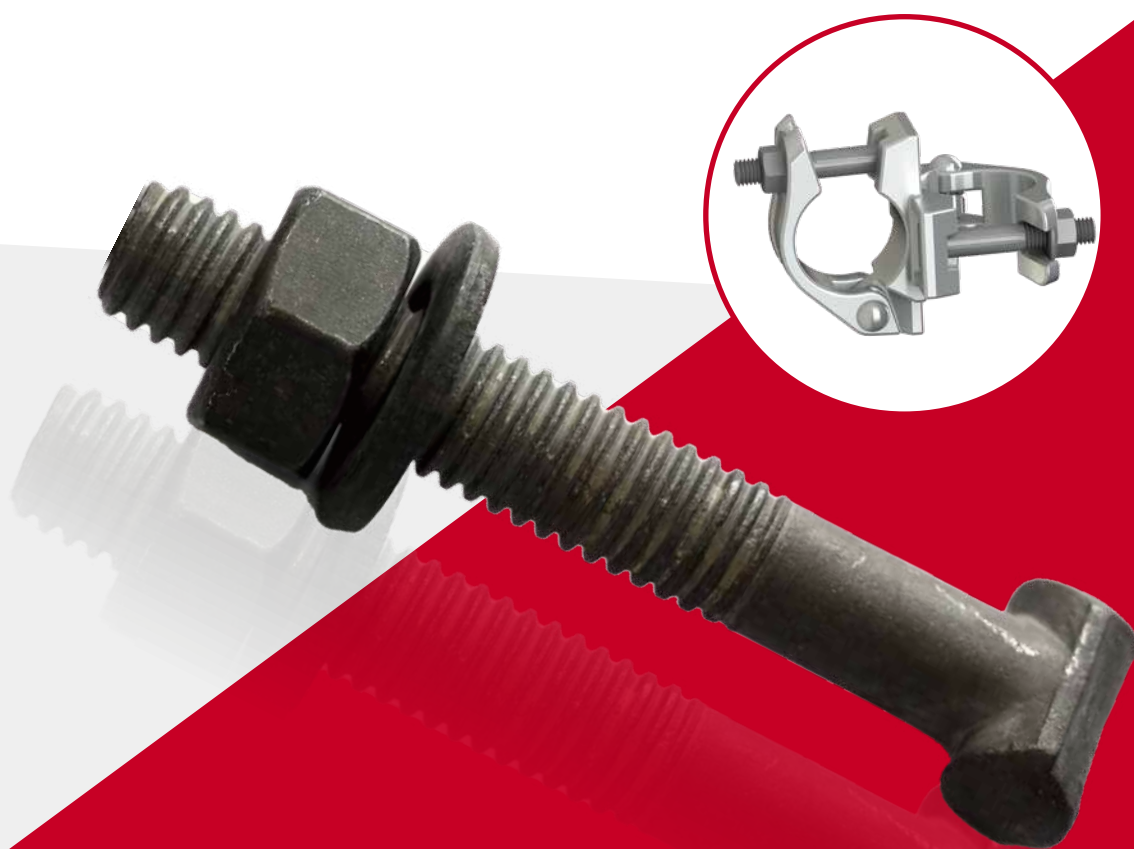


# Powder Zinc-Diffused Bolts for Couplers

A New Benchmark for Construction Fastening Safety



**Wenma Forming and Shoring Co., Ltd.**



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In the field of construction, bolts for couplers are core components for building stable scaffolding and ensuring construction safety. Powder zinc-diffused bolts, with advanced technology and superior performance, provide reliable solutions for construction and industrial fastening needs, redefining industry standards.

#### **Advanced Zinc Diffusion Technology: Laying a Solid Protective Foundation**

Powder zinc diffusion adopts diffusion metallurgical bonding technology, enabling zinc atoms to penetrate deeply into the bolt matrix. Unlike electro-galvanizing (mechanical bonding with limited protection) and hot-dip galvanizing (poor uniformity), it achieves a precisely controlled 55 $\mu$ m diffusion layer thickness, which evenly covers the bolt threads and surface, forming a dense protective layer and establishing a long-term anti-corrosion barrier from the source.





## Excellent Performance: Safeguarding Safety and Efficiency

### Superb Corrosion Resistance for Complex Environments

Powder zinc-diffused bolts have a corrosion resistance life of over 20 years, far exceeding traditional galvanizing processes. Zinc-diffused parts can resist rusting for up to 500 hours in salt spray tests, with corrosion resistance 2 times higher than that of hot-dip galvanized parts. They can resist erosion from high-salt sea breezes in coastal construction, withstand chemical pollution in chemical industrial areas, and endure long-term seawater immersion in marine engineering, ensuring the stability and safety of key components such as offshore platforms and cross-sea bridge piers.



**Hot-Dip Galvanizing**



**Zinc Diffusion**

Comparison of Salt Spray Tests Between Hot-Dip Galvanizing and Zinc Diffusion Under the Same 500-Hour Conditions

### High Hardness and Strong Adhesion for Stable Connections

The bolts have a strength grade of 8.8, a hardness of Hv200-400, and the zinc diffusion layer has the highest industry adhesion strength of Grade 1. They can maintain thread integrity during frequent assembly and disassembly, and tightly engage with couplers when bearing loads and vibrations, ensuring the stability of scaffolding.

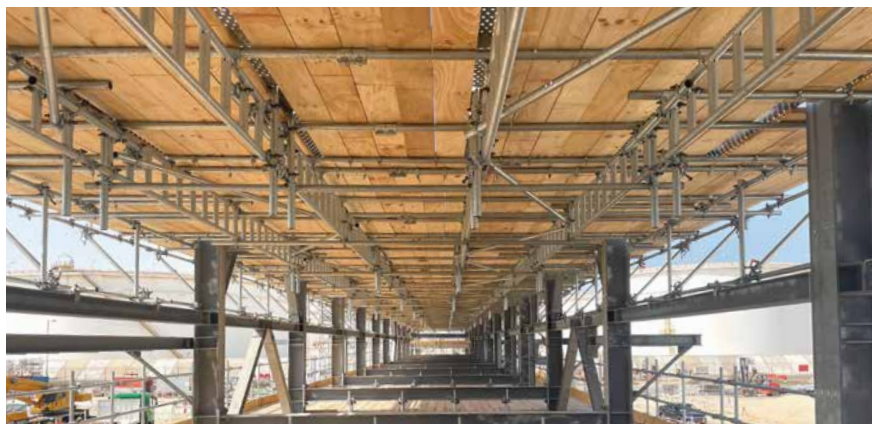
### No Hydrogen Embrittlement Risk: Safe and Secure

Free from hydrogen embrittlement throughout the process, they meet high-strength requirements, eliminating the risk of fracture in heavy-load scenarios such as high-rise buildings and protecting the safety of personnel and equipment.

### Heat Resistance and Dimensional Stability

They have excellent heat resistance, maintaining stable performance near welding areas; with minimal dimensional change, they fit precisely with couplers, ensuring construction accuracy and efficiency.

## Full-Scenario Adaptation: Driving Industry Upgrades



Widely used in construction scaffolding, bridges, rail transit, as well as chemical reactors, marine engineering platforms, ship structures and other scenarios, they cover multi-field needs with safe, stable and durable performance, helping the construction, chemical and marine engineering industries move towards high-quality standards.

Choose powder zinc-diffused bolts for couplers, and let every connection become the cornerstone of quality and safety.



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#### Headquarter

**Wenma Forming and Shoring Co., Ltd**  
E2-16, Binhai International Business Park  
199 Haiyuan Road, Binhai New Area, Tianjin  
300451, P.R. of China  
info@iwenma.cn www.iwenma.cn  
+86-13820121101

**Wenma Scaffolding Solutions Co., Ltd**  
E2-16, Binhai International Business Park  
199 Haiyuan Road, Binhai New Area, Tianjin  
300451, P.R. of China  
info@iwenma.com www.iwenma.com  
+86-13820121101

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#### Hong Kong, China

##### Wenma Forming & Scaffolding (H.K.) Limited

Unit11, 16/F, Metropole Square, No. 2 On Yiu Street, Shatin, N.T., Hong Kong  
+852-90897537 +852-23682855  
info@iwenma.com hk@iwenma.com  
www.iwenma.com

#### Qatar

##### Wenma Scaffolding Solutions and Services W.L.L.

3rd floor Room No: 307, Building No.8, Street No.820, Zone No.18, PO Box  
47570, Doha, Qatar  
+974-40207526 +974-44315667  
info@iwenma.com www.iwenma.com

#### Malaysia

##### Wenma Scaffolding Solutions And Services (M) SDN. BHD.

A-23-12 Menara The Met, Block A Level 23, Menara The Met, No 20 Jalan Dutamas  
2, 50480 Kuala Lumpur  
info@iwenma.com www.iwenma.com  
+86-13711029889

#### Saudi Arabia

##### Wenma Scaffolding Co., Ltd.

Building 4294, Al khaliq Rd, 7943 Az Zhuhur Dist., 32423 Office 12 Dammam city,  
Saudi Arabia  
info@iwenma.com www.iwenma.com

#### United Arab Emirates

##### WENMA SCAFFOLDING SOLUTIONS -L.L.C - S.P.C

Saeed Bin Ahmed Al Otaiba, 403St, AL DANAHA, Abu Dhabi, Abu Dhabi  
+971- 551687567