

CONSEQUENCE & RISK · INTERMEDIATE · 1 DAY

Hazardous Area Classification (IEC 60079-10)

Zoning for gases, vapours and dusts and keeping the drawings alive

DURATION
1 day

LEVEL
Intermediate

FORMAT
On-site classroom · virtual instructor-led

LANGUAGE
English

MAX. PARTICIPANTS
16

8

zone-extent calculations

1

HAC drawing for your unit

2

code frameworks: IEC · API/NFPA

Overview

Hazardous area drawings are often inherited, seldom questioned and frequently wrong. The course covers the classification method of IEC 60079-10-1 and -10-2 — sources of release, release grades, ventilation and dilution, zone type and extent — with worked calculations, and compares it with the API RP 505/500 and NFPA 497 approaches used on North American designs. Participants classify part of their own unit and produce a drawing and data sheet.

Learning outcomes

- Identify sources of release and assign release grades correctly
- Estimate release rates and apply the dilution and ventilation assessment of IEC 60079-10-1
- Determine zone type and extent for gas, vapour and mist releases
- Classify combustible dust areas to IEC 60079-10-2
- Translate between IEC zones and API/NFPA divisions where both apply
- Maintain HAC drawings and data sheets through management of change

Who should attend

Process, electrical and instrument engineers responsible for hazardous area classification; inspection and Ex maintenance staff; project engineers reviewing HAC deliverables

Course outline

MORNING

Flammable atmospheres and ignition · IEC 60079-10-1 method: sources, grades, zones · release rate estimation and dilution degree · ventilation availability and zone extent · eight worked calculations for typical equipment

AFTERNOON

Dust classification to IEC 60079-10-2 · API RP 505 / 500 and NFPA 497 comparison · EI 15 point-source approach · classification of a participant's unit and drawing · data sheets, equipment selection interface and MOC

Standards referenced

IEC 60079-10-1 IEC 60079-10-2

EI Model Code of Safe Practice Part 15 API RP 505 / 500

NFPA 497 IEC 60079-14

Tools & exercises

Zone-extent calculations by hand and spreadsheet following the worked examples of IEC 60079-10-1

What's included

- ✓ Course manual and slide pack
- ✓ Software access for the course
- ✓ Post-course Q&A with the instructor
- ✓ Exercise and case-study pack
- ✓ Competency quiz and certificate
- ✓ Templates used in the exercises

PREREQUISITES

Process or electrical engineering background; familiarity with P&IDs

CERTIFICATION

Certificate of completion

INSTRUCTORS

Practising engineers — TÜV HAZOP Leader, CCPSC and IEC 61511 Functional Safety certified — with 200+ years of cumulative plant experience.

Book this course or build a custom curriculum

On-site at your plant or virtual · in-house groups · competency assessment included

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