

STN	Plynný vodík Tepelne aktivované poistné tlakové zariadenia pre palivové nádrže vozidiel na stlačený vodík	STN ISO 19882 30 2352
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Gaseous hydrogen

Thermally activated pressure relief devices for compressed hydrogen vehicle fuel containers

Hydrogène gazeux

Dispositifs limiteurs de pression thermiquement activés pour les conteneurs de carburant de véhicules à hydrogène comprimé

Táto slovenská technická norma obsahuje anglickú verziu medzinárodnej normy ISO 19882: 2025 a má postavenie oficiálnej verzie.

This standard includes the English version of the International standard ISO 19882: 2025 and has the status of the official versions.

143093

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2026

Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii v znení neskorších predpisov.

Anotácia

Tento dokument špecifikuje minimálne požiadavky na poistné tlakové zariadenia určené na použitie v palivových nádržiach vozidiel poháňaných vodíkom, ktoré sú v súlade s ISO 19881, IEC 62282-4-101, CSA/ANSI HGV 2, EC79/EU406, SAE J2579, UN ECE R134 alebo UN GTR č. 13.

Uplatniteľnosť tohto dokumentu je obmedzená na tepelne aktivované poistné tlakové zariadenia inštalované na palivových nádržiach obsahujúcich plynny vodík podľa ISO 14687 pre pozemné vozidlá s palivovými článkami a spaľovacími motormi. Tento dokument špecifikuje požiadavky na tepelne aktivované poistné tlakové zariadenia prijateľné na použitie v nasledujúcich typoch pozemných vozidiel:

- ľahké úžitkové vozidlá;
- ťažké úžitkové vozidlá;
- priemyselné motorové nákladné vozidlá, ako sú vysokozdvížne vozíky a iné vozidlá na manipuláciu s materiálom.

Požiadavky na iné typy pozemných vozidiel, ako sú železničné, terénne atď., možno odvodiť s náležitým zohľadnením príslušných prevádzkových podmienok.

Tento dokument sa nevzťahuje na uzatváracie zariadenia na opätovné utesnenie ani na zariadenia aktivované tlakom.

Poistné tlakové zariadenia môžu byť akejkoľvek konštrukcie alebo výrobné metódy, ktorá spĺňa požiadavky tohto dokumentu.

Národný predhovor

Normatívne referenčné dokumenty

Na nasledujúce dokumenty sa odkazuje v texte takým spôsobom, že časť ich obsahu alebo celý obsah predstavuje požiadavky tohto dokumentu. Pri datovaných odkazoch sa používa len citované vydanie. Pri nedatovaných odkazoch sa používa najnovšie vydanie citovaného dokumentu (vrátane akýchkoľvek zmien).

POZNÁMKA 1. – Ak bola medzinárodná publikácia zmenená spoločnými modifikáciami, čo je indikované označením (mod), použije sa príslušná EN/HD.

POZNÁMKA 2. – Aktuálne informácie o platných a zrušených STN a TNI možno získať na webovom sídle www.unms.sk.

ISO 1431-1 dosiaľ neprijatá

ISO 188 dosiaľ neprijatá

ISO 6270-2 prijatá ako STN EN ISO 6270-2 Náterové látky. Stanovenie odolnosti náterov proti pôsobeniu vlhkosti. Časť 2: Kondenzácia (expozícia v komore so zásobníkom ohriatej vody) (ISO 6270-2) (67 2012)

ISO 14687 dosiaľ neprijatá

ISO 19881 prijatá ako STN ISO 19881 Plynny vodík. Palivové nádrže pozemných vozidiel (30 2351)

ASTM D572 dosiaľ neprijatá

ASTM D1149 dosiaľ neprijatá

ASTM D1193 dosiaľ neprijatá

CSA/ANSI HGV 2 dosiaľ neprijatá

UN GTR No. 13 dosiaľ neprijatá

SAE J2579 dosiaľ neprijatá

SAE J2719 dosiaľ neprijatá

Vypracovanie

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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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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For an explanation of 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 www.iso.org/iso/foreword.html.

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

This second edition cancels and replaces the first edition (ISO 19882:2018), which has been technically revised.

The main changes are as follows:

- addition of pilot TPRDs and PRD valve coverage;
- updates to design qualification test procedures;
- additional test requirements for excess torque resistance, hydrostatic strength and waterjet protection.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

ISO 19882:2025(en)**Introduction** *SAE J2578, Standard for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles*

SAE J2719, *Hydrogen Fuel Quality for Fuel Cell Vehicles*

The purpose of this document is to promote the implementation of hydrogen powered land vehicles through the creation of performance-based testing requirements for thermally activated pressure relief devices for compressed hydrogen fuel containers. The successful commercialization of hydrogen land vehicle technologies requires standards pertaining vehicle fuel system components and the global homologation of standards requirements for technologies with the same end use. This will allow manufacturers to achieve economies of scale in production through the ability to manufacture one product for global use.

Documents which apply to hydrogen fuel vehicles and hydrogen fuel subsystems include IEC 62282- 4-101, SAE J2578, SAE J2579, UN ECE R134, or UN GTR No. 13.

[Annex A](#) presents an informative record of recommended fuel container, fuel storage subsystem and vehicle level requirements. The statements in [Annex A](#) are intended as recommendations for consideration of inclusion by the organizations and committees developing standards on these sub-system and vehicle level standards.

[Annex B](#) presents a rationale for the design qualification tests in this document.

This document is based on the CSA Standard CSA/ANSI HPRD 1:21.

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SAE J2579, *Standard for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles*

SAE J2719, *Hydrogen Fuel Quality for Fuel Cell Vehicles*

SAE J2579, *Standard for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles*

SAE J2719, *Hydrogen Fuel Quality for Fuel Cell Vehicles*

Gaseous hydrogen — Thermally activated pressure relief devices for compressed hydrogen vehicle fuel containers

1 Scope

This document specifies minimum requirements for pressure relief devices intended for use on hydrogen fuelled vehicle fuel containers that comply with ISO 19881, IEC 62282-4-101, CSA/ANSI HGV 2, EC79/EU406, SAE J2579, UN ECE R134, or the UN GTR No. 13.

The applicability of this document is limited to thermally activated pressure relief devices installed on fuel containers containing gaseous hydrogen according to ISO 14687 for fuel cell and internal combustion land vehicles. This document specifies requirements for thermally activated pressure relief devices acceptable for use on-board the following types of land vehicles:

- light-duty vehicles;
- heavy-duty vehicles;
- industrial powered trucks, such as forklifts and other material handling vehicles.

Requirements for other types of land vehicles such as rail, off-road, etc., can be derived with due consideration of appropriate service conditions.

This document does not apply to reseating, resealing, or pressure-activated devices.

Pressure relief devices can be of any design or manufacturing method that meets the requirements of this document.

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

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

ISO 6270-2, *Paints and varnishes — Determination of resistance to humidity — Part 2: Condensation (in-cabinet exposure with heated water reservoir)*

ISO 14687, *Hydrogen fuel quality — Product specification*

ISO 19881, *Gaseous hydrogen — Land vehicle fuel containers*

ASTM D572, *Standard Test Method for Rubber — Deterioration by Heat and Oxygen*

ASTM D1149, *Standard Test Methods for Rubber Deterioration — Cracking in an Ozone Controlled Environment*

ASTM D1193, *Standard Specification for Reagent Water*

CSA/ANSI HGV 2, *Compressed hydrogen gas vehicle fuel containers*

UN GTR No. 13, *UN Global Technical Regulation on Hydrogen and Fuel Cell Vehicles*

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SAE J2579, *Standard for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles*

SAE J2719, *Hydrogen Fuel Quality for Fuel Cell Vehicles*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN