

Cable tray installation in explosion-proof areas



Overview

Cable tray systems must comply with article 318 with respect to ampacity, grounding, fill, spacing and segregation of cable types. Cables must comply with their respective NEC articles and should be listed but in Division 2 locations it is not necessary that they be listed for. Cable Trays have been permitted in the hazardous (classified) locations in the National Electrical Code for Class I (flammable vapor and gases) since the 1978 NEC and have been used extensively in chemical plants, refineries, and other types of facilities. This article is about code requirements.

Abstract - This paper explores the various standards and requirements for the certification, selection, use, and installation of cables and cable glands used in explosive gas atmospheres throughout the world. Chemical plants have risks like explosive gases, dusts, or vapors. Cofer Technology Center, one of the world's leading UL certified wire and cable research centers, Halo-Flex™ TC-ER-HL is an ideal, flexible power cabling. The information provided in this paper is an interpretation of the NEC and how it applies to cable types in a hazardous location.



Article Content

Oct 14, 2025

Cable Selection Guide for Hazardous Locations

Hazardous (Classified) Locations (HL) are defined as areas where fire or explosion hazards may exist due to the presence of flammable gases, vapors, dusts or fibers/flyings. The 2014 National Electrical

Oct 13, 2025

Prevent Fire and Electric Hazards When Cable Trays Used

If not designed and installed properly, wiring inside cable trays may pose hazards such as fire, electric shock, and arc-flash blast events.

Sep 07, 2025

Explosion Proof Cable Trays in Chemical Plants

Essential guide to explosion proof Cable Trays in Chemical Plants. Learn about tray zoning, materials, design, installation, & safety for hazardous

Sep 30, 2025

Hazardous Location Cable Solutions

Our hazardous location cable collection consists of cables that are both rugged and durable, including Halo-Flex™ cable, Armor-X® cable, and Aluminum Interlocked Armor (AIA).

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Hazardous Location Cable Solutions

HAZARDOUS LOCATION CABLES Southwire Company, LLC is committed to providing our customers with solutions for every type of industrial environment, including those rugged environments found in

Oct 06, 2025

What is "Explosion Proof" and When is it Needed?

What makes a fume hood classified as Explosion Proof? It is a common misconception that working with a flammable chemical automatically requires an EP fume hood. However, only a

Aug 31, 2025

Cables and cable glands for hazardous locations

Cable glands (cable entry devices) used in hazardous locations are intended to provide the safe connection of suitable cables to enclosures, maintaining the explosion protection and ingress

Feb 08, 2026

Installation guide for hazardous areas

When installations are not explosion proof or intrinsically safe, pressurization is often used to maintain the classified area safety. Wiring and enclosures are protected using a positive air pressure

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Cables and cable glands for hazardous locations

Abstract - This paper explores the various standards and requirements for the certification, selection, use, and installation of cables and cable glands used in explosive gas atmospheres throughout the

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Hazardous Locations: Safe Electrical Cable | IEC

Learn how to choose safe electrical cables for hazardous locations, including key safety standards, material considerations, and compliance

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Hazardous Location Cables

Hazardous locations require specific types of cable and/or installation methods. Learn how to select the right cable type for your industrial application.

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Explosion Proof Basics on Cables in Wiring System

Electrical equipment in hazardous areas may be weird using cable having metallic or non-metallic sheath, or weird in conduit. Today, cable is

Mar 11, 2026

Cable Management in Hazardous Areas (Explosive Atmospheres ...

Implementing an effective cable support system in hazardous areas demands a holistic approach. Collaborating with

Dec 21, 2025

Cables and Lines for Hazardous Areas

The purpose of this brochure is to help them in the selection of suitable cables and cable entry components, as well as the combination of them which is very important because properties of

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The "Ex d" type of protection: electrical cable installation

Electrical cable installations are the alternative to the electrical conduit in a metal protective tube to be used in sites where there is a risk of the formation of an

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Wiring Methods in Hazardous Locations: Requirements

In many installations, hazardous area wiring includes a mixture of protection concepts: explosion-proof (Ex d), increased safety (Ex e), intrinsically safe (Ex i), and general-purpose circuits

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Fire-Resistant Cable Trays in High-Risk Environments

Explore the importance of fire-resistant cable trays in high-risk environments. Learn about the best materials and practices to ensure maximum

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Cables and Lines for Hazardous Areas

Cables and Lines for Hazardous Areas Significance of the decision which cables and cable glands can be used for ex-applications / Responsibility of the installer and

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Specifying Cable Infrastructure in Hazardous Locations per NEC ...

Following these 3 steps will provide a proper install; determine the correct hazardous area classification, review the wiring types allowed for proper cable selection, and installing the cable per the

Mar 04, 2026

Installation Guidelines for Explosion-Proof Flexible

Explosion-proof flexible conduits, also known as explosion-proof flexible metal hoses, play a crucial role in hazardous areas where flammable gases, vapors, or

Jun 05, 2026

Intrinsically Safe Cables for ATEX Zones

Learn how to choose ATEX-certified intrinsically safe cables. Covers types, standards, capacitance, zone classification & EPC checklist with Excel

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Cable Tray System Design for Hazardous Environment

An ordinary metal tray will not be sufficient in areas where there is explosive gases or high density dust. To prevent the accumulation of heat as well as to eliminate the existence of small

Feb 28, 2026

The "Ex d" type of protection: electrical cable installation

In areas at risk of explosive atmospheres, systems with electrical cable installations are nowadays a valid alternative to traditional systems with conduits systems.

Mar 02, 2026

Aluminum Trays Applications: Hazardous Industrial Areas

Discover aluminum trays applications in Class I Div 2/Zone 1 hazardous zones. Learn certification, installation, and safety best practices.

Dec 06, 2025

Cable Gland Selection for Hazardous Areas (IEC 60079)

This Excel checklist will help you make sure that you choose the right cable glands, install them correctly, and follow all the rules in hazardous areas

Contact Us

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