1 Scope

This document provides specific requirements for process sealing between electrical systems and flammable or combustible process fluids where a failure could allow the migration of process fluids directly into the electrical system.

This document contains requirements for construction and testing of single seal equipment, dual seal equipment, and add-on secondary seals.

The requirements of this document apply to process seals as described in the process sealing sections of ANSI/NFPA 70 in the United States or CSA C22.1 in Canada and not to electrical conduit and cable seals. Requirements for basic electrical safety and explosion protection are not addressed by this document, but may apply to equipment under investigation. The secondary effects of leakage to the environment are not addressed by this document.

2 Normative references

The following documents contain provisions that, through reference in this text, constitute provisions of this document. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this document are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below.

ANSI/NFPA 70 : 2011: *National Electrical Code®*

CSA C22.1-09 : 2009: *Canadian Electrical Code, Part 1, 21st Edition*

ANSI/ISA-61010-1 (82.02.01): *Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements*

3 Definitions

The following definitions specific to process sealing of electrical equipment are applicable to this document. See Figures 1a and 1b for a graphical representation of the various process seal components.

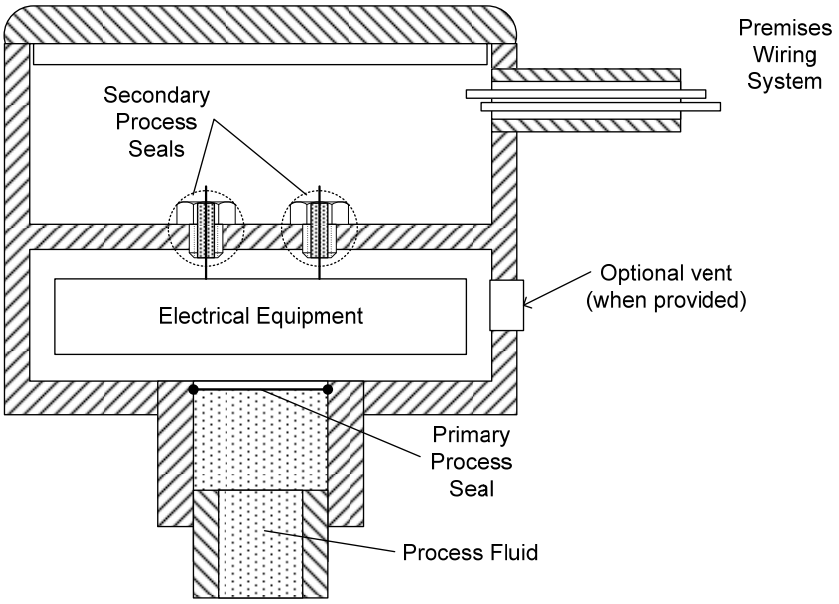

Figure 1a - Equipment process sealing components – Dual Seal