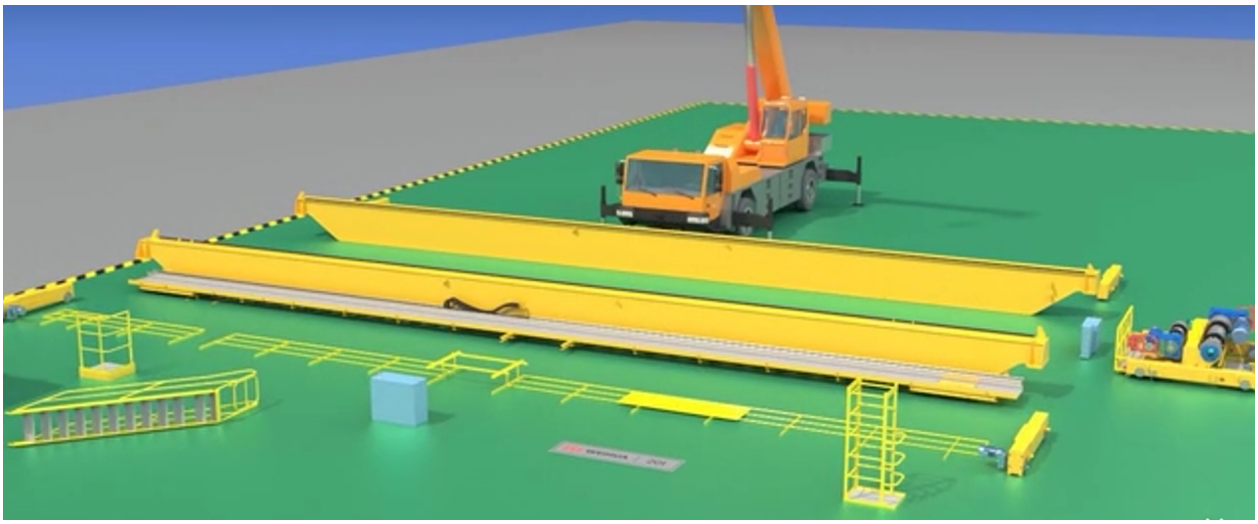
Mastering European Double Girder Overhead Crane Installation: All You Need to Know

https://youtu.be/9h6pnrc-d70

This article covers everything you need to know about installing a double girder bridge crane, including three sections: pre-installation preparation, installation steps, and post-installation testing. Whether it's your first time installing a crane or you've done it several times before, we hope you'll learn something to ensure that your next project goes as planned, stays within budget, and keeps your workers safe.

Pre-installation preparation



1. In the quotation, the crane installation team will specify the time frame they expect to complete the installation. These times need to be cleared in advance. Once the crane and all other installation equipment are brought to the site, they cannot interrupt or stop and restart the installation process without significantly increasing the cost.
2. Upon receiving the purchase order, the bridge crane manufacturer will begin building the crane. The installers need to establish contact with the necessary parties about a month before the estimated completion date to schedule a visit to evaluate the worksite or facility and agree on the installation schedule.
3. Evaluate the scope of work

- The installers should review all signed approval drawings and building plans to understand the space in which they will operate, the span and length of the

runway structure the crane will use, and details of existing or newly developed runways.

- Prepare a list of equipment and materials needed for installation in advance.
- Crane installers also need to figure out how to access the building to transport tools and materials. They need an open, unobstructed path so that vehicles and workers can enter and exit the facility freely.
- Overhead crane installers will spend a significant amount of time inspecting the crane installation area. They will begin by roping off the area and identifying any equipment or machinery that needs to be removed so that their trucks and equipment can access the facility, set up an assembly area, and have clear ground access.
- During the site visit, the installers should gather as much information as possible about the construction schedule and any other work that might be ongoing during the installation process. They must consider the timing and availability of other products.

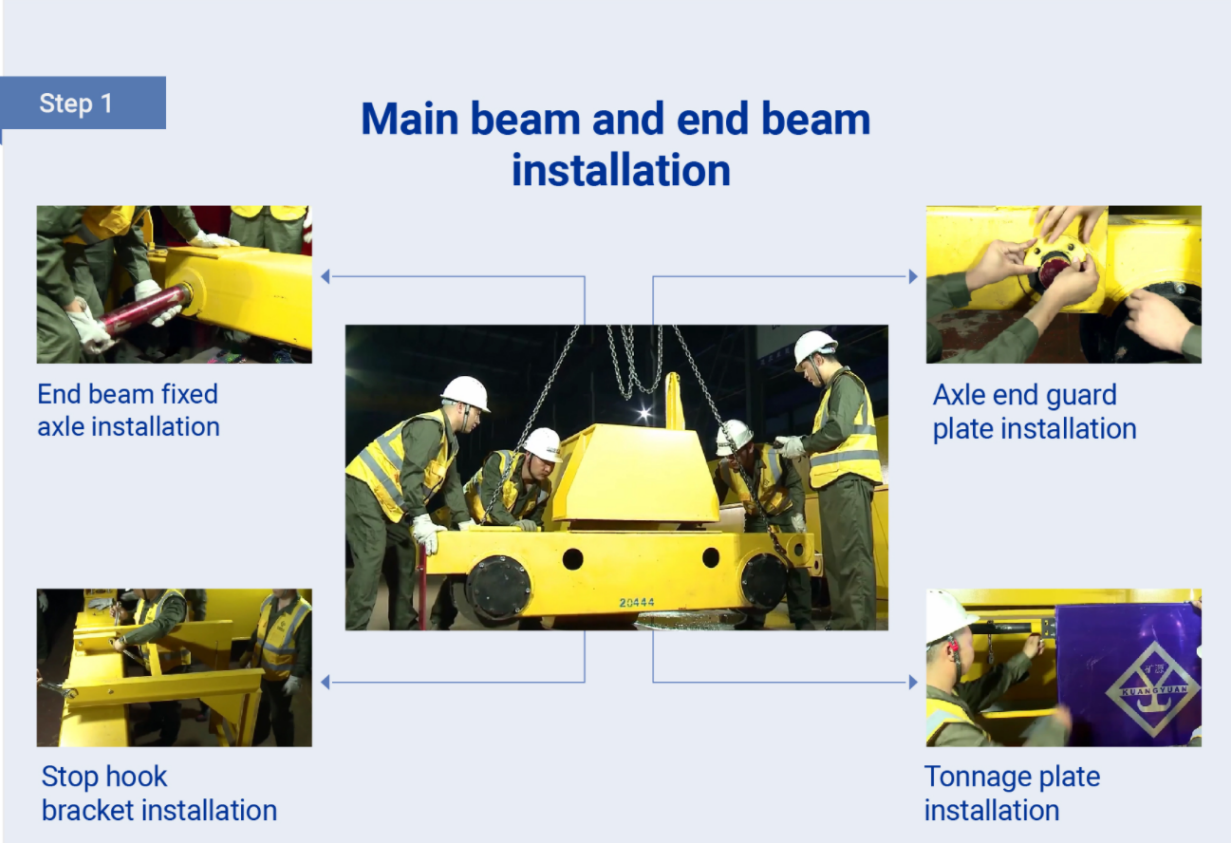
4. Identify potential hazards

The overhead crane installation team must identify any potential hazards to plan and prepare their team accordingly. To ensure the crane installation is completed correctly, different hazards may require specialized protection for their team (PPE), special permits, and other considerations. Before installing the bridge crane, the installers will look for the following categories of hazards:

- Electrical wires or gas lines, lighting fixtures, and other energy sources.
- Pedestrian traffic and other traffic sources.
- Overheating, heated metals, toxins, and other environmental factors.
- All work performed at heights will require the use of fall protection equipment.
- Identify any hazardous energy equipment that requires lockout/tagout procedures per OSHA 1910.147.

Installation steps

Bridge frame installation



1. Use a crane to lift the end beam. Align the positioning sleeve of the end beam with the positioning hole of the main beam, then connect them with a bolt set. Finally, use a wrench to tighten the bolts securely.

2. Mark the bolts with an anti-loosening mark.

3. Install the rain cover on the handhole of the end beam.

4. After using a crane to align the connecting beam with the end beam, install the end beam fixing shaft, then attach a stopper plate to the end of the fixing shaft.

5. Install the hook stopper. Once the hook stopper is aligned with the connecting beam, connect and secure it using a bolt set.

6. Install the load capacity sign on the railing of the gantry walkway. Secure the anti-detachment chain of the load capacity sign to the sign itself using a bolt set.

Installation of accessories for crane walking mechanism

1. Install the crane buffer extension rod and buffer on the end beam on the walkway side, and install the crane buffer on the opposite side. Connect and secure them with a bolt set.

2. Install the crane photoelectric limit switches at both ends of the end beam on the conductor line side. First, install the limit switch bracket on the end beam, then mount the limit switch onto the bracket.

Trolley installation

1. Use a crane to lift the trolley and install it onto the main beam's track.

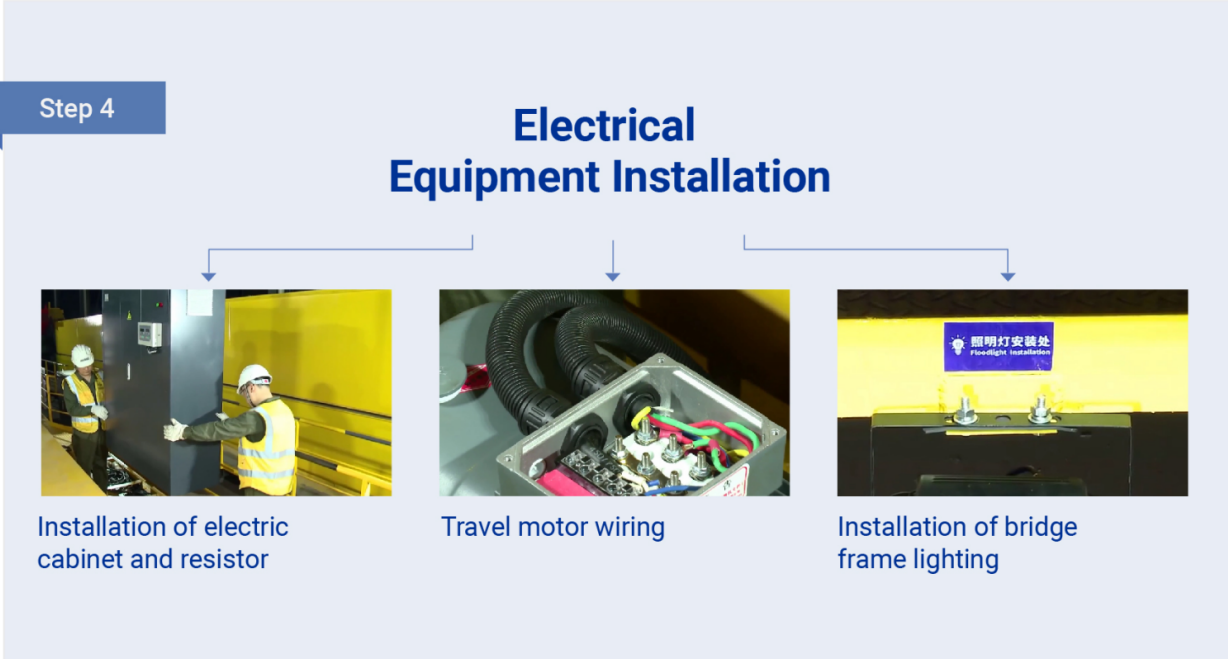
2. Install the trolley conductive bracket and secure it with a bolt set.

3. Install the trolley cross limit switch (slightly higher than the limit trigger rod) and secure it with a bolt set.

4. Position the trolley limit trigger rod according to the drawings, install it, and secure it with a bolt set.

5. Install the trolley terminal box aviation plug.

Electrical equipment installation



1. Install the electrical cabinet and resistor on the main beam walkway. Use a crane to lift the electrical cabinet to a certain height above the electrical cabinet base. Connect the aviation plug from the bottom of the electrical cabinet, then securely fasten the electrical cabinet with a bolt set. Use a crane to lift the resistor onto the resistor base and secure it with a bolt set.

2. Connect the wiring for the crane travel motor, and after completing the wiring, secure the junction box cover with screws.

3. Install the crane lighting fixture onto the lamp bracket and secure it with a bolt set.

Installation Completed

Post-installation testing

After completing the complex installation process, it's time for load testing. This crucial step ensures that all components are functioning properly. Manufacturers typically hire a third-party testing company to ensure impartiality.

Before the first use, your new crane system must pass two operational tests and one rated load test to comply with OSHA 1910.179 regulations for bridge and gantry cranes:

- Operational tests of the hoist, bridge, and trolley.
- Functionality check of the safety devices.
- Load test at 125% of the crane's rated capacity.

Always keep records of the load tests for future reference.

Kuangshan Crane is a specialist in manufacturing and installation services. We provide professional installation masters and detailed installation guidance.

FAQ

What is the overhead crane installation cost?

- The cheapest installation option (almost free)

Please note that this option requires your factory or team to have professional installation personnel and the necessary lifting equipment for installing the bridge crane. We will provide you with detailed installation documents, videos, and other reference materials free of charge.

- The most hassle-free installation solution

We offer on-site engineer deployment services to provide installation guidance. You will need to provide the necessary equipment and installation workers. Additional costs associated with this service include visa fees for the engineer, round-trip airfare, meals, accommodation, personal safety, and a daily wage of $200 per person.

- In addition to the above two options, you can also hire a local professional installation team, with prices varying depending on the market.