



PROCESS
INDUSTRY
PRACTICES

COMPLETE REVISION
May 2018

Electrical

PIP ELIGD000
Grounding Installation Details

PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by the Practice.

This Practice is subject to revision at any time.

© Process Industry Practices (PIP), Construction Industry Institute, The University of Texas at Austin, 3925 West Braker Lane (R4500), Austin, Texas 78759. PIP Member Companies and Subscribers may copy this Practice for their internal use. Changes or modifications of any kind are not permitted within any PIP Practice without the express written authorization of PIP. Authorized Users may attach addenda or overlays to clearly indicate modifications or exceptions to specific sections of PIP Practices. Authorized Users may provide their clients, suppliers and contractors with copies of the Practice solely for Authorized Users' purposes. These purposes include but are not limited to the procurement process (e.g., as attachments to requests for quotation/ purchase orders or requests for proposals/contracts) and preparation and issue of design engineering deliverables for use on a specific project by Authorized User's client. PIP's copyright notices must be clearly indicated and unequivocally incorporated in documents where an Authorized User desires to provide any third party with copies of the Practice.

PUBLISHING HISTORY

January 2002 *Issued*
January 2010 *Complete Revision*
May 2018 *Complete Revision*

Not printed with State funds



PIP ELIGD000 Grounding Installation Details

Table of Contents

1. Scope	2
2. References	2
Industry Codes and Standards	2
3. General Information	2
3.1 Category Index	2
3.2 Basic Assumptions and Applications	2
3.3 User Guidance	3

1. Scope

The purpose of this Practice is to provide the typical details for construction of grounding systems in chemical and refining facilities. The bonding and grounding design and installation shall be in accordance with the *National Electrical Code*.

These installation details include power system and equipment grounding, static grounding protection for equipment in classified locations, grounding electrode connections, and step and touch potential grounding.

Not included in the scope of this Practice are computer and control system grounding and cathodic protection.

2. References

Applicable requirements in the latest edition (or the edition indicated) of the following industry codes, standards, and references shall be considered an integral part of this Practice.

Industry Codes and Standards

- National Fire Prevention Association (NFPA)
 - NFPA 70 - *National Electrical Code (NEC)*
 - NFPA 780 – *Standard for the Installation of Lightning Protection Systems*

3. General Information

3.1 Category Index

Detail Number	Grounding Detail Category
ELIGD060 – ELIGD099	Buildings
ELIGD100 – ELIGD149	Structural Columns
ELIGD150 – ELIGD199	
ELIGD200 – ELIGD249	Cable Tray
ELIGD250 – ELIGD299	Substations and Transformers
ELIGD300 – ELIGD349	Motors
ELIGD350 – ELIGD399	
ELIGD400 – ELIGD449	Earth Terminals
ELIGD450 – ELIGD499	Ground Bus
ELIGD500 – ELIGD549	Vessels, Tanks, and Pipelines
ELIGD550 – ELIGD559	
ELIGD600 – ELIGD649	Fences
ELIGD650 – ELIGD699	Miscellaneous

3.2 Basic Assumptions and Applications

- a. All grounding connections, bolted, compression, or exothermic weld, shall be in accordance with manufactures instructions and listed for grounding service.
- b. All connections shall be coated with an anti-oxidant compound.