

KOCAELİ SANAYİ ODASI

PROSES
EMNİYETİ SEMPOZYUMU

IECEX AND ATEX - HOW TO HARMONIZE NATIONAL AND INTERNATIONAL CERTIFICATION FOR EXPLOSIVE ATMOSPHERES PRACTICES

Prof. Dr.-Ing. Uwe Günter Klausmeyer
ATEX/IECEX Sector Manager

Normetic Mühendislik Test Gözetim Belgelendirme Ltd. Şti.

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K O C A E L İ C H A M B E R O F I N D U S T R Y

Normetic - the company



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IECEX & ATEX (CE) product certification

with local & international
NoBo, ExCB, ExTL partners

ATEX & IECEX training & personnel certification

with local & international
ExCB (CoPC) & RTP partners

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international 3rd party certification partners

Technical Due Diligence Consultancy Inspection Audit

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Product Safety
Functional Safety
SIL/PL
Capability
Cyber Security

www.tuv.com
ID 060000000

Risk based comprehensive Ex safety system with IEC standards

Manufacturer

Equipment design
and production

EN/IEC 60079-0 ff
EN/IEC 80079-34ff

Market Surveillance

Trade

EN/IEC 60079-19

Repair

**Ex-Equipment
(Installed basis)**

Zone classification
("Risk Assessment")

EN/IEC 60079-10
EN/IEC 60079-14

Selection
Installation

Inspection and
Maintenance

National
Regulators Jurisdiction

Operation

Operator

EN/IEC 60079-17

Life cycle approach and its elements

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ChemMedia
Publisher | Congress | Events | Agency

The ATEX Regulation and IECEx

ATEX: is a state regulation which addresses trade
by 2014/34/EU:

- type tests EN 60079-0 foll. (EU Type Examination Certificate, marking „type of protection d, e, i, ...“)
- on site production surveillance (QA Notification)
- leads to EU Declaration of Conformity



and workplace safety
by 1999/92/EC:

- Zone classification EN 60079-10-1, -2
- explosion protection document



IECEx: a voluntary system for certification in the Ex field
to be addressed by a regulation (see UNECE Model Regulation)

United Nations via UNECE endorses IECEx



United Nations Endorsement of IECEx

New United Nations Publication, March 2011 endorsing IEC/TC 31 Standards + IECEx as “world’s best practice”

<https://unece.org/trade/wp6/groups/eee>



English

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UNECE **TRADE** WORKING PARTY ON REGULATORY COOPERATION AND STANDARDIZATION POLICIES (WP.6)

Working Party on Regulatory Cooperation and Standardization Policies (WP.6)

Recommendations

Groups

Advisory Group on Market Surveillance (MARS)

START-Ed Group on

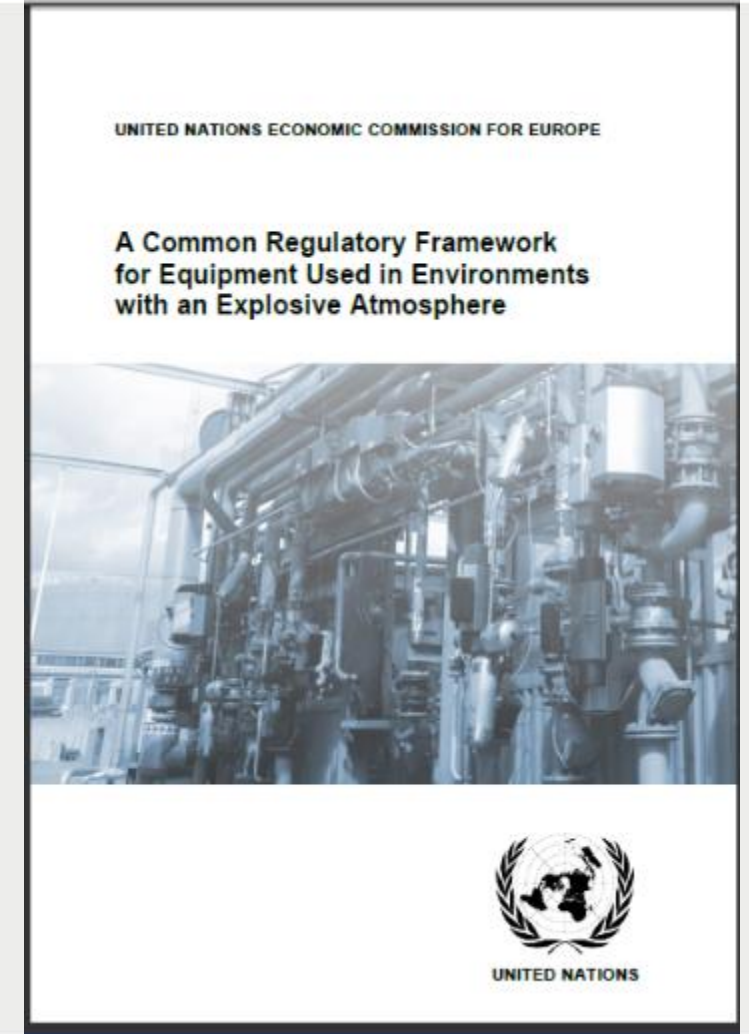
Equipment for Explosive Environments

Equipment for Explosive Environments

Important documents:

Latest progress reports:

- 2021 (ECE/CTCS/WP.6/2021/6) [ENG](#) [FRE](#) [RUS](#)
- 2019 (ECE/CTCS/WP.6/2019/11) [ENG](#) [FRE](#) [RUS](#)
- 2018 (ECE/CTCS/WP.6/2018/11) [ENG](#) [FRE](#) [RUS](#)
- 2017 (ECE/CTCS/WP.6/2017/10) [ENG](#) [FRE](#) [RUS](#)
- 2016 (ECE/CTCS/WP.6/2016/10) [ENG](#) [FRE](#) [RUS](#)



The Schemes of the IECEx System

Choice between:

IECEx System www.iecex.com

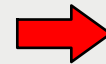
IECEx Equipment Scheme
Certification of Ex Equipment + Systems

IECEx “Certificate of Conformity”

IECEx “Component Certificate”

IECEx “Unit Verification” Certificate

IECEx Conformity Mark License Scheme



IECEx Services Scheme
Certification of Ex Service Providers

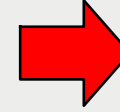


IECEx Certified Persons Scheme (CoPC)
Competency to work in Ex field



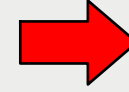
IECEX Services Scheme

Certification of Ex Service Providers, e.g.
Repair and Overhaul Workshops (IEC 60079-19)



Certification of the Competency of Persons

IECEX Certified Persons Scheme (CoPC) Minimum Competency to work in Ex field




IECEX Certificate
Personnel Competence

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres
for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.:	IECEX CP TUR21.0027	Issue No.:	0
Status:	Current	Date of Original issue:	2021-12-13
Applicant:	Özür Uysal Yıldız Turkey	Date of Expiry:	2026-09-21

Scope of Competence:
(Units according to IECEX OD 504)

Ex 001 - Apply basic principles of protection in explosive atmospheres
Ex 002 - Classification - Based on IEC 60079-10 series



For Detailed information on Scope Application and any Limitations in accordance with IECEX OD 504 click on PCAR Number below:

PCAR Reference Number:
DE/TUR/PCAR21.0027/00

This certificate is issued as verification that the Applicant was assessed and found to comply with the IECEX CoPC Scheme requirements, relating to the scope of Competence and referenced Standards listed above. This certificate is granted subject to the conditions as set out in IECEX CoPC Scheme Rules, IECEX 05 as amended.



Approved for issue on behalf of the IECEX
Certification Body: **Dipl.-Ing. Klauspeter Graffi**
Position: **Head of Certification Body**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:
TUV Rheinland Industrie Service GmbH
Am Grauen Stein
51105 Cologne
Germany



Certification of the Competency of Persons

Certifies a **Person's Competence** to be able to apply the IEC/TC 31 Standards (see IECEx/OD 504 and IEC/TS 60079-44)

IECEx Certificate
Personnel Competence

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx CP TUR21 0027** Issue No.: **0**
Status: **Current** Date of Original Issue: **2021-12-13**
Applicant: **Özener Uysal Yıldız** Date of Expiry: **2026-09-21**
Turkey

Scope of Competence:
(Units according to IECEx OD 504)

Ex 001 - Apply basic principles of protection in explosive atmospheres
Ex 002 - Classification - Based on IEC 60079-10 series



For Detailed information on Scope Application and any Limitations in accordance with IECEx OD 504 click on PCAR Number below:

PCAR Reference Number:
DE/TUR/PCAR21.0027/00

This certificate is issued as verification that the Applicant was assessed and found to comply with the IECEx CoPC Scheme requirements, relating to the scope of Competence and referenced Standards listed above. This certificate is granted subject to the conditions as set out in IECEx CoPC Scheme Rules, IECEx 05 as amended.

Approved for issue on behalf of the IECEx Certification Body: **Dipl.-Ing. Klauspeter Graff**
Position: **Head of Certification Body**

Signature: (for printed version)
Date: (for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:
TUV Rheinland Industrie Service GmbH
Am Grauen Stein
51105 Cologne
Germany



Table 4.1 – List of Units of Competence

Reference	Title	Scope limitation ^{a)}
Unit Ex 000	Basic knowledge and awareness to enter a site that includes a classified hazardous area.	Not applicable
Unit Ex 001	Principles of protection in explosive atmospheres knowledge	1
Unit Ex 002	Perform classification of hazardous areas	3
Unit Ex 003	Install explosion-protected equipment and wiring systems	1, 2, 3, 4
Unit Ex 004	Maintain equipment in explosive atmospheres	1, 2, 3, 4
Unit Ex 005	Overhaul and repair of explosion-protected equipment	1, 2, 3, 4
Unit Ex 006	Test electrical installations in or associated with explosive atmospheres	1, 2, 3, 4
Unit Ex 007	Perform visual and close inspection of electrical installations in or associated with explosive atmospheres	1, 3, 4
Unit Ex 008	Perform detailed inspection of electrical installations in or associated with explosive atmospheres	1, 3, 4
Unit Ex 009	Design electrical installations in or associated with explosive atmospheres	1, 3, 4
Unit Ex 010	Perform audit inspection of electrical installations in or associated with explosive atmospheres	1, 3, 4



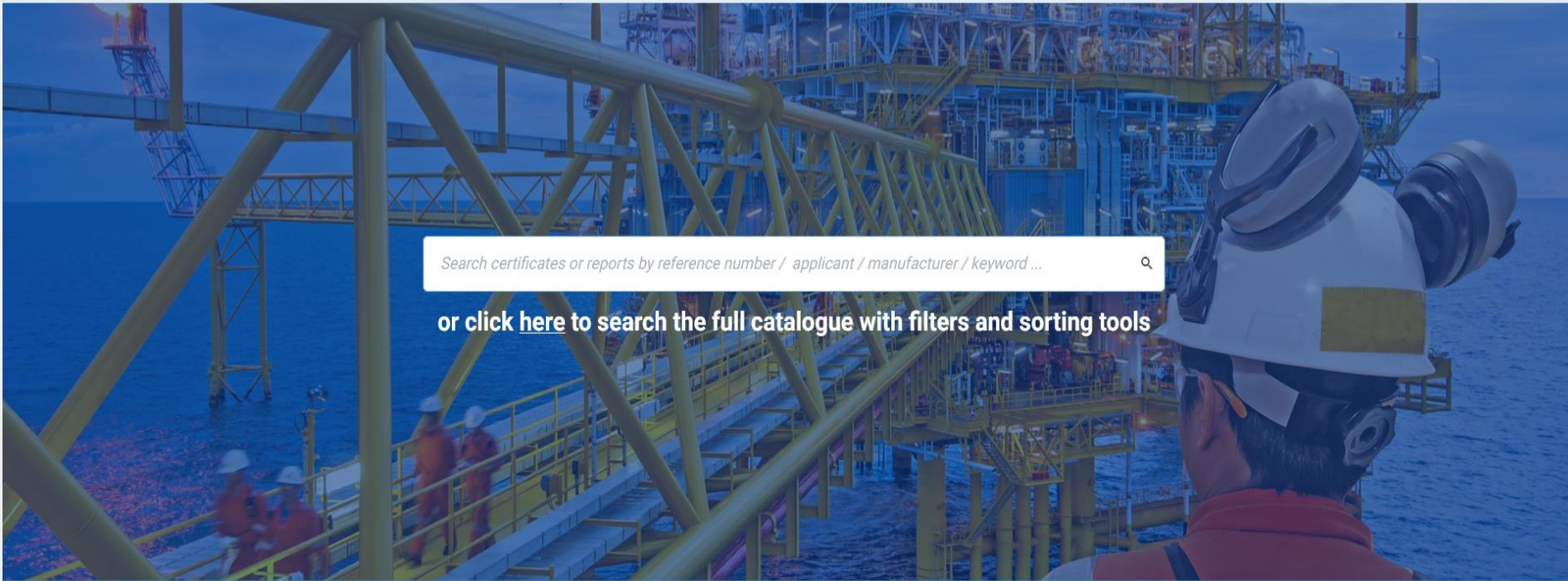
IECEx Certificates

International Electrotechnical Commission System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres

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Information about the content and preparation of IECEx Certificates and Reports for each IECEx Scheme can be found in the [respective versions of IECEx OD 011](#)



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More information about IECEx is available @ www.iecex.com and via email to info@iecex.com.

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Over **300** types of protection

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The national requirement and the practical application

Technical and Personnel Requirements for Periodic Controls in Explosive Atmospheres

Resmî Gazete Tarihi: 25.04.2013 Resmî Gazete Sayısı: 28628

İŞ EKİPMANLARININ KULLANIMINDA SAĞLIK VE GÜVENLİK ŞARTLARI YÖNETMELİĞİ

Patlayıcı ortamda kullanılan iş ekipmanları

MADDE 7/A – (Ek:RG-18/2/2022-31754)

(1) 30/6/2016 tarihli ve 29758 sayılı Resmî Gazete’de yayımlanan Muhtemel Patlayıcı Ortamda Kullanılan Teçhizat ve Koruyucu Sistemler ile İlgili Yönetmelik (2014/34/AB) kapsamında yer alan iş ekipmanlarının periyodik kontrolü; muayene ve testlere ilave olarak anılan Yönetmeliğe uygunluğunun kontrolünü de kapsar.

(1) Periodic control of work equipment within the scope of the Regulation on Equipment and Protective Systems Used in Possible Explosive Environments (2014/34/EU) published in the Official Gazette dated 30/6/2016 no. 29758; in addition to inspection and tests, it **also covers** the control of compliance with the mentioned Regulation.

2014/34/AB

The national requirement and the practical application

Technical and Personnel Requirements for Periodic Controls in Explosive Atmospheres

Resmî Gazete Tarihi: 25.04.2013 Resmî Gazete Sayısı: 28628

İŞ EKİPMANLARININ KULLANIMINDA SAĞLIK VE GÜVENLİK ŞARTLARI YÖNETMELİĞİ

Patlayıcı ortamda kullanılan iş ekipmanları

MADDE 7/A – (Ek:RG-18/2/2022-31754)

(2) Patlayıcı ortamda kullanılan iş ekipmanlarının uygunluk kontrolü, iş ekipmanının ilk kurulumu da dâhil olmak üzere ekipmanın türüne göre belirlenen aralıklarla yapılır. Patlayıcı ortamda kullanılan iş ekipmanlarının uygunluk kontrolü esnasında, uygunluk belgesi kapsamındaki özelliklerin devam etme durumuna ilişkin TS EN 60079 ve TS EN ISO 80079 standart serilerine göre hareket edilir.

(2) Conformity control of work equipment used in explosive atmospheres is made at intervals determined according to the type of equipment, including the first installation of the work equipment. During the conformity control of work equipment **used in explosive atmospheres**, TS EN 60079 and TS EN ISO 80079 standard series are followed regarding the continuation of the features within the scope of the certificate of conformity.

IEC/EN 60079-14 and EN 60079-17

The national requirement and the practical application

Technical and Personnel Requirements for Periodic Controls in Explosive Atmospheres

Resmî Gazete Tarihi: 25.04.2013 Resmî Gazete Sayısı: 28628

İŞ EKİPMANLARININ KULLANIMINDA SAĞLIK VE GÜVENLİK ŞARTLARI YÖNETMELİĞİ

EK-III

(Değişik:RG-18/2/2022-31754) (6)

BAKIM, ONARIM VE PERİYODİK KONTROLLER İLE İLGİLİ HUSUSLAR

1.13. Bu Yönetmeliğin 7/A maddesi kapsamında patlayıcı ortamda kullanılan iş ekipmanlarının periyodik kontrollerini; ilgili branşlardan periyodik kontrol yapmaya yetkili mühendis, teknik öğretmen, tekniker veya yüksek tekniker gerçekleştirir. Patlayıcı ortamda kullanılan iş ekipmanlarının uygunluk kontrolünün yapılabilmesi için Bakanlıkça ilan edilecek uluslararası geçerliliği bulunan bir sertifikaya sahip olmak veya Bakanlıkça düzenlenecek ileri eğitimde ilgili modülü tamamlamış olmak şartı aranır.

(1.13) Engineers, technical teachers, technicians or high technicians authorized to make periodic controls from related branches. In order to carry out the conformity control of work equipment **used in explosive atmospheres**, it is required to have an internationally valid certificate to be announced by the Ministry or to have completed the relevant module in the advanced training to be organized by the Ministry.

IECEx Certificate of Personnel Competence (CoPC) from an IECEx Certification Body (ExCB)

or

IECEx training record from an IECEx Recognized Training Provider (RTP)

Example: The start point of an inspection

4.1 Documentation

For the purposes of inspection and maintenance, up-to-date documentation (verification dossier) including any modification records, of the following items shall be available:

- a) zone classification of areas and, if included, the equipment protection level (EPL) required for each location (see IEC 60079-10-1 and IEC 60079-10-2),
- b) for gases: equipment group (IIA, IIB or IIC) and temperature class requirements,
- c) for dusts: equipment group (IIIA, IIIB or IIIC) and maximum surface temperature requirements,
- d) equipment characteristics e.g. temperature ratings, type of protection, IP rating, corrosion resistance,
- e) records sufficient to enable the explosion protected equipment to be maintained in accordance with its type of protection (see IEC 60079-14), (for example list and location of equipment, spares, certificates, technical information),
- f) copies of previous inspection records,
- g) copy of the additional initial inspection records as detailed in IEC 60079-14.

Requirements for other documentation that may be necessary are provided in IEC 60079-14 and IEC 60079-19.

4.2 Qualification of personnel

The inspection and maintenance of installations covered by this standard shall be carried out only by experienced personnel, whose training has included instruction on the various types of protection and installation practices, the requirements of this standard, the relevant national regulations/company rules applicable to the installation and on the general principles of area classification (see Annex B). Appropriate continuing education or training shall be undertaken by personnel on a regular basis. Evidence of the relevant experience and training claimed shall be documented and available.

A national guideline would help to harmonize the daily made inspections of hundreds of inspectors, which:

1. Strictly based on the requirements of the **EN 60079-17** and **EN 60079-14**

2. Made by inspectors, who have

obtained a **Certificate of Personal Competence** (CoPC) by an IECEx ExCB
or

attended a **training** provided and confirmed by an IECEx RTP

requiring the units Ex 001, 002, 003, 007 and 008

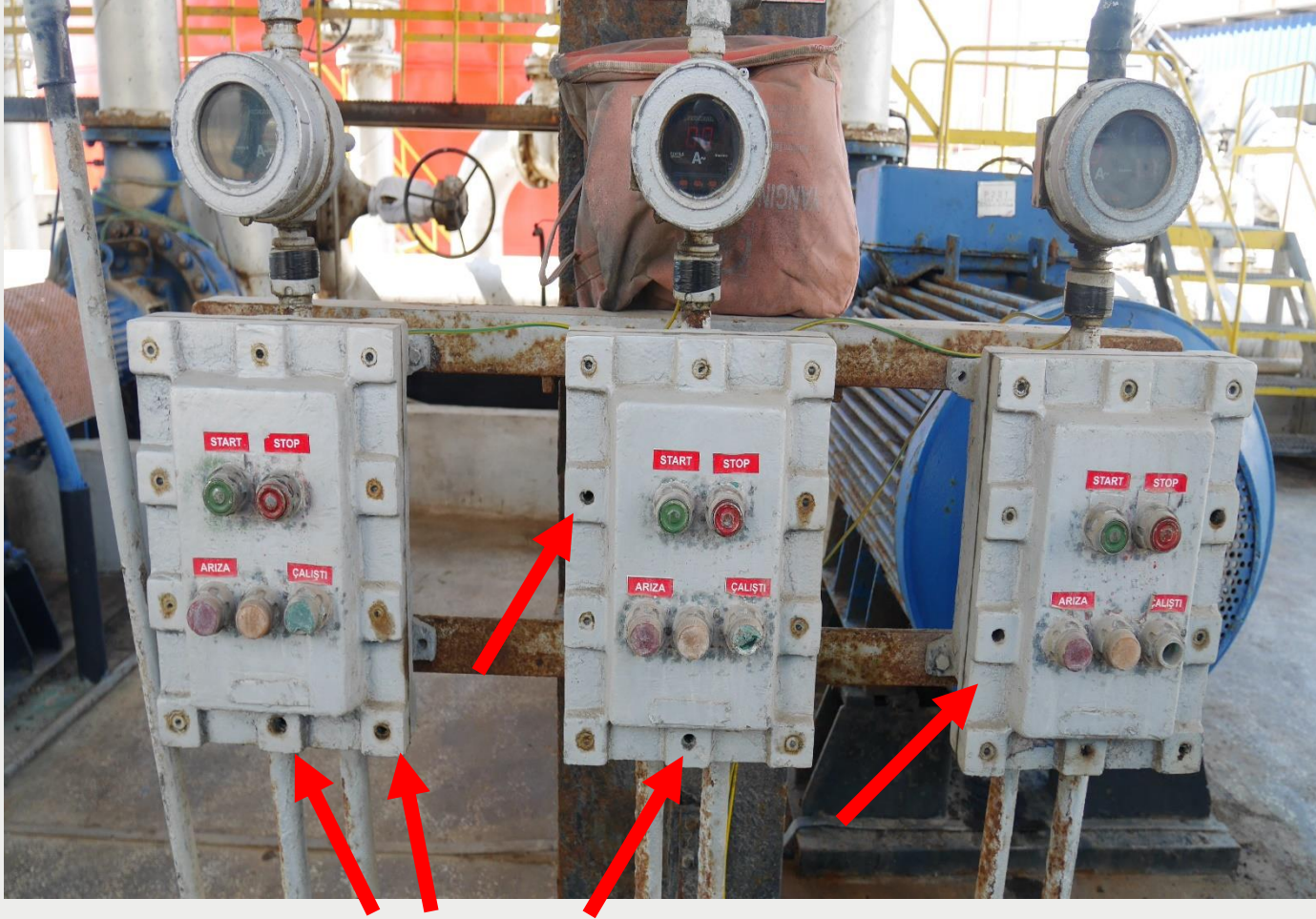
3. Frequent experience exchange meetings to equalize the knowledge of our inspectors, where TSE / MTC 113 could form a working group to start with this project.

Bonus! Findings



Wrong cable entry – only for fixed cable installation

Bonus! Findings



Missing bolts at
"Ex d" enclosures

Bonus! Findings



Unspecified cable entry:

"Ex e"???

Conduit???

Bonus! Findings



Label corroded,
not readable

KOCAELİ SANAYİ ODASI

PROSES

EMNİYETİ SEMPOZYUMU

FUAR İÇİ 41040 İZMİT/KOCAELİ

TEL: +90 262 315 80 00

FAX: +90 262 321 90 70

WEB: www.kosano.org.tr

E-MAIL: kso@kosano.org.tr

