

Wooden Trellis

For climbing plants



Figure 1: Wooden trellis as a climbing aid for climbing plants

Key Data

- LOCATION: Outdoor
- TYPE OF GREENING: Vertical greening, trellis
- VEGETATION: Climbing plants
- CONSTRUCTION: Wooden construction
- IRRIGATION: Automated irrigation or manual watering

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Location Selection

- Define the area and height of the installation site
- Determine the maximum dimensions (L/W/H) of the wall surface
→ **for maximum size of trellis/greening** (maintain ~20 cm distance from windows)
- Decide on ground connection or planter box for climbing plants
- Assess exposure or lighting conditions (e.g., shading)
→ **for plant selection**
- Irrigation:
 - Personnel for manual watering (including during holiday periods)
 - Water connection (for automated irrigation)
 - Power connection (for automated irrigation)

Material

For a wooden trellis used as a climbing support (approx. **2 x 3 m**), the following materials are required.

For the wooden components, it is generally recommended to use a local, easy-to-work-with, and durable type of wood. The surface should ideally be planed and untreated. For **outdoor installations**, the wood should be weather-resistant—larch, for example, is a suitable option. For **indoor use**, spruce can be used.

The use of reclaimed or leftover wood is also an option. With proper surface treatment or selective use (e.g., placing the best-looking side outward), materials can be saved and reused effectively

Wooden Trellis

- **Square timber ~ 50/80 mm ~ 6 m** – for wall structure
 - 3 pcs. each 200 cm (vertical posts)
- **Slats ~ 48/28 mm ~ 47 m** – for trellis grid
 - 11 pcs. each 200 cm (vertical slats)
 - 7 pcs. each 300 cm (horizontal slats)
- **Screws** [d/l mm → diameter/length]
 - 100 pcs. 6/50 mm wood screws (for the trellis grid)
 - 12 pcs. Wall anchors + plugs (suitable for wall type)
- **Metal or wooden end caps** for protecting exposed end grain surfaces

Planting

- **Outdoor:** climbing plants - support-climbing species such as twining climbers, tendrill climbers, scramblers, or espalier fruit
→ **Pay attention to site exposure and growth type** – do not use self-clinging species!
- **Tying wire** for securing climbing plants
- **Compost soil or planting substrate** (in case of soil replacement)
- **Mulch material** for top coverage

Tools

- Tape measure, folding ruler
- Marking square
- Spirit level
- Pencil
- Wood saw: circular saw or mitre saw
- Hammer drill + drill bits (for wall plugs)
- Vacuum cleaner (for dust removal when drilling into walls)
- Cordless drill/driver + bit set and wood drill bits
- Ladder
- Watering can or garden hose

Step-by-step

Once all materials have been procured, you can begin with preparations and assembly.

Step 1: Planning Sketch and measurements

Based on the determined overall dimensions, a planning sketch can be created and the exact component lengths calculated. It is recommended to prepare a cutting list with all dimensions and drill hole positions for the wooden elements. The outer dimensions of the trellis are approx. 2 x 3 meters. The spacing between the slats should be approx. 30 cm but may be increased up to 50 cm if needed.

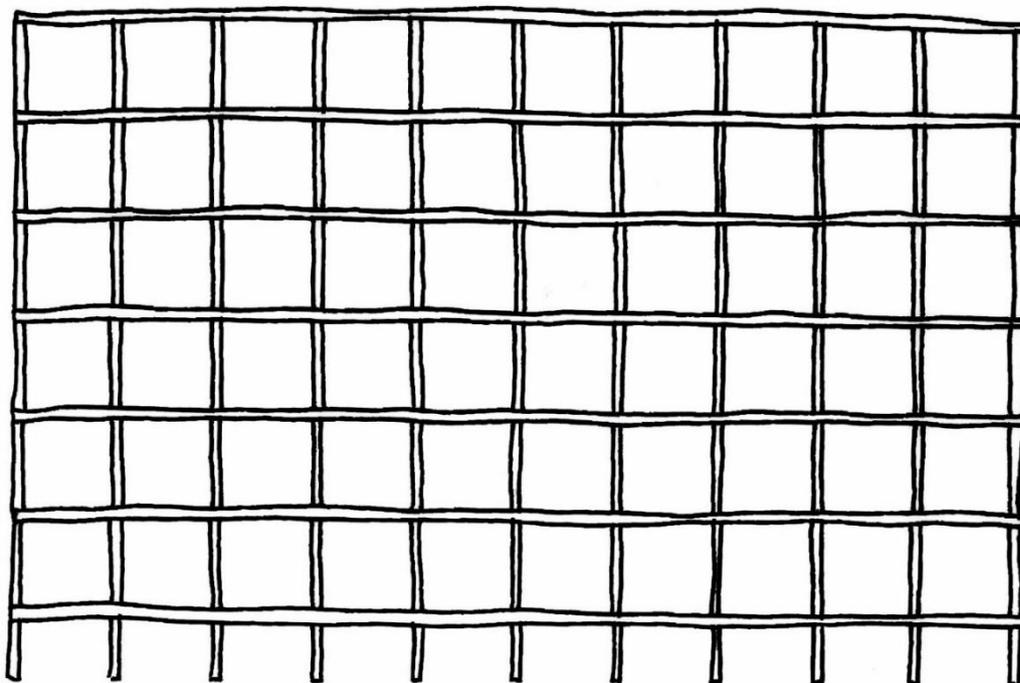


Figure 1: Sketch of wooden trellis approx. 2 x 3 m with slat spacing ~ 30 cm

Step 2: Constructing the Wooden Frame - Trellis

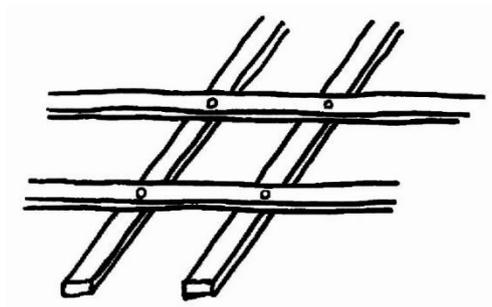


Figure 3: Screw the battens at a 90° angle

1. Lay the **horizontal slats** (300 cm) flat on the ground, spaced approximately 30 cm apart, and aligned in parallel.
2. Position the two outer **vertical slats** (200 cm) flat on top of the horizontal slats, aligned left, right, and at the top edge, and screw them in place (pre-drill if necessary).
→ **Check for accurate 90° angles.**
3. Place the remaining **vertical slats** flat on top, spaced approx. 30 cm apart, parallel to each other, and screw them into place at every crossing point (90° angle; pre-drill if necessary).

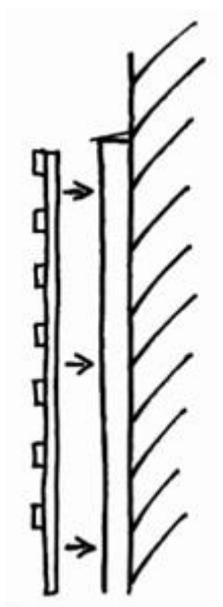


Figure 4: Wall mounting section

Step 3: Mounting the Wall Structure

The three-square **timbers** (50/80 mm) are mounted vertically to the wall using four wall anchors each, spaced 1.50 meters apart. Maintain a minimum distance of 20 cm from the ground and any windows.

1. Pre-drill four holes in each **timber** for the wall anchors

2. Transfer the exact and vertical positions of the holes onto the wall and drill the anchor holes
→ e.g. hold the timber in place (using a spirit level) and mark the positions
3. Clean the wall holes and insert the plugs and wall anchors
4. Mount the **timbers** to the wall and secure them using screws or wall anchors
5. Once all three timbers are fixed, screw the finished **wooden trellis** onto the wall structure
6. The top end grain surfaces can be covered with a **metal sheet** or a **wooden board**, slightly sloped
→ for weather protection (constructive wood protection)

Step 4: Planting

1. If planting directly in the ground, dig a **planting hole** at least twice the size of the root ball.
2. If the existing soil is of poor quality, dig a larger hole and fill it with substrate as soil replacement.
3. Remove the **root ball** from its nursery pot and gently score the bottom of the roots (this improves rooting).
4. Place the plant into the hole and fill with **substrate or compost soil**.
5. Firmly press the substrate down by hand all around and continue filling.
6. Apply approx. 3 cm of **mulch material** on top of the root ball.
7. Tie the **climbing plants** to the trellis using suitable binding material.
8. Water thoroughly – the substrate absorbs a large amount of water at the beginning



Figure 5: Planting and watering

Plant Care and Maintenance

- Daily visual inspection → Are the plants healthy and is the irrigation system functioning properly?
- Establishment Care:
 - Watering: Initially daily, then reduce to approx. 3 times per week
→ Automated irrigation with drip lines is recommended
After good root establishment → reduce further to 1–3 times per week
 - Guide and tie shoots to the trellis
→ For strong twining climbers (e.g. *Wisteria*), tie shoots parallel to the trellis (as new shoots appear, untwist and re-guide them parallel to the support)
- Pruning and Replanting
 - Prune back overgrown shoots as needed, or cut back growth around windows
 - Cut back unwanted growth, e.g. into gutters or roof edges
 - In case of plant loss, remove the entire root ball and replace
- Optional Fertilization
 - E.g. apply fresh compost in spring as a natural fertilizer



Figure 6: Plant care



Figure 7: Climbing plants in the schoolyard at a gymnasium (10 m high)

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