



PROCESS  
INDUSTRY  
PRACTICES

COMPLETE REVISION  
*September 2020*

***Electrical***

**PIP ELSBD01**  
**Design and Fabrication of Metal-Enclosed  
Nonsegregated-Phase Bus Duct Assemblies**

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### **PUBLISHING HISTORY**

<i>October 1995</i>	<i>Issued</i>	<i>January 2009</i>	<i>Complete Revision</i>
<i>February 2004</i>	<i>Complete Revision</i>	<i>March 2014</i>	<i>Complete Revision</i>
<i>February 2007</i>	<i>Technical Correction</i>	<i>September 2020</i>	<i>Complete Revision</i>

Not printed with State funds

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## PIP ELSBD01

# Design and Fabrication of Metal-Enclosed Nonsegregated-Phase Bus Duct Assemblies

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### Data Form

ELSBD01-D – Data Sheet for Metal-  
Enclosed Nonsegregated-Phase Bus  
Duct Assemblies

## 1. Scope

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This Practice describes requirements for design, fabrication, inspection, and testing of metal-enclosed, self-cooled, nonsegregated-phase bus duct assemblies for use on systems operating at 34.5 kV and below, and suitable for indoor and outdoor applications.

## 2. References

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

### Industry Codes and Standards

- American Society for Testing and Materials (ASTM)
  - ASTM D1535 - *Standard Practice for Specifying Color by the Munsell System*
- Institute of Electrical and Electronic Engineers (ANSI/IEEE)
  - IEEE C37.23 - *IEEE Standard for Metal-Enclosed Bus*
- National Fire Protection Association (NFPA)
  - NFPA 70 - *National Electrical Code (NEC)*
- Underwriters Laboratories (UL)
  - UL 1479 - *UL Standard for Safety Fire Tests of Through-Penetration Firestops*

## 3. Requirements

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### 3.1 General

- 3.1.1 The bus duct assembly shall be designed, fabricated, and tested in accordance with *IEEE C37.23*.
- 3.1.2 Bus duct shall be designed to operate continuously under site conditions listed on the purchaser's *PIP ELSDB01D* Data Sheet.
- 3.1.3 Unless otherwise specified on the purchaser's *PIP ELSBD01-D* Data Sheet, the bus duct assembly shall be UL listed.
- 3.1.4 The bus duct assembly shall be nonsegregated-phase, totally enclosed, and rigidly constructed and shall include all required transitions, accessories and hardware for termination to supply and load equipment.
- 3.1.5 Solid dielectric (sandwich) type constructed bus duct assemblies shall not be permitted.

### 3.2 Design

#### 3.2.1 Bus Bars

##### 3.2.1.1 General

1. Rating of bus assembly shall be as shown on the purchaser's *PIP ELSBD01-D* Data Sheet.
2. Unless otherwise specified on the purchaser's *PIP ELSBD01-D* Data Sheet, bus bars shall be made of copper.