ESC Steel Structures
2022 Edition

Delivering HIGH QUALITY STRUCTURAL STEEL FABRICATIONS to the Americas

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ESC Steel Structures
An Affiliate of:

ESC Steel LLC

Marubeni Itochu Steel

Towers & Jacket Structures
Port and Offshore Structures
Material Handling Steel Buildings
Prefabricated Steel Buildings
Pressure Vessels
Bridge Structures
Industrial Structures
Smoke & Storage Tanks
Heavy Duty Fabrication

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TABLE OF Contents

04  About ESC

05  Design & Value Engineering

06  ESC Certifications

07  Industries & Customers

08  Manufacturing Capability

09  Fabrication Capability
    Bridge Structure

11  Port & Offshore Structures

13  Prefabricated Steel Building

15  Heavy Structures

17  Bailey Bridge

19  Other Projects

20  Installation & Erection
    Packing & Protection

21  ESC Product Catalogs
ESC STEEL STRUCTURES

A top provider of structural steel fabrication to projects around the world. At ESC Steel Structures, we are firm believers that to provide true value to our customers, we need to do more than just provide the lowest bid to our competitors. We take an active role in the industry, investing in developing long term customer relationships, whilst providing high quality, timely delivery of all our products.
ESC Group has been in operation for over 30 years. ESC Group diversified its business over the last 10 years to fabricating and supplying steel structures for various industries. ESC is committed to delivering timely fabrication of steel structures and components to client specifications, standards and delivery requirements.

ESC’s services to complement its steel structure fabrication capability includes:

- Detailing Design Drafting Services—shop drawing, connection detailing, installation drawings
- Structural Calculations & Finite Element Analysis
- Raw Material Procurement
- Inspection & Testing (3rd Party Independent or ESC)
- Logistics
- Full Quality Documentation and MDR with full traceability
- Project Management/Coordination with client and other contractors

The ESC companies have up-to-date ISO 9001, ISO 14001 & ISO 45001 quality, environment, health and safety management system certification.

**QHSE Policy**

Quality, Health & Safety and the environment are paramount to ESC Steel Structure’s daily operations. We are fully committed to providing a safe working environment for our people and others. We have a dedicated QHSE Manager on-site, who oversees policy development, implementation and assessment whilst ensuring compliance with current legislation.

**ESC serves the global market from a range of strategic locations.**

**ESC Group operates in 20 countries around the world.** In North America, the main offices are located in North Carolina and Texas. The activities of the entire North and South America are coordinated from these offices along with those in Mexico & Brazil.

**ESC Global Locations**

Our QHSE System is approved to
ISO 14001:2015 & OHSAS 45001:2018

This helps us at ESC to provide support and protection to our staff, colleagues and the environment.

ESC Steel Structures liaises with external consultants to provide a complete Health and Safety Management System, which is outlined in our Health & Safety Policy and highlights our commitment to Health & Safety for staff and others.

Safety is one of our core values. We care about our staff and our colleagues, as well as the environment they work in. We have a Training & Development Programme in place for all staff, which includes QHSE training to ensure all of our QHSE policies and procedures are adhered to at all times.
ESC’s project engineers are from a wide range of backgrounds, including aerospace, mechanical, civil, offshore oil & gas, nuclear, renewables and more. ESC offers clients a dedicated project engineer for every order, who is the focal point for communication and technical queries. This makes project management more seamless and hassle-free to the client. We understand the need to interact closely with contractors, design consultants, owners and other project stakeholders.

ESC’s engineering support capabilities include:

- Budgetary pricing estimates
- Engineering calculations in compliance with standards
- 2D and 3D CAD Draughting for layout, shop, welding and other drawings
- Finite Element Analysis
- 3D visualisation and animation services
ESC Certifications

Company Certifications

ESC and its prequalified factories offer a diversified set of international certifications enabling it to undertake complex projects around the world in adherence to country and/or region specific standards. The certifications cover special fabrication, welding, testing, quality management systems and corrosion protection systems.

ESC Personnel Certifications

ESC’s highly skilled and multi-disciplinary personnel are adept to handling projects of various scopes, complexities and requirements. ESC’s continual investment in company and personnel certification translates to high quality products that meet the most rigorous international standards.
Industries & Customers

Our Industries

Bridge Structures
ESC is experienced in delivering steel girders, arches and miscellaneous items for bridge construction

Pre-Engineered Buildings
ESC is an expert in supplying prefabricated or pre-engineered building sets

Oil & Gas Industry
Structural Steel such as subsea modules, platforms, risers & jackets

Marine & Offshore Industry
Structural Steel such as subsea modules, platforms, risers & jackets

Rail & Energy Industry
ESC is adept to fabricating components such as platforms, decks, poles, masts, frames and other overhead structures

Mining Industry
ESC is able to supply components such as rail cars, excavator buckets, offroad truck bins, drag lines and conveyors

Materials Handling Structures
ESC has delivered materials handling structures to one of the top specialist heavy lift contractors in the world

Process Equipment
Structural Steel such as subsea modules, platforms, risers & jackets

Our Customers
Capabilities of ESC in Structural Steel Fabrication includes Steel Bridge Structures, Pre-engineered Steel Buildings / Prefab Steel Buildings, Offshore Steel Structures, Heavy Steel Fabrication, Pressure Vessels, and Material Handling Structures.

ESC supplies steel columns, purlins, frames, trestles, beams, trusses, conveyor gantries, mineral processing plants, crusher and screening structures, bridges, walkways, ROM bins, stairs, platforms, handrails, guards, grating, conveyor supports, frames, towers, pipe racks and mechanical support steel.

**Key Statistics**
- 300,000 mT Annual fabrication capacity in total more than 15 factories
- 5,381,955 ft² (500,000 m²) covered fabrication working shop areas
- 1,076,391 ft² (100,000 m²) covered blasting and painting working shop
- 21,527,821 ft² (2,000,000 m²) open yard area in total more than 15 factories
- 800T gantry crane
- 2500 mT lifting capacity of floating crane
- 1800 mT per work piece can be handled and load vessel directly
- > 328.084 ft (>100 m) long work piece can be handled and load vessel directly
- 26,247 ft (8000 m) waterfront shoreline with more than 20 berths for international vessels and barges

**Logistical Advantage**
Facilities with vast capacity and capability for fabrication, corrosion protections, storage, lifting and handling, trial assembly, completely assembly, barge loading and even international vessel loading directly from the factory. Stowage plan reviews, confirmation, loading survey and lashing inspections are frequently carried out.

**Steel Materials**
ESC uses steel raw materials for its fabrications from a select number of high quality steel mills in a wide range of steel specifications and grades.

**Conformance to International Standards**
ESC uses steel raw materials for its fabrications from a select number of high quality steel mills in a wide range of steel specifications and grades.
ESC has a growing track record of providing high quality bridge structure fabrications in conformance to various international and project standards. Due to a wide client reach, ESC is able to offer a wide range of steel grades for example ASTM A709-50W Weathering Steel and also conform to regional legal requirements such as CE marking. Other important components can be provided such as formwork, elastomeric bearing sets, bolting, hand rails and scuppers. A full suite of CAD tools, state of the art machinery, skilled operators and welders, certified quality team, knowledgeable logistics personnel, project management staff and calibrated dimensional measurement equipment all ensure good end product quality delivered on time and on budget.

**Bridge Structure Capabilities**

- Heavy truss structures
- Multiple plate girders
- Trapezoidal box girders
- Movable Bridges - eg Bascule, Swing
- Box or Pipe Arch
- Temporary or Modular bridges
- Special Bridges

**Fabricated Components**

- Steel Arch & Columns
- Girders
- Formworks, Handrails, Stairs
- Bridge Bearing
- Gantry Mast
- Aircraft Hangar

**Fabrication Capabilities**
Ambogo & Eroro River Bridge, PNG
Project Location: Papua New Guinea
Delivery Date: Oct 2015

Al Ittihad Footbridge Arch, UAE
Project Location: Sharjah, United Arab Emirates
Delivery Date: Oct 2016

Girua and Kumusi River Bridge, PNG
Project Location: Papua New Guinea
Delivery Date: Aug 2015

New Britain Bridge Project, PNG
Project Location: Papua New Guinea
Delivery Date: Jan 2016
ESC was awarded the job to supply painted steel structure for 12 bridges for New Britain Bridge project manufactured in accordance with Australia standards

Mumbai Trans Harbour Link, India
Project Location: India
Delivery Date: Dec 2018

Bridge Structural Steel Spuds, Philippines
Project Location: Philippines
Delivery Date: Jan 2019 to Sept 2020
ESC can provide full fabricated sets and assemblies for the construction and upgrade of port facilities alongside its extensive piling product range. ESC has worked with reputable clients around the world on prestigious and challenging projects.

**Port & Offshore Structures Capabilities**

- Pipe piling with fabricated components—shear rings, grouting pipes, lifting eyes, flange mounting, stiffeners
- Fender & Bollard Mounting Brackets & Structures
- Spreader Beams and handling equipment
- Cast components—bollards, anodes
- Walkways—gangway, catwalks complete with stairs, grating, hand rails
- Mechanical structures
- Reefer Racks
- Miscellaneous components—access ladders, signage, edge protectors, chains

**Fabricated Components**

- Steel Pontoons
- Fabricated Pipe Piling
- Gangways and Platforms
- Fender System
- Mooring Bollards
- Steel Piling
RECENT PROJECTS

Greensport Terminal, United States
ESC delivered the combined wall system for the port expansion in Texas, United States. This consisted of Tubular Piles with Cold Formed Connectors and Steel Z Sheet piles. ESC also supplied the tie rod system, anchor wall system and mooring bollards. A corrosion protection coating was applied to the steel piling system and the tie rods were hot dip galvanized.

Mare Harbour Dolphin Piles, Falkland Islands
ESC’s scope of work was to fabricate and supply a series of steel mono piles to Volker Stevin, UK. Each steel dolphin pile included fender mounting brackets and stiffeners, bollard supporting plates and topside decks. The dolphin pile design incorporated a mounting flange for a cone fender system that weighed in excess of 15 metric tons that was each capable of absorbing over 2,169,904 pound foot (300 ton metres) with over 250 tons reaction force.

Hinkley Point C Nuclear Power Station Jetty Piles, United Kingdom
ESC’s scope of work was to form and fabricate a series of steel pipe piles, some of which were acting as dolphins and some to support the berthing island decking. The pipe diameters ranged from 914mm and 1778mm all at 25mm thickness. Lengths also varied between 4.0m up to 19.398m. Steel grades utilised included S355J2+N (including Z35 through thickness), S420M and S460M.

BHP Tug Harbour Pontoon, Australia
ESC Steel Structures scope of work was for the fabrication of 4 large pontoons and 4 gangways. The size of each pontoon was between 98.4 and 170.6 ft (33 and 52 m) in length and it was fabricated in 2 halves initially inside the factory. Only at the last stage were the 2 halves joined at the factory loading area. ESC also fabricated and/or fitted other components such as: removable handrails, cathodic protection anodes, fender flange connections and bollards.
Prefabricated steel buildings offer numerous advantages to both conventional building materials and on-site construction. Building erection can take a fraction of the time—as low as one third. ESC offers a reliable solution to such prefabricated structures.

**Prefabri cated Steel Building Capabilities**

- Commercial and Industrial buildings—factories, processing plants, offices, warehouses
- Agricultural buildings—barns, dairies, equipment storage sheds, offices and more
- Aircraft Hangers for planes, jets and helicopters
- Automotive, boat and other vehicle dealerships

The building systems can provide numerous practical advantages like column free design for maximum work space, great structural integrity against natural force such as wind and snow.

ESC completes trial assemblies of components as standard practice to minimize any assembly problems on site. Hot Dip Galvanization & various coating system options are available to the client. Specially fabricated storage frames enable easy handling and adequate protection during transportation.

**Fabricated Components**

- Large Span Warehouses
- Aircraft Hangars
- Buildings
- Factory
- Agricultural Structures
- Tower & Mast Structures
**RECENT PROJECTS**

**Air Traffic Control Tower, Australia**
- **Project Location:** Australia
- **Delivery Date:** Aug 2017

**SP Brewery, Papua New Guinea**
- **Project Location:** Port Moresby, PNG
- **Delivery Date:** Jan 2014

**East Sale Aircraft Hangar, Australia**
- **Project Location:** Sale Victoria, Australia
- **Delivery Date:** May 2017

**Caulfield to Dandenong Level Crossing Removal Railway Masts, Australia**
- **Project Location:** Victoria, Australia
- **Delivery Date:** Nov 2017

**Islington Warehouse, Australia**
- **Project Location:** Australia
- **Delivery Date:** Mar 2020

**Bridge Philippines**
- **Project Location:** Philippines
- **Delivery Date:** Jan 2020
ESC is adept for supplying large, heavy and difficult to transport steel structures for a range of industries. Having delivered to customers around the world, ESC is experienced in complying to international and project specific standards.

**Structural Steel within ESC’s capabilities include:**
- Crane and Material Handling Structures
- Caissons, Roro Ramps
- Towers & Jackets Structures
- Pressure Vessel Structures

**Fabricated Components**
RECENT PROJECTS

Modular Transport Beam System, United Kingdom
ESC Steel Structures in the Malaysia facility was awarded the fabrication scope by globally respected heavy lifting and transport contractor ALE Heavylift BV based in the Netherlands in 2013 to produce 10 heavy transport beams, for a total of over 200 tons. These beams were to be utilised in a reusable platform for skidding large and heavy items for example, an oil platform on and off the sea.

There are 6 central beams with lugs on both ends and 4 end beams with lugs on one end only - to form a two sided 180 feet (55 m) length platform that can be rolled along the ground.

The project was successfully delivered in the United Kingdom in July 2013 and since been reused for numerous heavy lifts.

Rondout Bypass Tunnel, United States
ESC was awarded a scope of work from the New York City Environmental Protection Agency to fabricate multiple large steel components for the access shaft for the Rondout Bypass Tunnel in New York City. The bypass tunnel is 13,123 ft (4,000 m) long and runs in parallel to the problematic area that is leaking more than 20% of the freshwater supply from the aqueduct to the New York City water grid.
Bailey bridging solutions are used in a variety of applications employing either the original or improved designs. While then regarded as a warfare breakthrough, the Bailey Bridge in the post-war era is a great civil engineering innovation and booster to socioeconomic development. This is because of the structure’s continues deployment in establishing vital connections and delivering supplies especially to remote areas.

Bailey bridges are used to extend help to places hit and isolated by natural disasters, war, or terrorism. They are instrumental in bringing-out tribes to civilized communities to access proper education and medical, political, and social rights.

**Structural Steel within ESC’s capabilities include:**

- ESC-Compact-100 Bailey Bridge
- ESC-Compact-200 Bailey Bridge

**Fabricated Components**
BAILEY BRIDGE

ESC-Compact-100 Bailey Bridge
Among the crafts of ESC in steel bridges is the Compact-100 (CB100) Bailey Bridge, or the so-called 321-Panel Type Bridge. The bridge panels are composed of welded high-grade structural steel elements. The girders are lightweight composite panels connected by sturdy steel pins. Panels and components of the steel bridge are easy to handle and transport, can be interchanged, and are simple to erect and disassemble. They can also be assembled into different forms of panel bridges according to their span length and transportation requirement.

Compact-100 Bailey Bridge or 321-Panel Type Bridge is suitable for short to medium spans or light to moderate loads. It can stand to a maximum free span length of 51 meters (167.30 feet), with a deck net width of 4 meters (13.10 feet). Being lightweight, this bridge type is guaranteed for emergency and difficult situations. Different configurations and dimensions of bridge panels can also be custom-built.

ESC-Compact-200 Bailey Bridge
Compact-200 or CB200 model is an upgrade of the Bailey bridge CB100 in terms of load capacity and span length. With panel heights increased to 2.13 meters (7 feet), it can cover maximum free span of 60.96 meters (200 feet) for single lane width and 45.72 meters (150 feet) for double lane width. Pre-arch or camber is employed to counter deflection of the bridge at the mid-span. All bolted connections are equipped with orienting sleeves to ensure that compression forces are absorbed by the sleeve and tensions by the bolts. This helps to increase the life span of the bolts and generally the safety of the panel bridge. Composite braces against wind loads are also provided and connected to the transoms or girders to enhance the overall stability of the bridge especially against side bending.

The model also identified as HD200 and ZD200 is suitable for load designs such as HS-15, HS-20, HS-25, HL-93, Pedrail-50, and more.
OTHER PROJECTS

South 32 Gas Risers, Australia
ESC was awarded a scope of work to produce over 1.24 mi (2 km) of onshore methane gas risers. Each riser section had precision machined grooves to Victaulic AGS Roll Groove Specifications. The pipes were galvanised with an average thickness of more than 85 microns. The pipes were manufactured in accordance with API 5L PSL1 in Grade X42. The ends were welded with spiders to prevent any deformation during handling and stacking.

Steel Frame for Anode
Project Location: Australia
Delivery Date: May 2020

Stainless Steel Ornamental Cross for Main Bridge
Project Location: Philippines
Delivery Date: Dec 2019

Heavy Box Column for Auxiliary Bridge Structure
Project Location: Philippines
Delivery Date: Sep 2020

Coated Stainless Steel Edge Protection for MICT Berth 7
Project Location: Philippines
Delivery Date: Dec 2020
INSTALLATION & ERECTION

ESC offers a network of pre-approved installers in various countries around the world as well as its strong installation arm in the United Arab Emirates catering to the Gulf Region. This allows ESC to provide a full end-to-end solution to structural steel projects.

Contact ESC for more information.

PACKING & PROTECTION

ESC is dedicated to ensuring that its products arrive to the customer with minimal or zero damage. ESC frequently provides protective frames and packing to ensure that its products arrive to your site in pristine condition. All components are also properly labelled to enable efficient site assembly.

ESC has experienced in proper packing, securing and loading/unloading sequences for all sizes and types of cargoes in both containerised and bulk vessel shipping.
ESC Product Catalogs

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