



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 41134.1-2021

**Fuel cell power systems for industrial electric trucks - Part 1:
Safety**

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Foreword

This document was drafted in accordance with the rules in GB/T 1.1-2020 Directives for Standardization - Part 1.Rules for the Structure and Drafting of Standardizing Documents.

This document is Part 1 of GB/T 41134 Fuel Cell Power Systems for Industrial Electric Trucks.

GB/T 41134 has issued the following parts.

---Part 1.Safety;

---Part 2.Performance Test Methods.

This document adopts the redrafting method in the modification and adoption of IEC 62282-4-

101.2014 Fuel Cell Technologies - Part 4-101.Fuel Cell Power Systems for Propulsion other

than Road Vehicles and Auxiliary Power Unit (APU) - Safety of Electrically Powered Industrial

Trucks.

In comparison with IEC 62282-4-101.2014, this document makes the following structural adjustments.

---4.16 and 4.17 are added;

---Test conditions of 5.1 c) are added;

---5.11.1 and 5.11.2 are added;

---7.1, 7.2 and 7.3 are added;

---4.3.3 ~ 4.3.8, 4.9.1 ~ 4.9.10, 4.10.1 ~ 4.10.8, 4.13.10, 5.17.1 ~ 5.17.3 are deleted;
4.13.11

is adjusted to 4.13.10; 4.13.12 is adjusted to 4.13.11; 4.13.13 is adjusted to 4.13.12;

---5.20 is deleted; 5.21 in IEC 62282-4-101.2014 is adjusted to 5.20; 5.22 is adjusted to 5.21; 5.23 is adjusted to 5.22;

---Figure 2, Figure 3, Figure 4 and Table 1 are deleted; Figure 5 in IEC 62282-4-101.2014

is adjusted to Figure 2; Figure 6 is adjusted to Figure 3; Table 2 is adjusted to Table 1;

Table 3 is adjusted to Table 2; Table 4 is adjusted to Table 3;

---Appendix A in IEC 62282-4-101.2014 is adjusted to Appendix B.

In comparison with IEC 62282-4-101.2014, this document has technical differences. The clauses, to which, these differences relate, have been indicated by vertical single lines (?) in the

outer margins.

In comparison with IEC 62282-4-101.2014, the technical differences and the reasons for these

differences are as follows.

---Some international standards in Normative References are added, deleted and replaced; Appendix A lists the differences between this document and IEC 62282-4-101.2014 in Normative References;

---The terms and definitions of check-valve, maximum allowable working pressure, maximum operating pressure and zone system of classification are modified (see 3.3, 3.14, 3.16 and 3.26);

---For ease of use, the requirements for hydrogen pressure container, metal hydride container, overpressure protection, regulating valve, ventilation measures, electrostatic discharge, electrical components of fuel cell power system, internal wiring, external wiring, lamps and lamp sockets are modified, so as to maintain consistency with the requirements of the existing national standards (see 4.2.3.2, 4.2.4, 4.3.2, 4.5.2, 4.9, 4.10, 4.13.1.3, 4.13.2, 4.13.3, 4.13.8);

---The requirements for insulation resistance and vibration resistance are added (see 4.16 and 4.17);

---The safety performance requirements and general test conditions for type test are added [see 5.1 c)];

---For ease of use, the test contents of fuel container stability test, insulation and voltage resistance test, rain drop test, enclosure bearing capacity test and thermoplastic material needle flame test are modified, so as to maintain consistency with the existing national standards (see 5.3, 5.11, 5.17, 5.18.1, 5.19 and 6.1);

---For ease of use, the marking is modified, so as to maintain consistency with the existing national standards (see Chapter 7);

---For ease of use, some requirements and test methods for overpressure and thermal protection, ventilation measures of preventing the accumulation of flammable gases and vapors, electrostatic discharge, electrical insulation, environmental testing and adhesion test of marking plates are deleted (see 4.3.2 ~ 4.3.8, 4.9.1 ~ 4.9.10, 4.10.1 ~ 4.10.8, 4.13.10, 5.17.1 ~ 5.17.3, 5.20 of IEC 62282-4-101.2014).