

# Avoid Common Errors

in Exothermic Welding

**Exothermic welding is crucial for the safety** of industrial electrical connections. **However, common mistakes can compromise** the entire project. **In this guide, we show you how to avoid these errors** and provide solutions to enhance connection performance using KLK's advanced technology.



# Top Common Errors:

All the mistakes you need to avoid to maintain quality in your connections.

In this guide, we reveal the most common errors we've identified in the use of exothermic welding kits and how to avoid them with practical, precise solutions. You'll learn to apply specific techniques that ensure solid, reliable, and long-lasting connections, optimizing efficiency and significantly reducing failures in your installations. Additionally, we'll help you enhance safety at every step of the process, ensuring a safe and controlled work environment for each of your electrical connections. With these recommendations from KLK, you'll be prepared to overcome any challenge and maximize the quality and safety of your projects.

## #01 MOISTURE IN MATERIALS.

Pre-Inspection

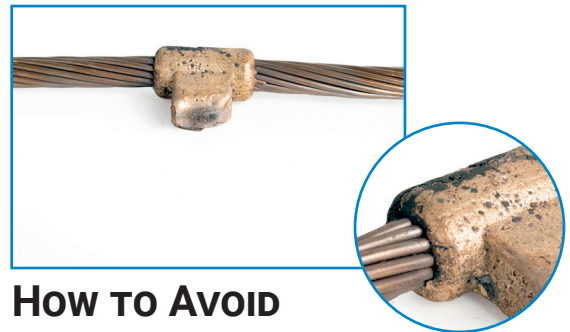


### HOW TO AVOID

Moisture is one of the main enemies of exothermic welding. It can create bubbles in the joint, weakening the structure and affecting its conductivity. Before starting, ensure all components are dry. This step can prevent many long-term issues.

## #02 RESIDUE IN MOLDS OR CONNECTORS.

Pre-Inspection

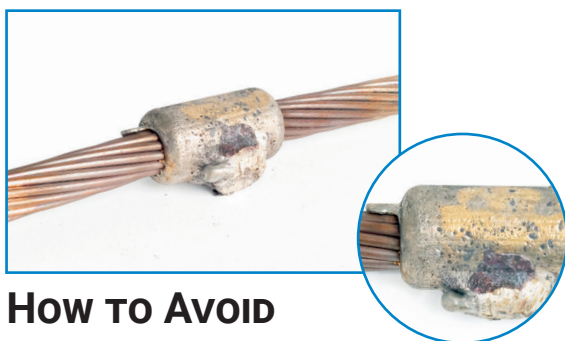


### HOW TO AVOID

Carefully inspect and clean the mold and materials to be welded, removing any remnants of previous welds, oxides, grease, or dirt. Use the scraper to clean the mold and the brush to remove residues from cables, rods, plates, etc.

## #03 FAILURE TO PREHEAT THE MOLD.

Pre-Inspection



### HOW TO AVOID

A cold mold can prevent the metal from settling correctly. Heating the mold for 5 minutes helps the weld flow smoothly, ensuring a solid and reliable connection. This step is essential to ensure the exothermic weld is uniform.

## #04 INCORRECT CABLE POSITION/SECTIONS.

Pre-Inspection



### HOW TO AVOID

Use cables of the correct gauge and ensure they are properly positioned in the mold. KLK's precision pure graphite molds hold cables securely in place, guaranteeing safe and durable connections for each type of exothermic joint.

## #05 MOLD NOT CLOSED.

Pre-Inspection



### HOW TO AVOID

Use the appropriate clamp for each type of mold and verify that it is fully closed and secured before starting the welding process. A secure closure with the correct clamp will prevent material leaks and ensure a high-quality weld.

## #06 DISK IN THE WELDING CHAMBER.

Welding Process



### HOW TO AVOID

It is very important to correctly place a single disc inside the chamber before pouring the aluminothermic powder. Verify that the disc is positioned as indicated in the instructions, and only one unit is used to ensure a proper metal flow and prevent blockage of the welding channel.

## #07 INCORRECT USE OF SEALING PASTE.

Welding Process

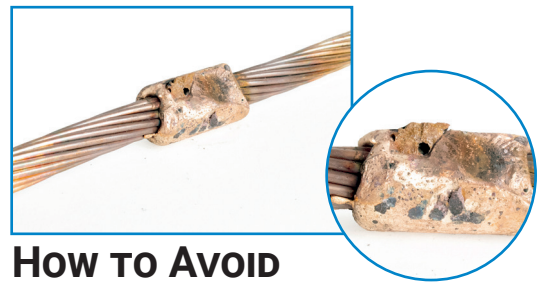


### HOW TO AVOID

In some types of connections, applying sealing paste is the only way to ensure a perfect connection. This measure prevents leaks and compression loss in the exothermic process, while also protecting the weld from corrosion, extending its lifespan, and maintaining the system's safety in optimal conditions.

## #08 DON'T MIX THE POWDERS TOGETHER.

Welding Process



### HOW TO AVOID

Mix the two types of powder—thermite and ignition—correctly in the exact proportions indicated for the application. First, pour the thermite powder into the mold, and then, in an even layer on top, the ignition powder. This distribution ensures a controlled reaction and a uniform, secure weld. (\*)

## #09 INCORRECT CARTRIDGES (CHARGES).

Welding Process



### HOW TO AVOID

Ensure you use the specific cartridge for each type of weld. Verifying its compatibility with [the KLK AppWeld application](#) and confirming the weld size will prevent issues with weak or faulty connections.

## #10 OPENING WITHOUT COOLING PROCESS.

Welding Process



### HOW TO AVOID

Allow the weld to cool completely before opening the mold, and visually inspect to ensure a proper joint. This will prevent deformations and ensure the quality of the connection.

(\*)Not Valid for KCup Equipment



# Safe, Fast, and Easy

## AVOID ERRORS IN YOUR WELDS: TOP 5 TIPS



**Personal Protective Equipment (PPE):** Always wear a helmet, gloves, and safety glasses to protect yourself from heat and sparks.



**Mold and Material Preparation:** Clean and remove moisture from all materials and the mold to prevent imperfections and ensure a strong connection.



**Selection and Placement of Correct Components:** Verify the use of the appropriate cartridge and separation disk for the type of weld and ensure proper placement.



**Secure Mold Closure:** Fasten the mold with the correct clamp to prevent material leaks during welding.



**Complete Cooling and Final Verification:** Allow the weld to cool before inspecting it to ensure a solid, deformation-free joint.



**ENSURE THE SELECTION OF YOUR KLK WELD KIT WITH OUR APPWELD, AVAILABLE AT KLK.ES**

Scan the QR code to discover all the accessories, materials, and connection types your project may need | **KLK WELD**.



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