- Reduces Corrosion
- Improves Safety
- Reduces Downtime
- Lower Surge Impedance
- Lower Ground Resistance
- Virtually Theft Proof

Power Systems

High Performance Grounding

What is Grounding and why is it important?

Grounding is arguably one of the least understood, yet most important elements of modern electrical systems and lightning protection designs. According to IEEE-142, grounded means… *"Connected to earth or to some extended conducting body that serves instead of the earth, whether the connection is intentional or accidental".*

Without proper grounding, personnel and the general public are at higher risk of shock or electrocution and electrical equipment is at risk of malfunction and/or irreparable damage from voltage and current surges. It is a fact that lightning and power system ground faults will find a path to ground; the only question is what path the energy will follow. An SAE custom designed grounding system will safely channel and dissipate any errant electrical energy to prevent injury or damage.

Enhanced Safety and Risk Management

SAE will ensure that your grounding system meets or exceeds all relevant safety standards and all electrical codes. Relevant standards include IEEE 80* Guide for Safety in AC Substation Grounding and IEEE142 - Recommended Practice for Grounding of Industrial and Commercial Power Systems, NEC, CEC and OESC/ESA**. If you are subject to an electrical safety inspection of your transformer, the grounding system must be passed by the relevant electrical safety authority.

If you do not pass electrical safety inspection you cannot turn your power on. Depending upon a variety of factors, your grounding system may not require electrical safety approval. However, the need to protect your equipment and personnel as well as the potential legal liability issues exist regardless if an electrical safety inspection is required.

SAE's Grounding Systems reduce GPR (Ground Potential Rise) and mitigate step and touch voltages. An SAE Grounding System will reduce your legal liability associated with personnel and public safety, as well as the risk of catastrophic failure and service outage.

**IEEE 80 standard delineates the safe level of step and touch potentials and the safe limit on grid ground potential rise. **The Electrical Safety Authority (ESA) is responsible for enforcing a level of public electrical safety across Ontario. ESA strongly encourages Ontarians to contact licensed electrical contractors when planning electrical work, and ensure that the Electrical Safety Authority has inspected all work.*

Long Life Protection and Theft Deterrent Design

SAE electrodes are designed to last 25+ years, are maintenance free and are inherently resistant to theft -- primarily due to Conducrete® which is a core component of SAE's Grounding Systems. Conducrete® is a conductive cementitious and carbonaceous material that dramatically enhances the performance, reliability and longevity of grounding systems which results in superior electrical and lightning protection for your assets and serves to guard against theft and vandalism, once it sets. This means that an SAE designed grounding system can be counted on to provide the desired protection over the long-term.

Improved Financial Results

SAE's grounding systems will improve your financial bottom-line because of reduced operating costs due to maintenance free, long life technology and theft resistant design. In addition, your business will benefit from better service for your customers or subscribers due to reductions in unplanned downtime or service outages.

A Global Player

SAE's innovative premium products and services solve the most challenging grounding, AC Mitigation and cathodic protection issues. Founded in 1990, SAE continues to develop best-in-class electrical grounding systems and cathodic protection solutions. In addition to further developing its core business, SAE is currently focused on establishing international distribution for its products and services.