nVent | ERICO

We connect and protect

Clarifying Compliance: What You Really Need to Know About IEEE 837-2014

The IEEE 837-2014 standard outlines methods to qualify grounding system connectors for substations. Its relevance extends beyond utilities, as it includes comprehensive tests beneficial for various grounding applications. While not all tests apply outside substations, key sections offer valuable performance qualifications for connectors in diverse settings. When alternative standards are absent, manufacturers and specifiers often turn to IEEE 837-2014 for verifying connector performance.

The purpose of IEEE 837-2014 is to:

- Assure users that connections will perform reliably over the lifetime of the installation.
- Test the connections for heat and mechanical forces.
- Test the connections under accelerated corrosion condition.

IEEE 837-2014 Test Overview

Third-party test labs are recommended for these tests to avoid potential conflicts of interest inherent in self-certification.

Two test categories in IEEE Std 837™-2014 assess the connection: mechanical and sequential.

Mechanical

- Electromagnetic Force (EMF) test

Sequential

- Current-temperature cycling
- Freeze-thaw test
- Corrosion tests (Salt spray & Nitric acid)
- Fault-current tests

Tailored Testing: The RIGHT Match for Every Application and Environment

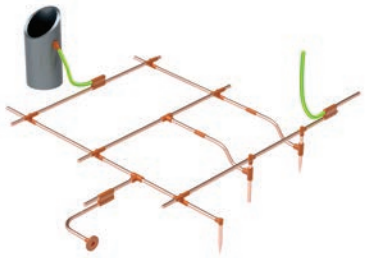
Grounding connections in electrical substations are subjected to some of the harshest conditions. However, not all applications would require the full requirements of the substation environment, such as withstanding high mechanical forces caused by high fault currents. Partial compliance or pass specific tests under IEEE 837 standard may still be suitable for certain applications and environments.

The nVent product range cover various connection types, however, nVent ERICO Cadweld remains the ultimate connection solution for power utility substations and mission-critical applications where full IEEE 837-2014 compliance is required.

nVent ERICO Cadweld Plus connections offer all the benefits of conventional nVent ERICO Cadweld connections:

- Current carrying capacity equal to or greater than that of the conductor
- Withstand repeated fault currents without failing during operation
- Permanent, molecular bond that will not loosen or corrode, resulting in a connection with a lifetime equal to that of the installation
- Join copper to copper, copper to galvanized or plain steel, copper to copper clad steel, copper to bronze/brass/stainless steel, steel to steel, etc.
- No external power or heat source required
- Quality Assurance Inspection is easy and visual
- Minimal installation training required
- Exceeds requirements of "IEEE Std. 837-2014 for Qualifying Permanent Connections Used In Substation Grounding"

nVent ERICO Cadweld



Connections Built to Last for Generations*

- Full Compliance to IEEE 837 -2014 (all requirements)
- Third-party test reports readily available
- The field connection will align with the test connections to ensure repeatability, using the same mold due to the nature of Cadweld
- Cadweld is UL listed

Note: *CADWELD has a life greater than the copper conductor, which could be ranging from 80 to 100 years in a wide range of soil conditions

APPLICATIONS

Electrical Sub stations

Nuclear Facilities

Telecom & Data Center

Rail

Wind Turbines

Mining

Compression Grounding Connector

Benefits of nVent ERICO Compression Grounding Connectors:

- Reliable, Long-Lasting Connections: C- and E-crimp connections create permanent electrical bonds, offering a dependable alternative to exothermic or mechanical connections.
- High-Quality Copper Construction: Ensures low resistance and superior conductivity for optimal grounding performance.
- Meets Industry Standards: Rigorously tested to exceed CSA and UL 467 grounding standards for connection strength and current-carrying capacity.
- Versatile Compatibility: Works with both metric and AWG conductor sizes, supporting a wide range of applications.
- Quick and Easy Installation: Connections can be made in minutes using a 12-ton compression tool, saving time and improving efficiency.
- Weather-Resistant: Designed for use in any weather conditions, ensuring reliable performance in all environments.

nVent ERICO PermaGround E-Crimps

- Compliance to IEEE 837 -2014 Section 7.2 with 2 Crimps in parallel
- Compliance to IEEE837-2014 Section 8.2
- UL Listed Versions
- Third party test reports readily available
- Field connections will be consistent with the lab tested connections if nVent ILSCO TaskMaster tooling is used.
- 10 Year Warranty

Note: UL 467 is standard widely used for grounding and bonding and products. UL Listed product undergo tensile strength and short time fault current testing. Additionally UL467 has direct burial certification and UL Listed products will have a UL stamp on the product.

APPLICATIONS

Rail

Power Distribution Network

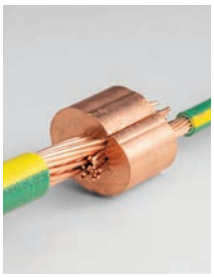
Telecom Facilities

Large Solar Facilities

Large Battery Energy

Industrial Facilities

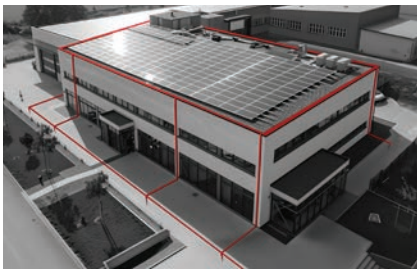
nVent ERICO PermaGround C-Crimps



- UL Listed Versions
- Field connections will be consistent with the lab tested connections if nVent ILSCO TaskMaster tooling is used.
- 10 Year Warranty

APPLICATIONS

Power Distribution



General Electrical Grounding

Small Telecom Facilities

Small Solar Facilities

Industrial Facilities

Rail

Our powerful portfolio of brands:

CADDY ERICO HOFFMAN ILSCO SCHROFF TRACHTE