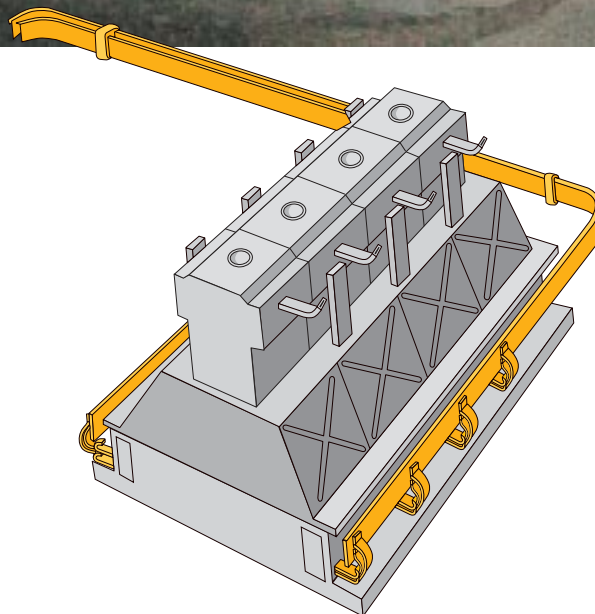
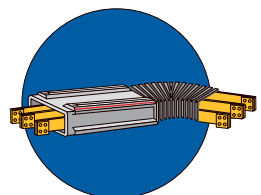
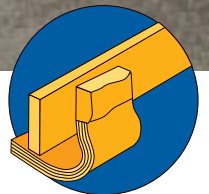
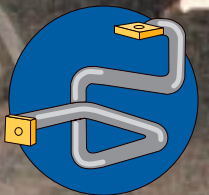
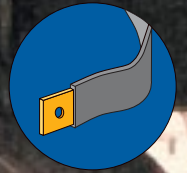
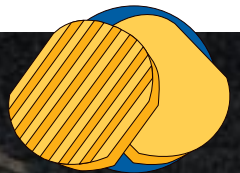
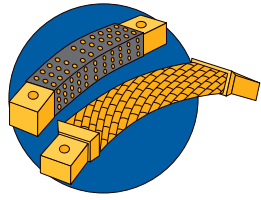
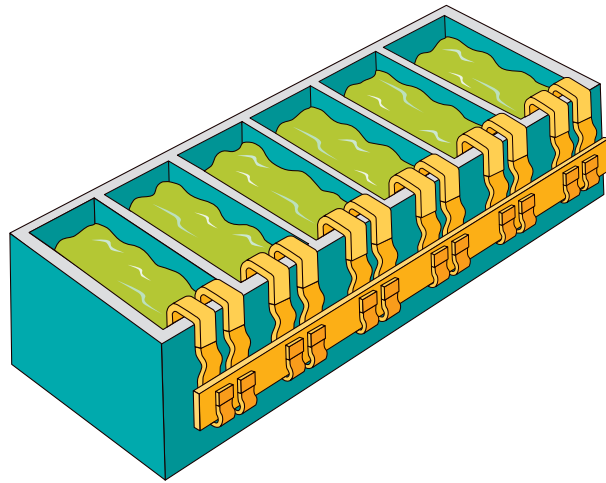


**CADWELD®**

# Welded Connections for Industrial Applications



**ERICO®**

# The Company

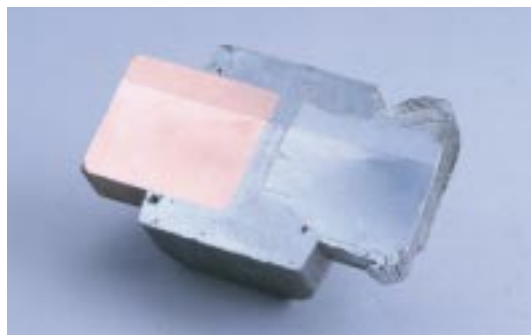
Established in 1903 as the Electric Railway Improvement Company, today ERICO® is a diversified global manufacturer with a network of offices and manufacturing facilities in over 24 countries and with more than 1,400 employees. Headquartered in Solon, Ohio, USA, ERICO has two businesses: the Fixing and Fastening Business selling Electrical and Mechanical Fixings and Fasteners and Concrete Reinforcement products; and the Electrical Business offering Facility Electrical Protection, Panelboard and Rail and Industrial Electrical products. Well-known brand names include: CADDY® fixings and fasteners; CADWELD® welded electrical connections; CRITEC® surge protection devices; ERIFLEX® low-voltage components featuring FLEXIBAR busbar; ERITECH® lightning protection and grounding, and; LENTON® mechanical rebar splices.



# The Product

The CADWELD process is a method of making welded electrical connections of aluminum-to-aluminum, copper-to-copper, copper-to-aluminum, and copper-to-steel in which no external source of heat, such as electricity or gas, is required. CADWELD connections can be made to any size or shape of conductor. Rectangular or round bus bar, cable, laminated conductors or braid can be joined by the CADWELD process.

- CADWELD connections assure that the current carrying capacity of the connection is equal to or greater than that of the conductors.
- CADWELD connections offer maintenance free, high quality performance. CADWELD connections will not loosen in service and electrical resistance will not increase with age.
- The CADWELD process develops its own heat to complete the weld. The level of knowledge and skill required to make an electric weld is not required to make a CADWELD connection.
- Your maintenance and installation personnel can be easily trained to use the CADWELD system by experienced ERICO technicians.
- CADWELD connections can be made easily and are not dependent on an electric arc. Welds can be made in a magnetic environment.
- CADWELD provides maximum weld penetration of conductors being joined.

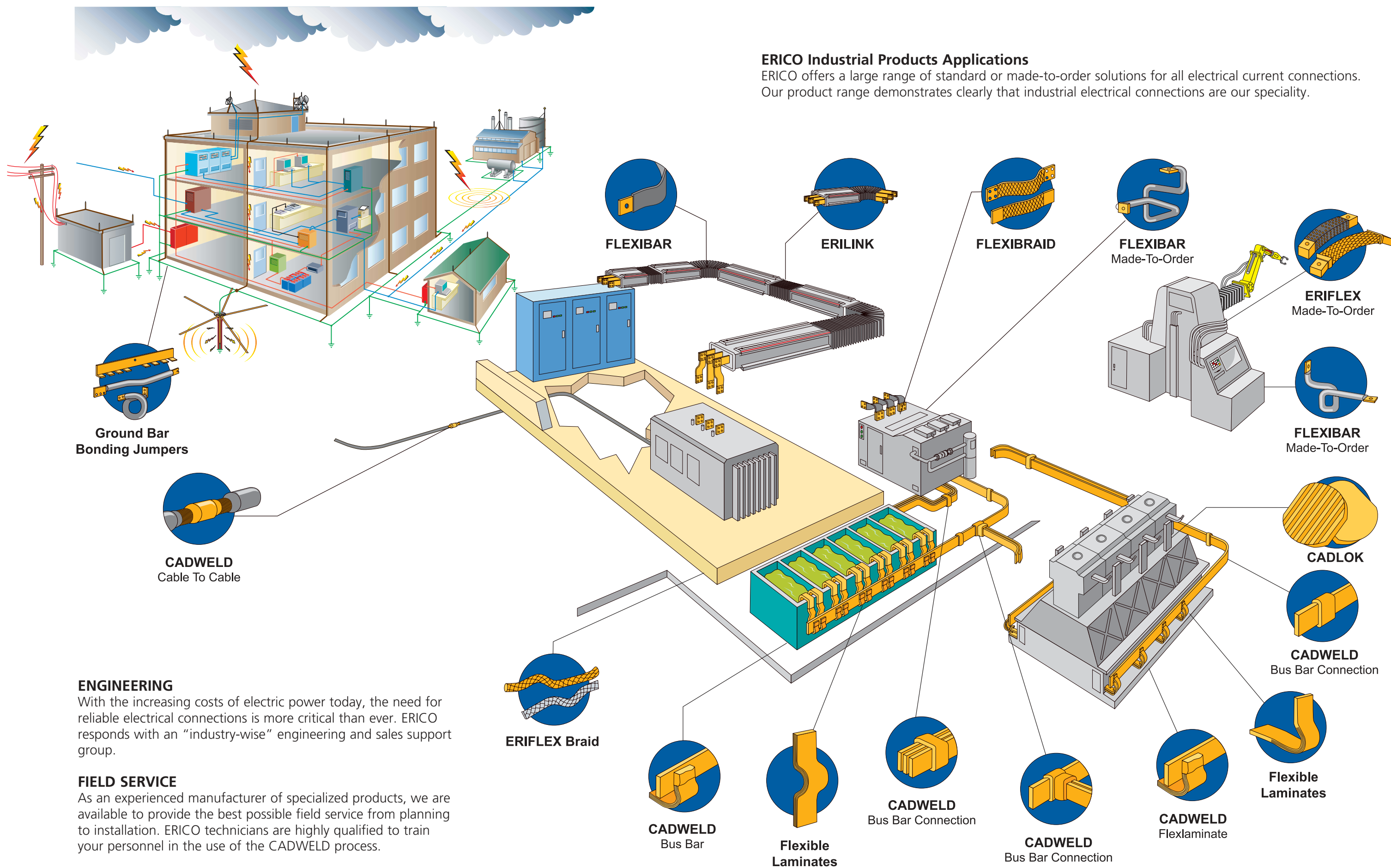


**CADWELD "It's the connection that counts"**



ERICO offers a large range of standard or made-to-order solutions for all electrical current connections. Our product range demonstrates clearly that industrial electrical connections are our speciality.

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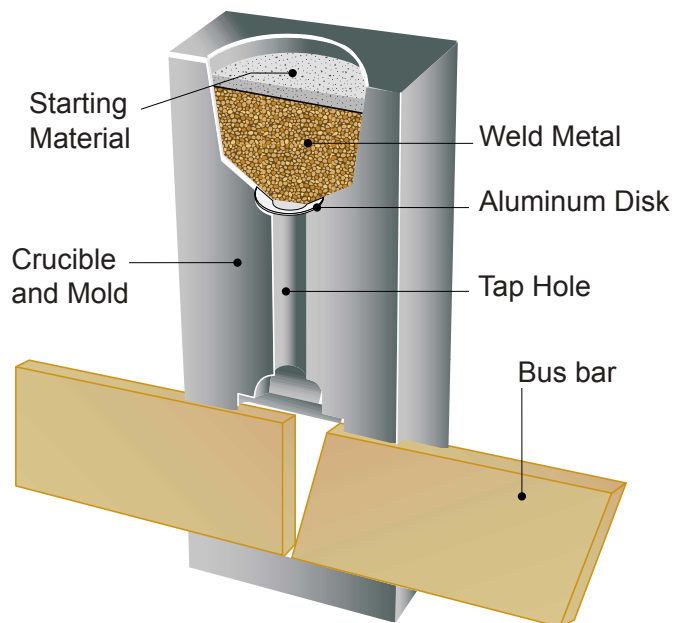
# The Process

In 1938, Dr. Charles CADWELL, of the Electric Railway improvement Company (ERICO), invented a copper-based aluminothermic (exothermic) welding process for welding copper conductors to steel rails. It was immediately trade named "CADWELD."

The CADWELD process is a chemical reaction of granular materials which produces molten metal. This reaction, which is completed in seconds, takes place in a graphite crucible. The liquid metal flows from this crucible section into a mold section where it joins the ends of the conductors to be welded. The temperature of the metal is sufficient to fuse the metal ends of the conductors and results in a molecular bond. Its excellent current-carrying capacity makes it ideal for all electrical connections.

CADWELD weld material for copper and copper-to-steel connections is a mixture of copper oxide and aluminum; for aluminum connections (including copper-to-aluminum), it is a mixture of tin oxide and aluminum. The pre-packaged material includes everything you need to make connections.

Over the years, ERICO has developed numerous weld metal alloys for connections to various materials and surfaces. Continued research and development make ERICO the world wide leader in exothermic welding technology.



**For more information, visit:**  
**[www.erico.com](http://www.erico.com)**



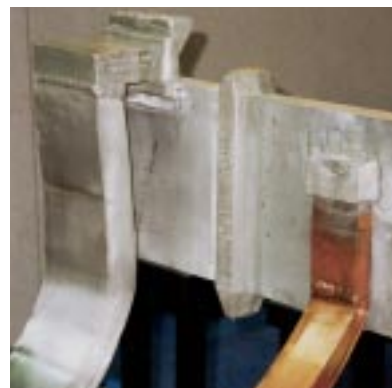
## Applications

- Cathode-to-lug or flex
- Energy savings
- Equalizer welds (permanent or temporary)
- Bus bar repair or installation (straight splice, Tee splice)
- Magnetic compensation
- Cable-to-cable and cable-to-bus



## Industries Served

- Aluminum and copper smelters
- High voltage cable
- Zinc
- Wind mills
- Chlorine
- Others



## Prototype Development

Engineered designs of specific applications, especially large and complex welds, are thoroughly tested. Our in-house testing capabilities and outside facilities are used to assure connection performance and reliability.



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