AS 13985:2024

Australian STANDARD®

STANDARDS Australia

Liquid hydrogen — Land vehicle fuel tanks (ISO 13985:2006, MOD)

AS 13985:2024

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Australian Hydrogen Council
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Chemistry Australia
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Liquid hydrogen — Land vehicle fuel tanks (ISO 13985:2006, MOD)

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Preface

This Standard was prepared by the Standards Australia Committee ME-093, Hydrogen Technologies.

The objective of this document is to specify the construction requirements for refillable fuel tanks for liquid hydrogen used in land vehicles, as well as the testing methods required to ensure that a reasonable level of protection from loss of life and property resulting from fire and explosion is provided.

This document is an adoption with national modifications, and has been reproduced from ISO 13985:2006, *Liquid hydrogen — Land vehicle fuel tanks*. The modifications are set out in national variations boxes which give instructions where the ISO text is to be modified for use in Australia. Due to ISO copyright policy it is not possible to directly modify the ISO content.

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Contents

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13985 was prepared by Technical Committee ISO/TC 197, *Hydrogen technologies*.

Introduction

NATIONAL VARIATION

Delete "ISO 13984" and *replace* with "AS 13984".

The fuel tanks described in this International Standard are intended to be used in conjunction with the fuelling system interface described in ISO 13984.

Australian Standard®

Liquid hydrogen — Land vehicle fuel tanks (ISO 13985:2006, MOD)

1 Scope

This International Standard specifies the construction requirements for refillable fuel tanks for liquid hydrogen used in land vehicles as well as the testing methods required to ensure that a reasonable level of protection from loss of life and property resulting from fire and explosion is provided.

This International Standard is applicable to fuel tanks intended to be permanently attached to land vehicles.

2 Normative references

NATIONAL VARIATIONS

1. *Delete* "ISO 13984, *Liquid hydrogen — Land vehicle fuelling system interface*" and *replace* with the following:

AS 13984, *Liquid hydrogen — Land vehicle fuelling system interface (ISO 13984:1999, MOD)*

2. *Delete the following:*

ISO 188:1998, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 1431-1, *Rubber, vulcanized or thermoplastic — Resistance to ozone cracking — Part 1: Static and dynamic strain testing*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

ISO 21013-3, *Cryogenic vessels — Pressure-relief accessories for cryogenic service — Part 3: Sizing and capacity determination*

ISO 21029-1 2004, *Cryogenic vessels — Transportable vacuum insulated vessels of not more than 1 000 l volume — Part 1: Design, fabrication, inspection and tests*.

3. Following "ISO 23208, *Cryogenic vessels — Cleanliness for cryogenic service*", *add* the following:

AS 1210, *Pressure vessels*

ASME Boiler and pressure vessel code Section VIII, *Rules for construction of pressure vessels* (known as ASME Section VIII)

UN R134, *Uniform provisions concerning the approval of motor vehicles and their components with regard to the safety-related performance of hydrogen-fuelled vehicles (HFCV)*

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 188:1998, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 1431-1, *Rubber, vulcanized or thermoplastic — Resistance to ozone cracking — Part 1: Static and dynamic strain testing*

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

ISO 6957, *Copper alloys — Ammonia test for stress corrosion resistance*