



PROCESS  
INDUSTRY  
PRACTICES

COMPLETE REVISION  
*April 2024*

***Electrical***

**PIP ELSSG12**  
**Design and Fabrication of Outdoor Enclosures**  
**for Motor Controllers and Switchgear**

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## PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

This Practice has been prepared by harmonizing technical requirements from existing standards of major industrial operators, contractors, and standards development organizations. While this Practice is intended to incorporate the majority of requirements, individual applications may have requirements which take precedence over this Practice. Determinations concerning fitness for purpose or application of this Practice to specific project or engineering situations should not be made solely on information contained in this Practice. All Practices are intended to be consistent with applicable laws and regulations. Should this Practice conflict with 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 this Practice.

Use of trade names should not be viewed as an expression of preference. Other brands having the same specifications are equally correct and may be substituted for those named.

This Practice is subject to revision at any time. For more information refer to PIP ADG001, *Specification for Developing Practices*.

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# PIP ELSSG12

## Design and Fabrication of Outdoor Enclosures for Motor Controllers and Switchgear

### Table of Contents

<b>1. Scope</b> .....	<b>2</b>	4.11 Shipping .....	9
<b>2. References</b> .....	<b>4</b>	4.12 Documentation .....	9
2.1 Process Industry Practices .....	4	4.13 Exceptions and Conflict Resolution	11
2.2 Industry Codes and Standards .....	2		
<b>3. Definitions</b> .....	<b>3</b>		
<b>4. Requirements</b> .....	<b>3</b>		
4.1 Service Conditions .....	3		
4.2 Base .....	3		
4.3 Walls and Roof .....	4		
4.4 Doors .....	5		
4.5 Screens and Filters .....	5		
4.6 Electrical Accessories .....	6		
4.7 Equipment Grounding .....	7		
4.8 Labeling and Tagging .....	7		
4.9 Coatings .....	8		
4.10 Inspection and Testing .....	8		

### Data Form

ELSSG12-D – Electronic Entry Data Sheet  
for Outdoor Enclosures for Motor  
Controllers and Switchgear

## 1. Scope

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This Practice describes the requirements for the design, fabrication, inspection, testing, and shipping of free-standing outdoor enclosures. This equipment is used for housing low and medium voltage motor controllers and switchgear.

The requirements of this Practice shall apply to walk-in and non-walk-in enclosures located in a non-classified area. This Practice is not intended for enclosures that will be located in classified areas.

These enclosures are not intended for climate-controlled or pressurized applications. When pressurized or insulated climate-controlled enclosures are required, see *PIP ELSSG11*.

## 2. References

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Applicable parts of the following Practices and industry codes and standards should be considered an integral part of this Practice. The edition in effect on the date of contract award should be used, except as otherwise noted. Short titles are used herein when appropriate.

### 2.1 Process Industry Practices (PIP)

- PIP CVC01017 - *Plant Site Data Sheet*
- PIP STC01015 - *Structural Design Criteria*

### 2.2 Industry Codes and Standards

- American Society of Civil Engineers (ASCE)
  - ASCE 7 - *Minimum Design Loads for Buildings and Other Structures*
- ASTM International (ASTM)
  - ASTM A36/A36M - *Standard Specification for Carbon Structural Steel*
  - ASTM B 117 - *Practice for Operating Salt Spray (Fog) Apparatus*
  - ASTM D 711 - *Test Method for Evaluating Degree of Blistering of Paints*
  - ASTM D 1654 - *Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments*
  - ASTM D 2244 - *Standard Practice for Calculation of Color Tolerance and Color Differences from Instrumentally Measured Color Coordinates*
- Institute of Electrical and Electronics Engineers (IEEE)
  - IEEE C37.20.2 – *IEEE Standard for Metal-Clad Switchgear*
  - IEEE C37.100.1 - *IEEE Standard of Common Requirements for High Voltage Power Switchgear Rated Above 1000 V*
- National Fire Protection Association (NFPA)
  - NFPA 70 - *National Electrical Code (NEC)*