INTERNATIONAL STANDARD

ISO 12619-12

First edition
2017-08

Road vehicles — Compressed gaseous hydrogen (CGH2) and hydrogen/ natural gas blends fuel system components —

Part 12: Gas-tight housing and ventilation hoses

Véhicules routiers — Composants des circuits d'alimentation pour hydrogène gazeux comprimé (CGH2) et mélanges de gaz naturel et hydrogène —

Partie 12: Compartiment étanche pour gaz et tuyaux de ventilation

Reference number
ISO 12619-12:2017(E)

© ISO 2017



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Marking **2**
5 Construction and assembly **2**
6 Tests **2**
6.1 Applicability 2
6.2 Leakage 3
6.2.1 External leakage 3
6.2.2 External leakage — Pressure retaining ventilation passages 3
6.2.3 Venting ability and pressure retention 4
6.3 Pull-off 4
Bibliography **5**

© ISO 2017 – All rights reserved

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 41, *Specific aspects for gaseous fuels*.

A list of all parts in the ISO 12619 series can be found on the ISO website.

© ISO 2017 – All rights reserved

Road vehicles — Compressed gaseous hydrogen (CGH2) and hydrogen/natural gas blends fuel system components —

Part 12: Gas-tight housing and ventilation hoses

1 Scope

This document specifies tests and requirements for the gas-tight housing and ventilation hose, a compressed gaseous hydrogen (CGH_2) and hydrogen/natural gas blend fuel system component intended for use on the types of motor vehicles defined in ISO 3833.

It is applicable to vehicles using CGH_2 in accordance with ISO 14687-1 or ISO 14687-2 and hydrogen/natural gas blend using natural gas in accordance with ISO 15403-1 and ISO/TR 15403-2. It is not applicable to the following:

a) liquefied hydrogen (LH_2) fuel system components;

b) fuel containers;

c) stationary gas engines;

d) container mounting hardware;

e) electronic fuel management;

f) refuelling receptacles;

g) fuel cell vehicles.

NOTE 1 It is recognized that miscellaneous components not specifically covered herein can be examined to meet the criteria of this document and tested according to the appropriate functional tests.

NOTE 2 All references to pressure in this document are considered gauge pressures unless otherwise specified.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 12619-1, *Road vehicles — Compressed gaseous hydrogen (CGH_2) and hydrogen/natural gas blend fuel system components — Part 1: General requirements and definitions*

ISO 12619-2, *Road vehicles — Compressed gaseous hydrogen (CGH_2) and hydrogen/natural gas blend fuel system components — Part 2: Performance and general test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12619-1 apply.

© ISO 2017 – All rights reserved

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

4 Marking

Marking of the component shall provide sufficient information to allow the following to be traced:

a) the manufacturer's or agent's name, trademark or symbol;

b) the model designation (part number);

c) the temperature range.

The following additional markings are recommended:

— the direction of flow (when necessary for correct installation);

— the type of fuel;

— the electrical ratings (if applicable);

— the symbol of the certification agency;

— the type approval number;

— the serial number or date code;

— a reference to this document, i.e. ISO 12619-12:2017.

NOTE This information can be provided by a suitable identification code on at least one part of the component when it consists of more than one part.

5 Construction and assembly

The gas-tight housing and ventilation hose shall comply with the applicable provisions of ISO 12619-1 and ISO 12619-2 and with the tests specified in Clause 6.

The gas-tight housing and ventilation hose are intended to contain and vent to a safe place permeation gas and small leaks from the primary pressure retaining components.

The gas-tight housing shall be assembled in such a way that the function of the pressure relief device or devices (PRD) will not be affected.

6 Tests

6.1 Applicability

The tests required to be carried out are indicated in Table 1.

© ISO 2017 – All rights reserved