ISO 16111:2008-11 (E)

Transportable gas storage devices - Hydrogen absorbed in reversible metal hydride

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 Service conditions 4
4.1 Pressures 4
4.2 Rated capacity 4
4.3 Temperature ranges 4
4.4 Environmental conditions 5
4.5 Service life 5
4.6 Hydrogen quality 5
4.7 Special service conditions 5

5 Design considerations 5
5.1 General 5
5.2 Material selection 5
5.3 Shell design 6
5.4 Design strength 7
5.5 Overpressure and fire protection 7
5.6 Loading of hydrogen absorbing alloy 8
5.7 Shut-off valves 8
5.8 Actively cooled MH assemblies 9
5.9 Particulate containment 10

6 Inspection and testing 10
6.1 General 10
6.2 Type / qualification tests 10
6.3 Batch tests 21
6.4 Routine tests and inspections 22

7 Marking, labelling, and documentation 22
7.1 Marking 22
7.2 Labelling 23

8 Documentation accompanying the product 23
8.1 Material safety data sheets 23
8.2 Users or operating manual 23

Annex A (informative) Material compatibility for hydrogen service 25

Annex B (normative) Environmental tests 28

Annex C (informative) Type approval certificate 33

Annex D (informative) Acceptance certificate 35

Bibliography 37