

# ZPMC steel fabrication

SIGMASHIELD™ 880 protects and enhances productivity

## Case study



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### The Customer

Zhenhua Heavy Industries, Co., Ltd. (ZPMC)

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### The Location

Nantong, China

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### The Challenge

Easy application characteristics and efficient drying to meet aggressive steel fabrication schedules

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### The Solution

PPG SIGMASHIELD 880 (grey)

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### The Benefits

- Faster drying
  - Abrasion resistant
  - Single coat up to 1,000 µm (40 mils)
  - Better crack- and sag resistance at high-film thickness
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### The Result

- Easy application – saves labor and time
  - Faster drying and shorter time to service
  - Protects under aggressive environments
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### The Customer

ZPMC is a heavy-duty equipment manufacturer with eight production facilities located in Shanghai, Nantong and Jiangyin. The ZPMC Nantong facility was established in 2006 and is located along the Yangtze River north of Shanghai. It consists of 17 cross-owned steel workshops that manufacture conventional port machinery products, large steel bridges, gantry cranes, marine floating cranes, and ship fittings. It currently yields 15,000 tons of steel per month and is the world's largest heavy-duty equipment manufacturer.

### The Challenge

A resilient, long-lasting coating is critical for the massive, heavy-duty structures and equipment that ZPMC manufactures in its many production facilities. Ease of application for coating large fabrication products of varied geometries is a high priority. A consistent, fast-drying capability is required for efficient operation of ZPMC's facilities to meet production schedules and increase the rate at which projects are completed. Since a major portion of their products go into bulk handling for the mining industry, the coating for these products must be highly protective. ZPMC also manufactures offshore structures, where protection from coastal environments and abrasion- and corrosion resistance in tidal zones are demanded. In addition to protective properties, these coatings must also have aesthetic appeal.





### The Solution

The SIGMASHIELD 880 coating was selected because of its ease of application, fast-drying capability and ultimate performance, including excellent corrosion- and seawater resistance.

The SIGMASHIELD 880 coating's high-film thickness capability in one coat allows for efficient fabrication application providing labor- and cost efficiency. The resistance to sagging even at a very high-film thickness was desirable for ZPMC's wide range of fabrication products.

### The Benefits

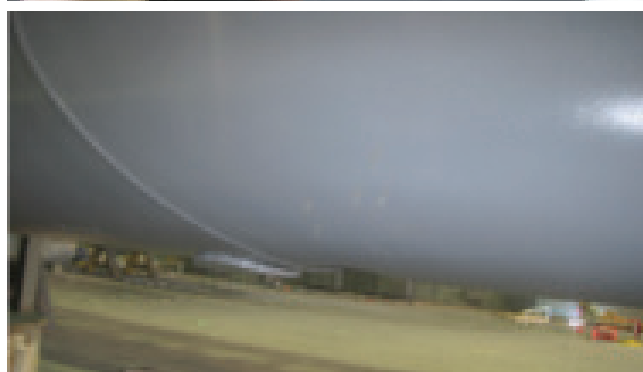
The SIGMASHIELD 880 coating was applied to a steel structure support at a ZPMC facility in Nantong after blasting the substrate to Sa2 specification. The film thickness average was 400 microns (15.7 mils), with some areas greater than 800 microns (31.5 mils), providing long-lasting abrasion resistance in a single coat.

The steel support was dry-to-handle in just 6 hours and fully cured after 20 hours, allowing a fast transition to the next ZPMC project and maximizing efficiency of the ZPMC workshop space.

### The Result

ZPMC technical personnel were pleased with the SIGMASHIELD 880 coating's ease of application, with excellent film formation properties, and its leveling, fast-drying and cure characteristics.

The final inspection yielded an excellent aesthetic appearance with no evidence of sagging or cracking even at coating thickness beyond 800 microns (31.5 mils).



**First image:** Mixing

**Second image:** Application

**Third image:** Testing thickness

**Fourth image:** Final inspection

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