

Gaseous Hydrogen Blends & Hydrogen Fuelling Stations

Guidelines for Installation and Operation

CONTENTS

1	Scope	
2	Normative references	
3	Terms and Definitions	
3.1	Refuelling Stations for Pressurised Hydrogen Gas	
3.2	Characterisation of Gaseous Hydrogen	
3.3	Buffer Storage	
3.4	Purification unit	
3.5	Dispenser Units	
3.6	Natural ventilation	
3.7	Working pressure	
3.8	Design pressure	
3.9	Pressure relief components	
3.10	Measure, Control and Monitoring Equipment	
3.11	Static Electricity	
3.12	Mechanically Actuating Safety Equipment	
3.13	Operating Area	
3.14	Flammable Atmosphere	
3.15	Area classification	
3.16	Hazardous area	
3.17	Non-hazardous area	
3.18	Zones	
3.19	Safety distance	
3.20	Purging	
3.21	Hot work	
4	Design Specifications	
4.1	General Design features	
4.2	Layouts of Gaseous Hydrogen Vehicle Refuelling Station	
4.3	Basic requirements for buildings and enclosures	
4.4	Choice of Materials	
4.5	Equipment	
4.6	Compressor	
4.7	Gas Drying	
4.8	Filters and Separators	
4.9	Piping	
4.10	Connections	
4.11	Valves	

4.12	Process system - Venting, Pressure Relief and Venting Discharge Devices.....
4.13	Design of Dispensing Units.....
4.14	Flexible Fuelling Hose
4.15	Cleaning considerations.....
5	Functional requirements regarding safety
5.1	Zoning and Requirements for Electrical Equipment
5.2	Lightning Protection and Static Charge Equalisation.....
5.3	Measure, Control and Monitoring Protection Equipment Including Data Communication.....
5.4	Gas and Fire detection Instruments
5.5	Fire Protection
5.6	Control and monitoring of compressors
5.7	Dispensing Unit.....
6	Performance requirements
6.1	General
6.2	Refuelling, Metering and Control.....
6.3	Alarm and Danger Protection Plan.....
7	Training and Protection of Service Personnel
7.1	Personnel
7.2	Training
8	Maintenance
8.1	Maintenance Programme.....
8.2	Documentation
8.3	Records.....
8.4	Cleaning procedure.....
8.5	Qualification
9	Testing and Marking
9.1	Pressure tests
9.2	Leak tests.....
9.3	Functional tests.....
9.4	Marking