Hydrogen Council

2024 IECEx Hydrogen Conference Singapore, May 29, 2024

Safety, Sustainability and Conformity Assessment

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Global Issues require International Solutions

Participation within Established partnerships -

The Effective vehicle

Global SDOs & Regulators



Key Strategic Partners

Hydrogen Council



















- **H2 Task Force Sustainable Energy Division**









Hydrogen TCP



Community + Stakeholders International Approach ensures **Safety**, Performance + **Sustainability** are <u>fully</u> addressed for the Global Community

Single International Approach instils Regulatory + Market Confidence

Use of **Existing International Standards** (and others coming) + International Certification/Verification and working with existing International Organizations, for any additional needs, prevents wasteful duplication, thereby

- Saves time,
- Keeps costs down
- **Facilitates Global Trade + Innovation**



IECEx Certificates of Conformity Scheme – Well Suited for Hydrogen Technical Field



Equipment



Ex Equipment,
Components +
Systems +
Mechanical
Equipment

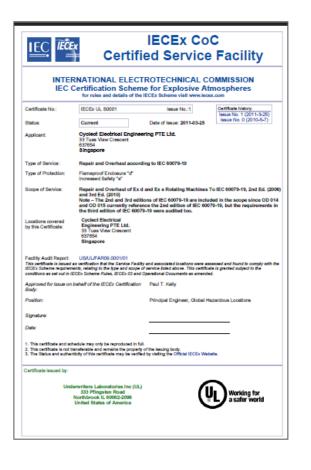
Product testing + initial factory inspection + surveillance

Assemblies



Ex Equipment Unit Verification e.g. "Assemblies"

Services



Ex Services, e.g. Repair + Overhaul

Installation

Inspection

Personnel



Ex Competent Person, with Photo ID Card

Started 1996

Currently **over 100** IECEx
Certification Bodies offer
IECEx Certification
>**140,000** Certificates +
Reports issued including over
30,000 Certificates covering
H2:

- Equipment
- Services
- Personnel Cert.

IECEx Certificates issued in 90+ Countries

Pioneering Approach to Certification of H2 Dispensers (via IECEx Operational Document OD 290)

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ISO/DIS 19880-2

Second edition

Secretariat: SCC/BNQ

Prepared by ISO/TC 197/WG 19

Date: April 22, 2024

Gaseous Hydrogen — Fuelling stations — Part 2: Dispensers and dispensing systems

- □IECEx OD 290 is NOT a specification, rather it is a scheme document to ensure consistency among aa test Houses and Certification Bodies when certifying H2 Dispensers
- □OD 290 developed in close cooperation and input from ISO/TC 197 experts, and used in conjunction with IEC/TS 60079-46 *Equipment Assemblies*, until ISO 19880-2 is published
- □ Annex A "Qualification and Routine Tests" prided by ISO/TC 197 experts to align with DIS 19880-2.
- ☐ Satisfies immediate industry need to facilitate deployment and regulatory approvals of HRS.



IECEX OD 290

Edition 1.0 2022-11

IECEX OPERATIONAL DOCUMENT

IEC System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres (IECEx System)

IECEx certified equipment scheme –
Harmonized procedures for IECEx certification of equipment, components and systems associated with the production, dispensing and use of gaseous hydrogen

Similar Approach Fits into H2 Product Certification Scheme (via IECQ CFP claims verification scheme)

TECHNICAL SPECIFICATION

ISO/TS 19870 First edition 2023-11 ☐ISO/TS 19870:2023 is based on ISO 14067 for CFP and ISO 14040 and 14044 for LCA.

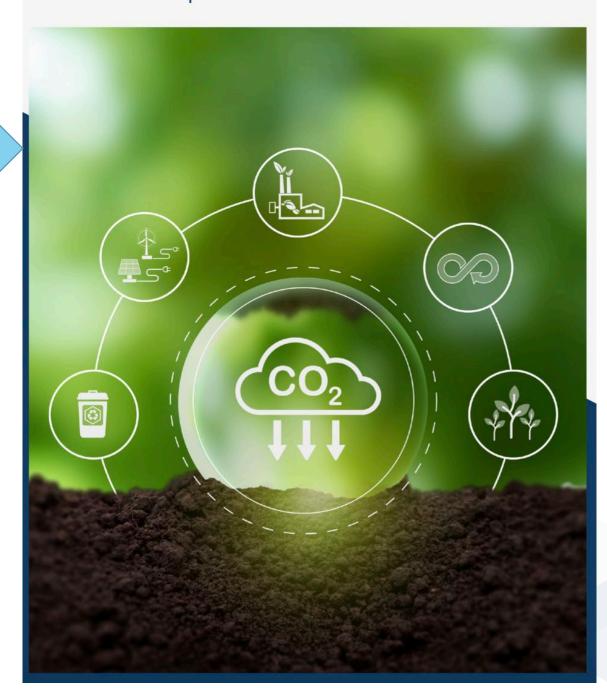
Hydrogen technologies — Methodology for determining the greenhouse gas emissions associated with the production, conditioning and transport of hydrogen to consumption gate

Technologies de l'hydrogène — Méthodologie pour déterminer les émissions de gaz à effet de serre associées à la production, au conditionnement et au transport de l'hydrogène jusqu'au point de consommation □Based on ISO 14067, IECQ has launched a new service under its approved process (AP) scheme: the issuing of an IECQ carbon footprint of product claims verification.





Carbon footprint of product claims verification





Reference number ISO/TS 19870:2023(E)

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