

# EXOTHERMIC WELDING

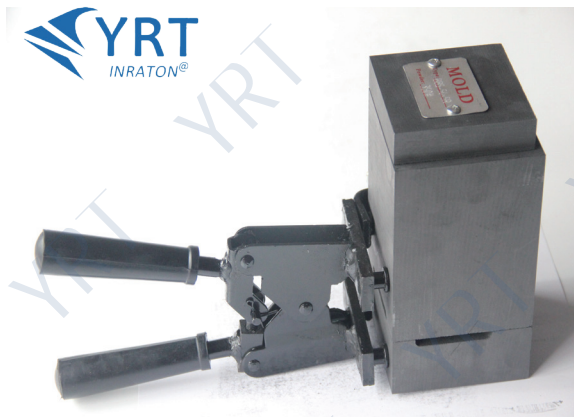
## Portfolio

Jiangsu YingRuiTong Electrical Equipment Co.,Ltd

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# Exothermic Welding Overview



Exothermic welding is a high-performance bonding process that utilizes the heat generated by a chemical reaction to create permanent electrical connections between conductive materials. The process requires no external power source or heating equipment.



## Graphite Mold

The reaction takes place inside a specially designed graphite mold made from high-temperature resistant, semi-permanent graphite, ensuring durability under extreme welding temperatures.



## Engineered for precision

Each mold incorporates precisely engineered components, including the mold cavity, pouring chamber, and reaction chamber. The cavity geometry, dimensions, and molten metal flow paths are carefully designed according to specific connection requirements.



## Applications

Exothermic welding is widely used for bonding conductive materials such as copper, brass, bronze, pure copper, copper bonded steel, stainless steel, wrought iron, galvanized steel, cast iron, and other metallic conductors, making it suitable for grounding, bonding, and lightning protection applications across various industries.



Building Construction



Power Transmission



Industrial Facilities



Railway Systems



Solar & Renewable Energy



Lightning Protection

# Advantages of Exothermic Welding

## Permanent Molecular Bond

The welded connection forms a permanent molecular bond that will not loosen over time and offers excellent resistance to corrosion and degradation.

## Superior Electrical Conductivity

The welded joint has electrical conductivity comparable to the connected conductors, ensuring stable current-carrying capability with minimal temperature rise.

## High Current Carrying Capacity

The connection can withstand repeated fault currents and lightning surges without deterioration, providing long-term reliability in grounding and bonding systems.

## Highly Portable

The welding equipment is lightweight and easy to transport, making it suitable for installation work under various field conditions.

## Fast Installation

The welding process is quick and efficient, helping reduce installation time and labor costs.

## Simple Operating Procedure

No highly specialized welding skills are required, allowing operators to perform installations with minimal training.

## Consistent Weld Quality

Our stable chemical formulas and standardized molds ensure uniform reaction and zero reliance on operator skill, delivering flawless welds every single time.

## Low Heat Damage

Compared with conventional methods, exothermic welding minimizes thermal damage to insulation, reducing repair or replacement costs.

## QUALITY CERTIFICATIONS



**ISO 9001**  
Quality Management System



**ISO 14001**  
Environmental Management System



**ISO 45001**  
Occupational Health & Safety Management System

## COMPLIANT WITH STANDARDS



### UL 467

Designed to meet the stringent safety and reliability evaluation requirements of UL 467 for grounding and bonding equipment.



### IEC 62561-1

Tested and manufactured in accordance with IEC 62561-1 international standards for high-performance lightning protection and grounding connection components.



### IEEE Std 837

Engineering design and electrical performance alignment in accordance with IEEE Std 837 for permanent connections in substation grounding systems.

# Exothermic Welding Powder

Exothermic welding powder is the essential material to generate the high-temperature reaction required for permanent electrical connections. The quality of the powder directly determines the bonding strength, conductivity, and overall reliability of the welded joint.

Developed with a proprietary formulation, our powder is engineered to optimize the reaction process and enhance welding stability. It produces highly durable, flawless connections with smooth, bright surfaces and minimal porosity, ensuring excellent electrical and mechanical performance in grounding systems.

 **High Bond Strength**

 **Excellent Conductivity**

 **Smooth & Reliable Weld**

 **Long-Term Reliability**

## TWO PACKAGING OPTIONS

Fully Customizable Labels, Logos & Specifications



### Aluminium bag packaging

Easy to store and transport, cost-effective solution.



### Plastic tube packaging

High Impact Resistance and on-site Convenience.

## EXOTHERMIC WELDING TOOL KIT



Exothermic Welding Tool Kit includes:

- Tool Box
- Mold Cleaning Scraper
- Welding Torch
- Cleaning Wire Brush
- Propane Blow Torch
- Heat-resistant Gloves
- Cleaning Fiber Cloth

# Exothermic Graphite Mold

## Precision Manufactured In-House

YRT exothermic graphite molds are designed and manufactured in-house to deliver superior performance, extended service life, and consistent weld quality for a wide range of exothermic connections.



Customized mold configurations can be developed according to customer drawings and connection requirements.



## IN-HOUSE MANUFACTURING CAPABILITY



### CNC Machining

High-precision CNC machines ensure tight tolerances and excellent repeatability.



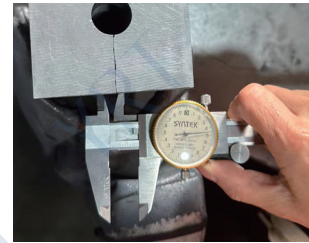
### Mold Design

Professional engineering team supports 2D/3D design and custom development.



### Quality Materials

Premium high-density graphite for optimized thermal performance and durability.



### Quality Inspection

100% inspection on key dimensions to ensure consistent and reliable performance.

## Fast Custom Production

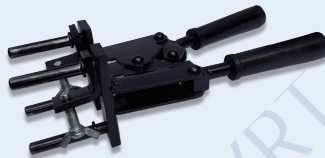
Efficient production process ensures short lead times for both standard and custom molds.

# 50+

## Average Service Life Under Proper Use

## MOLD CLAMP

Our handle clamps are designed to securely lock and align the graphite mold during the exothermic reaction, ensuring operator safety and consistent weld quality.



**Secure Locking**

Strong clamping force keeps mold tightly closed during reaction.



**Heat Resistant Handles**

Ergonomic, heat-resistant grips for safe and comfortable operation.



**Easy Operation**

Quick and easy to use, improving work efficiency and field productivity.

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## **Jiangsu YinRuiTong Electrical Equipment Co.,Ltd**



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