PROJECT PROFILE

ME-37

Client

Walbridge
Detroit, Michigan
Brown Builders
Bossier City, Louisiana

Objective

Provide structural engineering, materials procurement and steel erection for a steel tube manufacturing facility.

Performance Results

Eleven months steel erection start to finish.

Perspective

BlueScope Construction was approached by the general contractor after initial estimates for a conventional steel structure were over budget. BlueScope provided an alternate hybrid solution combining pre-engineered and conventional steel. The project includes a tube rolling and finishing mill, billet storage area and all related electrical and mechanical utility buildings.

The facility was incredibly complex with over 6,000 tons of steel and several parallel crane aisles with crane capacities up to 35 metric tons and multiple cranes in each aisle simultaneously. The tallest crane aisle includes a 122' span and a 70' eave height. Due to equipment layouts, there are several locations where placing a column was not possible and the crane beams needed to be able to span either 80' or 120' instead of the normal 40' spacing. One of the crane beams was 120' in length, 10' deep, and weighed 78,000 pounds. This is a significant challenge in fabrication, delivery and safe installation.

BlueScope utilized 5 internal design teams to meet the aggressive steel fabrication and delivery schedule. To meet necessary dates, structural design was completed before all process equipment design. Utilizing 3D models to confirm that the building structure was not interfering with other systems was essential. The models were also used by the steel erection crews as they built the project.

BlueScope's steel erection crew pre-assembled much of the roof structure on the ground and then lifted the pods, reducing many of the connections that would have had to been made in the air. This resulted in a faster and safer steel erection.

BlueScope Construction's engineering staff and steel erection crew were up to the challenge and the project completed on time and budget without a recordable safety incident. The finished mill is capable of producing up to 320,000 tons of steel tubes annually.

Location Steel Tube Manufacturing Facility
Shreveport, Louisiana

End Use Manufacturing plant

Size 704,000 square feet

Structure Hybrid structure mixing pre-engineered and conventional components for the most economical solution.
Walls: Butlerib® II metal wall system with five different custom colors
Roof: MR-24® standing seam metal roof system

Architect SSOE, Inc.

Structural Engineering
BlueScope Construction, Inc.

BLUESCOPE CONSTRUCTION

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