - 1 corner posts with details per n rolls of fence
- \* 2 diagonal brace poles per each roll of fence
- \* Tension wire 52 meters per each roll of fence
- \* Post caps, brace sleeves and details
- \* Optional barbed wire
- \* Optional lintels

Chain-link fence mesh is hot-dip galvanized 36 microns with dimension 3.0 mm in diameter (2.7 and 4.0 mm are also common), or hot-dip galvanized and plastic coated 2.5/3.0 mm in moss green, olive green or black color, for optimum resistance to corrosion. The mesh size is typically 50x50 mm for industrial or residential fence, and 40x40 mm for preschool fence.

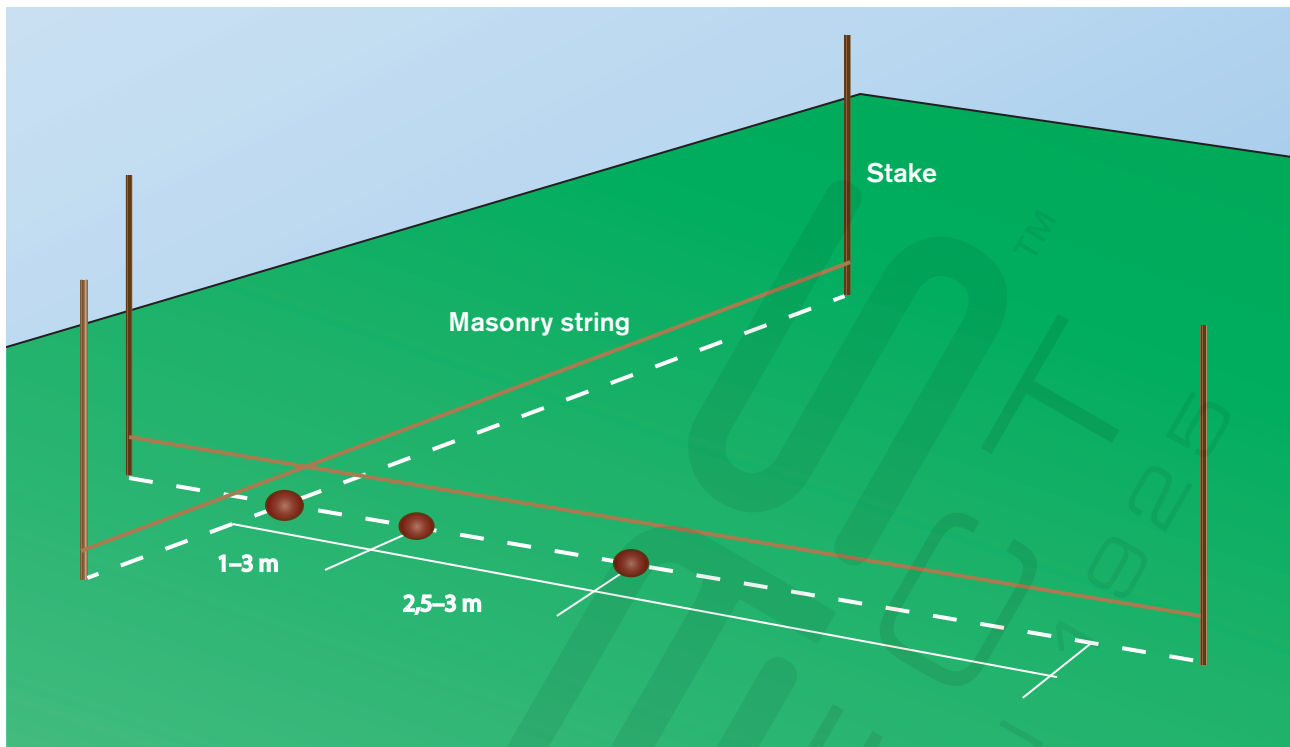
Posts are hot-dip galvanized or coated in the same color as the fence, using matte textured lacquer that gives better adhesion, is more scratch resistant and has a surface with minimal reflection of imperfections and damages. Posts are square, usually 40 or 50 mm, or round, 44 mm in diameter.

### Tools

Installation of chain-link fence requires necessary tools, such as:

- \* Stakes, for marking the fence line
- \* Masonry string, for marking the fence line
- \* Spray or other marking color
- \* Universal pliers for lashing of mesh
- \* Wrench for tension screws and clamps
- \* Spirit level for adjustment of posts
- \* Post hole digger
- \* Rivet pliers for attaching clamps and rivets
- \* Hacksaw for optional cutting of posts and poles





## Planning and assembly

Mark the planned fence line with simple **stakes**, and then draw a **masonry string** along the fence line. Level the ground in case of uneven terrain. The more accurate planning, the better the end result.

Partition the fence line in parts of 2.5–3 meters, and leave residuals 1–3 meters in corners and ends. Do not exceed a distance of 3 meters between posts. Mark the positions of the posts with spray or similar.

**Brace poles** are needed at end and corner posts, but need not be attached to the nearest line post. One might as well cast brace poles into the ground using concrete, if dimensions are not perfect. If so, then mark the position of the brace poles on the ground.

Dig holes with a **shovel holer** (or drill with an auger) where posts and poles have been marked. Holes for corner, end, and optional gate posts for **residential fence** should be Ø200 mm x L800 mm; holes for line posts Ø150 mm x L600 mm; holes for brace poles are adapted individually.

For **industrial fence** 2000 mm or higher, use Ø250 mm x L1000 mm holes for corner and end posts, Ø200 mm x L800 mm for line posts, and Ø400 mm x L1200 mm for optional gate posts.

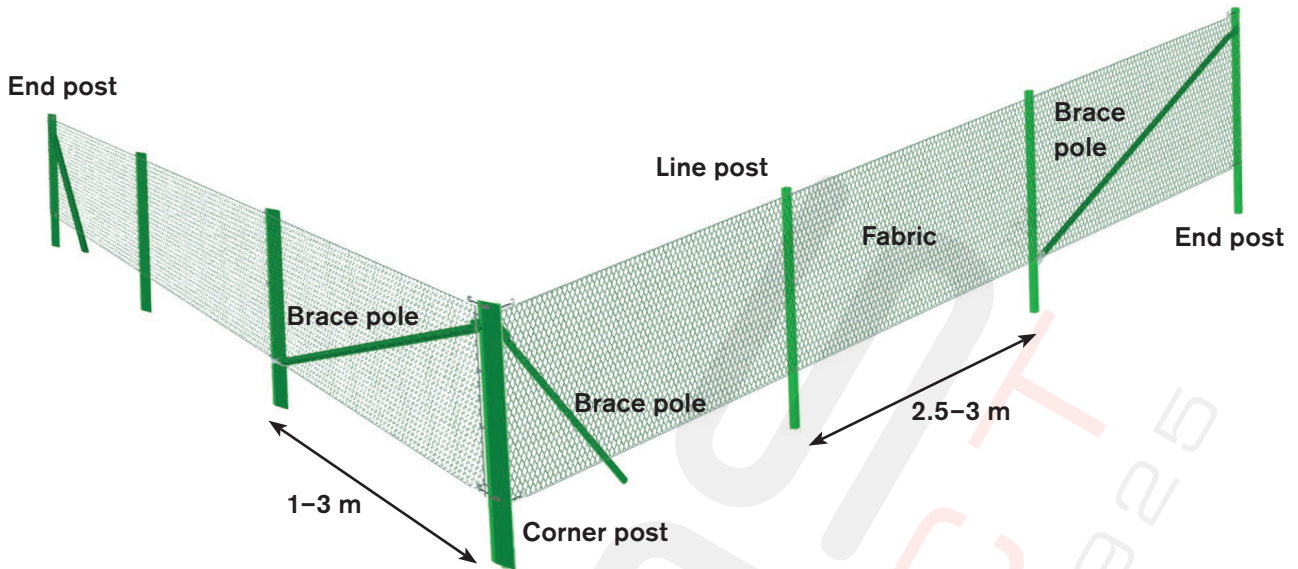
Fill the holes with viscous concrete, and wait until the concrete has hardened so much that the posts have to be pushed down into the mix. Preferably use concrete class **C20/25** with at least exposure class **XF3**, or **fiber concrete**.

Corner, end, and optional gate posts (in combination with a residential gate) are cast first. Then cast the line posts, and align them correctly.

Push down the posts, leaving some **50 mm** clearance above ground for the tension screws. Use a spirit level to align the posts vertically. Then let the concrete harden for 1–3 days depending on the season.

Diagonal brace poles are screwed into the top of the corner, end, and optional gate posts, and are then either attached to the nearest line post with a brace sleeve, or cast into the ground. Some brace poles with diameter Ø38 mm must be fitted with a sleeve adapter Ø44 mm (included).





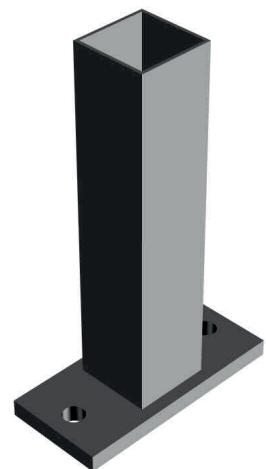
### Hard surfaces

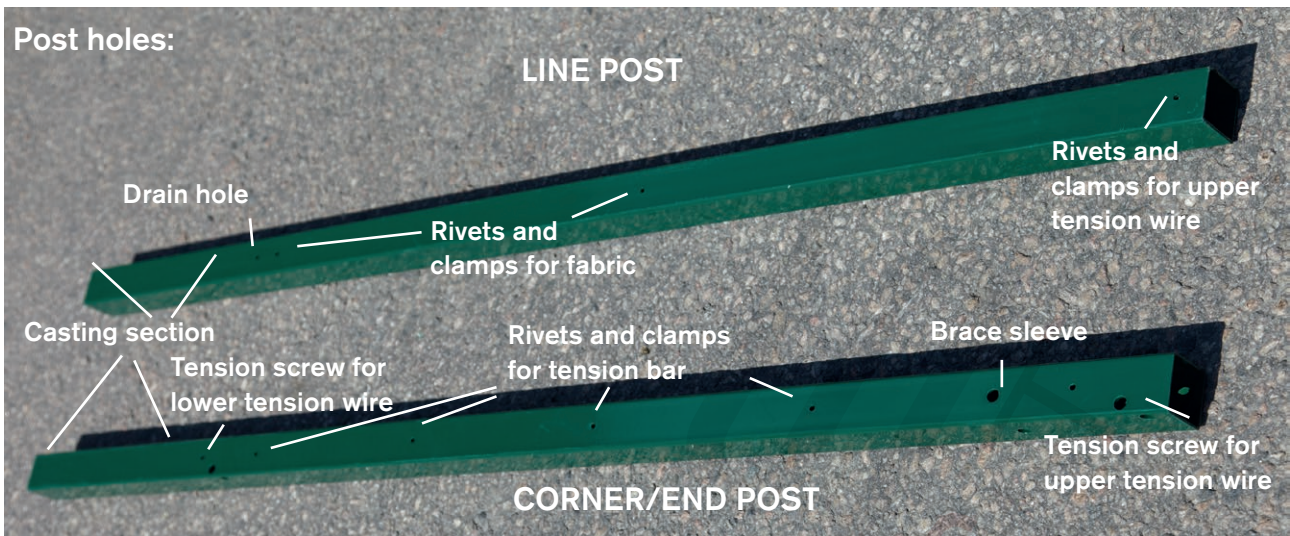
For mounting in rock, paving and other surfaces that cannot be dug, one must proceed differently. One method is to drill holes 32-35 mm in diameter in the bedrock, and then mount a rebar  $\text{Ø}25 \text{ mm} \times \text{L}400 \text{ mm}$  some 200 mm down into the bedrock, leaving 200 mm for supporting the post.

Cut off the bottom casting section of the post **50-100 mm** below the holes for tension screws. Then pour fast-setting concrete in the bottom of the post, mount the post on the rebar, and secure with spirit level and support. Let the concrete harden before proceeding with the assembly.

For mounting in concrete, terrace slabs, garden stone and similar, one could also use a bolt down **post foot** (accessory, see image).

Pour fast-setting concrete in the bottom of the post, and secure with a spirit level.

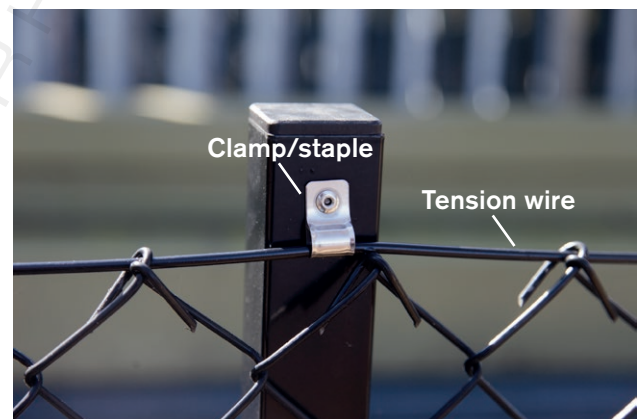




### Tension wire

Once the concrete is hardened, the fence fabric can be mounted onto the posts. Start by attaching upper and lower **tension screws** on corner, end, and optional gate posts.

Then make a loop at the end of the **tension wire** and fit the wire to the tension screw, as shown in the image to the right. Start with the lower tension wire, and tighten it as hard as possible between a pair of end or corner posts. Also attach the tension wire in the line posts using staples and rivets. Then proceed in the same fashion with the upper tension wire.





## Fabric

Open up and roll out the fence fabric. Open a mesh and attach to the tension wire. Then thread a **tension bar** (round bar) through the mesh at the end of the roll, and attach it to an end or gate post with clamps and rivets.

Keep on unwinding the roll of fabric onto the tension wire, and tighten as hard as possible using your bare hands. Then also attach the fabric to the line posts with staples and rivets. At corner posts the fabric is just wrapped around the post without special attachment.

Properly attached, the mesh can be compressed by hand no more than half a centimeter.



The fabric is then attached permanently by lashing the meshes onto the tension wire with pliers. Lash **every** mesh on the upper tension wire, and **every other** mesh on the lower.

When the fabric is full assembled, caps are attached onto the posts, and residues of tension screws are cut off and ground off to avoid injury.

### Splicing and folding

Each roll of fabric includes a joint wire that can be used to join pieces of fabric. Simply join according to the mesh layout. Similarly, a fabric can be spliced by folding and releasing the meshes at an appropriate place.

If there is a sudden break in the fence line, for instance if the terrain is uneven, one can splice the fabric and attach it to two separate tension bars mounted on a common post. To mount the tension bars as planned, one may have to drill additional holes in the post.

