

Steel Truss Fabrication and Geometry Control

1 MATERIAL IDENTIFICATION



Verify heat numbers, material grade and member marks.

2 CUTTING AND END PROFILING



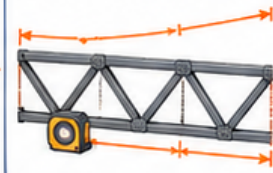
Cut members to length and profile ends to approved details.

3 JIG ASSEMBLY



Set up fabrication jig and locate chord lines and panel points.

4 TACK ASSEMBLY AND DIMENSIONAL CHECK



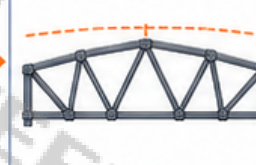
Tack assemble and verify dimensions at critical control points.

5 CONTROLLED WELDING



Weld members in sequence while maintaining geometry.

6 CAMBER AND FINAL GEOMETRY

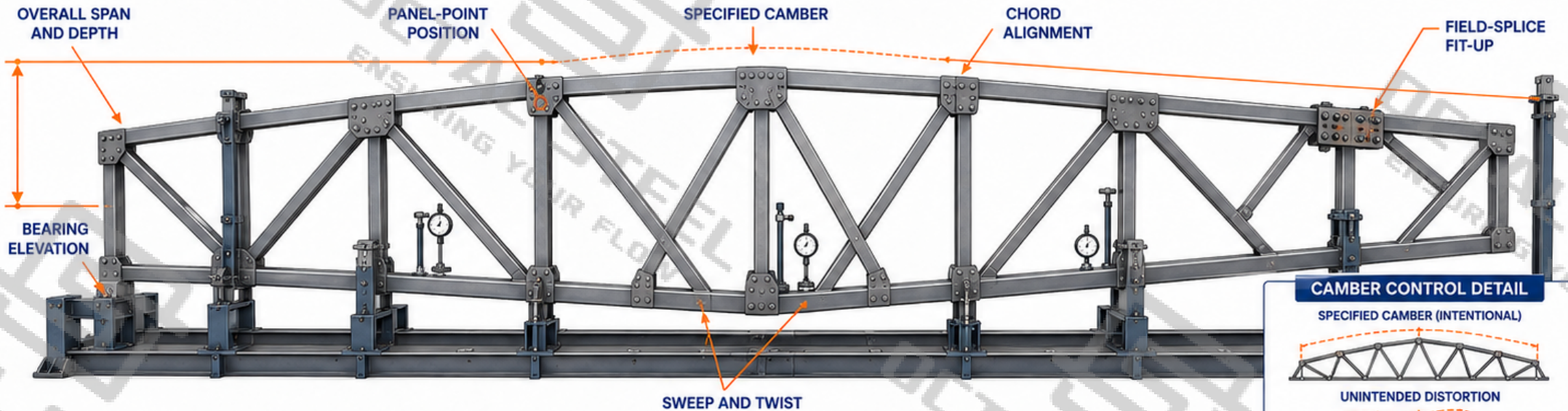


Apply specified camber and confirm final geometry control.

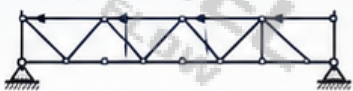
7 TRIAL FIT-UP AND PIECE MARKING



Trial fit splice and connections; mark pieces for delivery.



Approved Truss Layout



Refer to approved layout for member orientation, panel points and overall geometry.

Member and Material Schedule



Confirm member sizes, material grades, quantities and identification marks.

Design Loads



Verify applied loads, load combinations and design assumptions.

Connection Drawings



Use approved connection details, plates, fasteners and hole patterns.

Surface Requirement



Confirm preparation, coating system and inspection requirements.

Transport Limits



Review allowable length, width, height and weight for transport and permits.

Span and roof slope alone do not define the member sections, node details, camber or delivery configuration.



Final welding begins only after member orientation, node position and overall geometry correspond with the approved fabrication drawings.

Industrial Applications of Steel Trusses

1 Manufacturing Plants



- ▶ Roof spans over production lines, cranes and maintenance routes.
- ▶ Controls: roof loads, suspended services, equipment interfaces and column reactions.

2 Warehouses and Logistics Facilities



- ▶ Clear floor areas for storage, conveyors and forklifts.
- ▶ Controls: bay spacing, sprinkler and duct routing, roof drainage and service loads.

3 Aircraft Hangars and Transport Buildings



- ▶ Wide openings require unobstructed operating areas.
- ▶ Controls: clear opening, truss depth, wind load, transport segmentation and lifting points.

4 Heavy Industrial and Energy Buildings



- ▶ Additional support for ducts, cable trays and localized equipment loads.
- ▶ Controls: concentrated loads, vibration, inspection access and connection reinforcement.

5 Stadiums and Large Public Roofs



- ▶ Exposed long-span roofs coordinate structure, architecture, lighting and services.
- ▶ Controls: geometry, visible weld quality, deflection, drainage and erection joints.

6 Terminals and Large Covered Facilities



- ▶ Repeating truss bays create wide sheltered spaces.
- ▶ Controls: repetition accuracy, support elevation, purlin interfaces and assembly numbering.

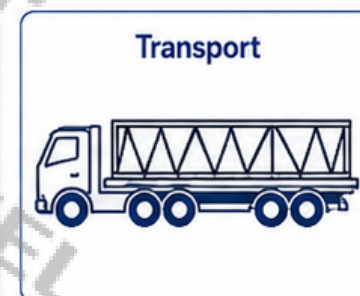
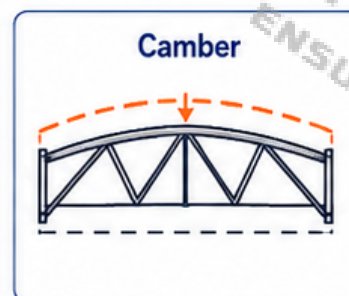
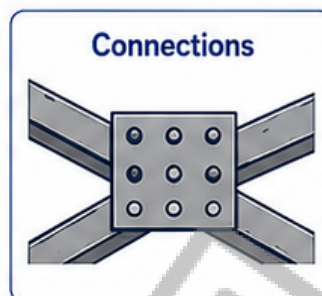
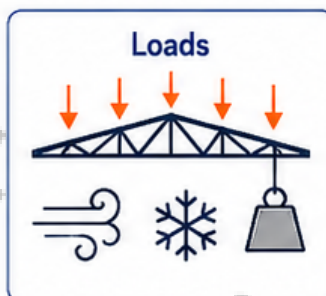
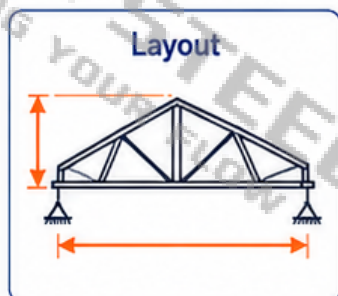


Industrial steel trusses are used where large clear spans, repeated bays or complex service integration are required. Final configuration remains project-specific.

Information Required for Steel Truss Fabrication

Steel trusses are fabricated according to project drawings and load requirements. The span and roof slope alone are not enough to define the member sections, connections or delivery form.

Information	What to Provide	Why It Is Needed
1 Building Dimensions	Clear span, truss spacing, support elevation, roof slope and available structural depth	Defines the overall truss size and its connection with columns, purlins and roofing.
2 Design Loads	Dead load, roof live load, wind, snow, suspended services and equipment loads	Determines chord forces, web-member forces, connections and deflection.
3 Truss Layout	Approved truss shape, panel arrangement, chord profile and bearing locations	Prevents the fabricator from selecting an unsuitable web arrangement.
4 Member and Material Details	Section sizes, steel grades and applicable product standards	Controls material purchasing, welding and traceability.
5 Connection Drawings	Gusset plates, bolt holes, weld details, bearings and adjoining steelwork	Ensures correct force transfer and site fit-up.
6 Camber and Dimensions	Required camber, finished geometry and project tolerances	Controls roof level and separates intentional camber from fabrication distortion.
7 Inspection and Surface Requirements	Weld inspection, specified NDT, coating, galvanizing and documentation	Defines the inspection and release scope before shipment.
8 Transport Limits	Maximum shipping size, site access and approved field-splice locations	Determines whether the truss is delivered complete or in marked sections.



Use one consistent piece-mark system across drawings, fabrication, inspection and packing documents.

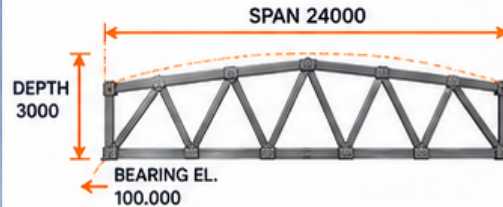
Steel Truss Inspection, Traceability and Shipment Release

1 MATERIAL IDENTIFICATION



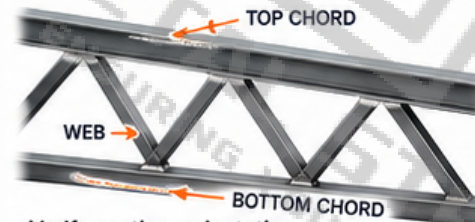
Confirm section, grade, heat or batch reference and material-document traceability.

2 OVERALL GEOMETRY



Check span, depth, roof profile, bearing elevation, camber, sweep, twist and out-of-plane alignment.

3 CHORD AND WEB MEMBERS



Verify section, orientation, finished length, end profile and correct panel position.

4 NODE GEOMETRY



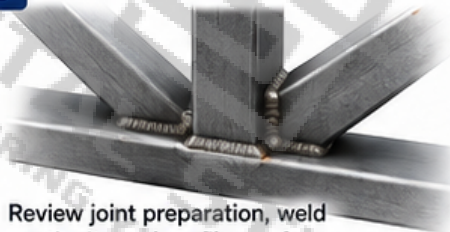
Confirm node position, member-centerline alignment, connection access and local reinforcement.

5 HOLES AND FIELD SPLICES



Verify hole arrangement, matching components, orientation and assembly references.

6 WELD CONDITION



Review joint preparation, weld continuity and profile; perform NDT where required.

7 SURFACE AND ATTACHMENTS



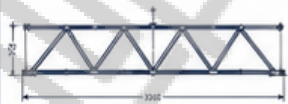
Check surface preparation, coating condition, secondary attachments and visible damage.

8 PIECE MARKING



Confirm piece marks, erection references and packing references remain visible.

Approved Fabrication Drawing



Material Heat / Batch

GRADE 350
HEAT A123456

Member Piece Mark



Dimensional and Weld Records



Surface Record



Packing List



Shipment Release



GEOMETRY ACCEPTED

Measurements within tolerances and alignment requirements met.



CONNECTIONS VERIFIED

Holes, splices and welds match approved drawings and references.



SURFACE PROTECTED

Coating intact and protected for transport; attachments secured.



PACKING MATCHED TO ERECTION SEQUENCE

Pieces bundled, labeled and sequenced per erection plan.



A structurally correct truss can still delay erection if splice orientation, bearing elevation, hole alignment or assembly marking is incorrect.