

# **IEEE Standard for Requirements for Conduit and Cable Seals for Field Connected Wiring to Equipment in Petroleum and Chemical Industry Exposed to Pressures above Atmospheric (1.5 kPa, 0.22 psi)**

IEEE Industry Applications Society

Sponsored by the  
Petroleum and Chemical Industry Committee

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**Petroleum and Chemical Industry Committee  
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IEEE Industry Applications Society**

Approved 5 December 2015

**IEEE-SA Standards Board**

**Abstract:** Provided in this document are specific requirements for field installed sealing between a pressurized system (stream) containing flammable or combustible process fluids which is connected directly or indirectly to an electrical system where a failure could allow the migration of process fluids directly into the electrical system. Not addressed in this document are the basic requirements for electrical safety and the effects of the loss of containment of the process system in terms of risk to the environment and/or personnel health and safety.

**Keywords:** high-pressure seal, IEEE 1673™, instrumentation sealing, process seal, secondary seal

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## Introduction

This introduction is not part of IEEE Std 1673™-2015, IEEE Standard for Requirements for Conduit and Cable Seals for Field Connected Wiring to Equipment in Petroleum and Chemical Industry Exposed to Pressures above Atmospheric (1.5 kPa, 0.22 psi).

This document provides specific requirements for field installed sealing between a pressurized system (stream) containing flammable or combustible process fluids which is connected directly or indirectly to an electrical system where a failure could allow the migration of process fluids directly into the electrical system.

The basic requirements for electrical safety are not specifically addressed by this standard. The effects of the loss of containment of the process system in terms of risk to the environment and/or personnel health and safety are also not addressed by this document.

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## 1. Overview

### 1.1 Scope

This document provides specific requirements for field installed sealing between a pressurized system (stream) containing flammable or combustible process fluids which is connected directly or indirectly to an electrical system where a failure could allow the migration of process fluids directly into the electrical system.

The basic requirements for electrical safety are not specifically addressed by this standard. The effects of the loss of containment of the process system in terms of risk to the environment and/or personnel health and safety are also not addressed by this document.

### 1.2 Purpose

The purpose of this document is to provide construction and performance requirements for sealing devices that are designed to prevent flammable or combustible process fluids from entering the electrical wiring system and to prevent the propagation of an explosion through the cable or conduit system. While certain devices