

# ISO 19880-5:2025-07 (E)

## Gaseous hydrogen - Fuelling stations - Part 5: Dispenser hoses and hose assemblies

<b>Contents</b>		<b>Page</b>
Foreword .....		v
Introduction .....		vi
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>2</b>
<b>4</b>	<b>Classification .....</b>	<b>5</b>
<b>5</b>	<b>Materials and construction .....</b>	<b>6</b>
5.1	General .....	6
5.2	Lining .....	6
5.3	Reinforcement .....	6
5.4	Cover .....	7
5.5	Static electricity dissipation .....	7
5.5.1	General .....	7
5.5.2	External surface .....	7
5.5.3	Internal surface .....	7
<b>6</b>	<b>Dimensions and tolerances .....</b>	<b>7</b>
<b>7</b>	<b>Performance requirements and testing .....</b>	<b>7</b>
7.1	General .....	7
7.2	Leakage test .....	8
7.2.1	General .....	8
7.2.2	Type tests - Method A .....	8
7.2.3	Routine tests - Method B .....	9
7.3	Hydrostatic strength .....	10
7.3.1	Proof pressure test .....	10
7.3.2	Ultimate strength .....	10
7.4	Electrical conductivity .....	10
7.5	Tensile test of hose assembly .....	10
7.5.1	General .....	10
7.5.2	Test method .....	11
7.6	Vertical load strength .....	11
7.6.1	General .....	11
7.6.2	Test method .....	11
7.7	Torsion strength .....	12
7.7.1	General .....	12
7.7.2	Test method .....	12
7.8	Pressure cycle test (Hydraulic-pressure impulse test) .....	13
7.8.1	General .....	13
7.8.2	Apparatus .....	13
7.8.3	Test fluid .....	13
7.8.4	Test temperature .....	13
7.8.5	Test piece .....	13
7.8.6	Procedure .....	14
7.9	Hydrogen impulse test .....	15
7.10	Corrosion test .....	15

7.10.1	General .....	15
7.10.2	Test conditions .....	16
7.11	Minimum bend radius .....	16
7.12	Hose permeation .....	16
7.12.1	General .....	16
7.12.2	Test Method 1 .....	16
7.12.3	Test Method 2 .....	17
7.13	Ozone resistance .....	17
7.14	Ultraviolet light and water exposure test .....	18
7.14.1	Applicability and verification .....	18
7.14.2	Test conditions .....	18
7.14.3	Length of exposure .....	18
7.15	Crush test .....	18
7.15.1	General .....	18
7.15.2	Test method .....	18
7.16	Abrasion resistance test .....	18
7.17	Marking material legibility .....	19
7.17.1	General .....	19
7.17.2	Test method .....	19
7.18	Electrical properties of lining material .....	19
7.18.1	General .....	19
7.18.2	Electric strength .....	19
7.18.3	Volume resistivity .....	19
7.18.4	Criteria of electric properties of lining materials .....	19
8	Marking .....	20
8.1	General .....	20
8.2	Hoses .....	21
8.3	Hose end fittings or couplings .....	21
8.4	Hose assemblies .....	21
9	Instruction manual .....	21
9.1	General .....	21
9.2	Selection .....	22
9.3	Installation .....	22
9.4	Inspection and maintenance .....	22
9.5	Safety precautions and usage .....	22
10	Test report .....	23
Annex A (normative) Type tests and routine tests .....		24
Annex B (informative) Production acceptance tests .....		25
Annex C (normative) Hydrogen impulse test .....		26
Bibliography .....		29