

Steel Grating Installation Guide



This guide applies to common installation scenarios for pressure-welded, press-locked and inserted steel grating products, including platform flooring, trench covers and stair treads. Always follow safety regulations during installation to ensure personnel safety and project quality.

1. Pre-Installation Preparation

1.1 Material Inspection

- ① Check delivery list: verify grating model, size and quantity against drawings and contract;
- ② Visual inspection: check that zinc coating is intact, free from deformation, unwelded bars or zinc drips;
- ③ Dimensional check: spot-check length, width and diagonal; tolerance should be within $\pm 3/16"$ [$\pm 5\text{mm}$];
- ④ Quality documentation: confirm material certificates, galvanizing test reports and other documents are included.

1.2 Tools Required

Tool	Purpose	Notes
Grating Clips / Fasteners	Securing grating to support structure	Stainless steel clips recommended for durability
Cutting Equipment (saw / angle grinder)	On-site cutting and trimming	Use proper cutting discs; wear PPE
Welding Machine	Welded installation	Touch up welds with zinc-rich primer after welding
Level / Chalk Line	Layout and leveling	Ensure flat and aligned installation
Measuring Tape / Steel Rule	Dimension measurement	16 ft [5m] tape and 20" [500mm] steel rule
Wrenches (socket / adjustable)	Bolt tightening	Match clip bolt size
PPE (helmet / gloves / safety glasses)	Personnel protection	Mandatory at all times

2. Platform Grating Installation Steps

Step 1: Layout & Marking

Mark panel edges and layout control lines on supporting steel beams according to drawings. Confirm the orientation of each panel. Note: bearing bars (load direction) must run perpendicular to the main beam span.

Step 2: Placement & Positioning

Lay panels sequentially from one end to the other per the layout drawing. Leave $1/8"$ ~ $3/16"$ [3~5mm] gap between panels for thermal expansion. Make sure the correct side is up — serrated side (if applicable) faces up, and bearing bars run in the load direction.

Step 3: Securing & Fastening

Use a minimum of 4 grating clips per panel (add 2 per additional support point), distributed evenly at all four corners. Clip installation order: position lower clip under bearing bar → place upper plate → insert bolt → tighten

with wrench. If using welded installation, weld length $\geq 1\text{-}3/16"$ [30mm], and apply two coats of zinc-rich primer after grinding the weld for corrosion protection.

Step 4: Cutting & Fitting

Cut panels to fit irregular edges (columns, equipment openings, etc.) per site measurements. All cut edges must be coated with zinc-rich primer to prevent corrosion. For openings larger than 6" [150mm] diameter, reinforce per design requirements.

Step 5: Inspection & Acceptance

After installation, verify: ① Panels are flat, no warping; ② All fasteners are secure, no loose clips; ③ Cut edges and openings are properly coated for corrosion protection; ④ Overall flatness $\leq 3/16$ in/ft [5mm/m].

3. Trench Cover Installation Key Points

- ① Verify trench opening dimensions; ensure cover overlap on each side is $\geq 2"$ [50mm];
- ② Trench edges must be level; use mortar to level if needed;
- ③ Covers must sit flat and stable, no rocking or noise when walked on;
- ④ For pedestrian-accessible trench covers, verify load rating meets requirements; add security locks if needed;
- ⑤ For long-slot grates, run slots parallel to water flow (reduces debris clogging).

4. Stair Tread Installation Key Points

- ① Tread nosings must be aligned, height variation $\leq 1/8"$ [3mm];
- ② Minimum 4 fastening points per tread, securely connected to the stringer;
- ③ Anti-slip nose piece must protrude at least $3/16"$ [5mm] above the tread surface;
- ④ Bolted connections recommended for easy replacement; welded connections require touch-up coating;
- ⑤ Outdoor stairs should drain properly; tilt treads $1\text{--}2^\circ$ outward if design allows.

5. Comparison of Installation Methods

Item	Clip / Bolt Fastening	Welded Fastening
Installation Speed	Fast; no power required	Slower; requires welding equipment
Corrosion Impact	Does not damage galvanizing	Damages galvanizing; requires touch-up painting
Removability	Removable; easy for maintenance	Permanent; cannot be removed
Security	Reliable; periodic bolt checks required	Most secure; permanent
Best Application	Service platforms, equipment access areas requiring disassembly	Permanent platforms, heavy load applications
Cost	Slightly higher (clip hardware cost)	Slightly lower, but touch-up adds labor

6. Safety Precautions

- Always wear a safety harness for work at height; use properly erected scaffolding;
- Wear safety glasses and gloves when cutting or welding; protect against flying sparks;
- Never walk on unsecured grating panels — risk of slipping or falling;

- Do not stack concentrated loads on a single grating panel;
- Follow electrical safety rules on site; ensure welding machine is properly grounded;
- Post warning signs in the work area; keep unauthorized personnel out;
- Stop work in rain, snow or icy conditions when working at height.

7. Routine Maintenance

- ① Periodically check that grating fasteners are tight; retighten or re-weld as needed;
- ② Keep surface clear of debris and dirt; maintain drainage to prevent accelerated corrosion;
- ③ Repair any damaged zinc coating (scratches, weld marks) promptly with zinc-rich primer;
- ④ Replace severely corroded panels to avoid safety hazards;
- ⑤ Inspect at least annually in coastal or chemical environments; every 2-3 years for inland industrial areas.

This guide is for general installation reference. Specific projects should follow site design drawings and construction specifications. For special installation scenarios or technical questions, contact our technical support: sales@rcgrating.com