Nederlandse norm

NEN-ISO 23274-1

(en)

Hybrid-electric road vehicles - Exhaust emissions and fuel consumption measurements - Part 1: Non-externally chargeable vehicles (ISO 23274-1:2013,IDT)

Vervangt NEN-ISO 23274:2007,deels

ICS 43.120

januari 2013

Als Nederlandse norm is aanvaard:

- ISO 23274-1:2013,IDT

Normcommissie 345042 "Wegvoertuigen"

NEN

©2013 Nederlands Normalisatie-instituut
Postbus 5059, 2600 GB Delft
Telefoon (015) 2 690 390, Fax (015) 2 690 190

INTERNATIONAL STANDARD

ISO 23274-1

First edition
2013-01-15

Hybrid-electric road vehicles — Exhaust emissions and fuel consumption measurements —

Part 1: Non-externally chargeable vehicles

Véhicules routiers électriques hybrides — Mesurages des émissions à l'échappement et de la consommation de carburant —

Partie 1: Véhicules non rechargeables par des moyens externes

Reference number
ISO 23274-1:2013(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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 23274-1 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 21, *Electrically propelled road vehicles*.

This first edition, together with ISO 23274-2, cancels and replaces ISO 23274:2007, which has been technically revised.

ISO 23274 consists of the following parts, under the general title *Hybrid-electric road vehicles — Exhaust emissions and fuel consumption measurements*:

— *Part 1: Non-externally chargeable vehicles*

— *Part 2: Externally chargeable vehicles*

INTERNATIONAL STANDARD **ISO 23274-1:2013(E)**

Hybrid-electric road vehicles — Exhaust emissions and fuel consumption measurements —

Part 1: Non-externally chargeable vehicles

1 Scope

This part of ISO 23274 specifies a chassis dynamometer test procedure to measure the exhaust emissions and the electric energy and fuel consumption for the vehicles.

This part of ISO 23274 applies to vehicles with the following characteristics:

— the vehicle is classified as passenger cars or light duty trucks, as defined in each regional annex;

— the nominal energy of the rechargeable energy storage system (RESS) is at least 2 % of the total energy consumption over an applicable driving test (ADT);

— internal combustion engine (ICE) only using liquid fuels (for example, gasoline and diesel fuel).

NOTE 1 In the case of the vehicles with ICE using other fuel [for example, compressed natural gas (CNG), liquefied petroleum gas (LPG), hydrogen], this part of ISO 23274 can apply except the measurement of consumed fuel; otherwise the measurement method for those using the corresponding fuel can apply.

This part of ISO 23274 proposes procedures for correcting the measured emissions and fuel consumption of hybrid electric vehicles (HEVs), in order to obtain the values when the battery state of charge (SOC) of the RESS does not remain the same between the beginning and the end of an ADT.

It can also be applied to measurement procedures for exhaust emissions and fuel consumption of externally chargeable HEVs when a vehicle is not externally charged and operated only in the charge sustaining (CS) state, as described in ISO 23274-2.

NOTE 2 For CS state, see ISO 23274-2.

2 Normative references

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 10521 (all parts), *Road vehicles — Road load*

ISO/TR 8713, *Electrically propelled road vehicles — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TR 8713 and the following apply.

3.1
applicable driving test
ADT
single driving test schedule which is specified for each region

EXAMPLE Chassis dynamometer test cycle for light-duty vehicles in Japan (JC08), New European Driving Cycle (NEDC), Urban Dynamometer Driving Schedule (UDDS)

3.2
charge balance of battery
change of charge in battery during fuel consumption measurement

Note 1 to entry: Normally expressed in ampere hours (Ah).

3.3
energy balance of battery
ΔE_{RESS}
change of battery energy state during an applicable driving test

Note 1 to entry: Normally expressed in watt hours (Wh).

Note 2 to entry: For practical use, the energy balance of RESS is approximated by multiplying the charge balance of battery in ampere hours (Ah) by the nominal voltage in volts (V). Nominal voltage is defined in ISO 12405-1 or ISO 12405-2.

3.4
externally chargeable HEV
HEV with a rechargeable energy storage system (RESS) that is intended to be charged from an external electric energy source

Note 1 to entry: External charge for the purpose of conditioning of the RESS is not included.

Note 2 to entry: Externally chargeable HEVs are widely known as plug-in HEVs (PHEVs).

3.5
hybrid-electric vehicle
HEV
vehicle with both a rechargeable energy storage system (RESS) and a fuelled power source for propulsion

EXAMPLE Internal combustion engine or fuel cell systems are typical types of fuelled power sources.

3.6
non-externally chargeable HEV
HEV with a rechargeable energy storage system (RESS) that is not intended to be charged from an external electric energy source

3.7
rated capacity
supplier's specification of the total number of ampere hours that can be withdrawn from a fully charged battery pack or system for a specified set of test conditions such as discharge rate, temperature, discharge cut-off voltage, etc.

3.8
rechargeable energy storage system
RESS
system that stores energy for delivery of electric energy and which is rechargeable

EXAMPLE batteries or capacitors

3.9
regenerative braking
braking with conversion of kinetic energy into electric energy for charging the RESS

3.10
state of charge
SOC
available capacity in a battery pack or system

Note 1 to entry: Expressed as a percentage of rated capacity.

4 Test conditions and instrumentation

4.1 Test conditions

4.1.1 General

For test conditions, 4.1.2 to 4.1.4 apply. Otherwise, the regional standards or regulations (see Annex A, B or C, for example) apply.

4.1.2 Ambient temperature

Tests shall be conducted at ambient temperature of (25 ± 5) °C.

4.1.3 Vehicle conditions

4.1.3.1 Vehicle conditioning

Prior to testing, the test vehicle with RESS shall be stabilized as specified by manufacturers, or the mileage shall be accumulated to above 3 000 km and less than 15 000 km.

4.1.3.2 Vehicle appendages

Vehicles shall be tested with normal appendages (mirrors, bumpers, etc.). When the vehicle is on the dynamometer, certain items (e.g. hub caps) should be removed for reasons of safety, where necessary.

4.1.3.3 Vehicle test mass

The vehicle test mass shall be selected in accordance with the regional standards and/or regulations (see Annex A, B or C, for example).

4.1.3.4 Tyres

4.1.3.4.1 General

The correctly rated tyres as recommended by the vehicle manufacturer shall be used.

4.1.3.4.2 Tyre pressure

The vehicle tyres shall be inflated to the pressure specified by the vehicle manufacturer in accordance with the test chosen (track or chassis dynamometer).

4.1.3.4.3 Tyre conditioning

The tyres shall be conditioned as recommended by the vehicle manufacturer.

4.1.3.5 Lubricants

The vehicle lubricants normally specified by the manufacturer shall be used.

Bestelformulier

Stuur naar:

NEN Standards Products & Services
t.a.v. afdeling Klantenservice
Antwoordnummer 10214
2600 WB Delft

NEN Standards Products & Services

Postbus 5059
2600 GB Delft

Vlinderweg 6
2623 AX Delft

T (015) 2 690 390
F (015) 2 690 271

www.nen.nl/normshop

Ja, ik bestel

__ ex. NEN-ISO 23274-1:2013 en Hybride-elektrische wegvoertuigen - Uitlaatgasmeting en brandstofverbruikmetingen - Deel 1: Niet-extern oplaadbare voertuigen	€ 125.90

Wilt u deze norm in PDF-formaat? Deze bestelt u eenvoudig via www.nen.nl/normshop

Gratis e-mailnieuwsbrieven

Wilt u op de hoogte blijven van de laatste ontwikkelingen op het gebied van normen, normalisatie en regelgeving? Neem dan een gratis abonnement op een van onze e-mailnieuwsbrieven. www.nen.nl/nieuwsbrieven

Gegevens

Bedrijf / Instelling

T.a.v. O M O V

E-mail

Klantnummer NEN

Uw ordernummer BTW nummer

Postbus / Adres

Postcode Plaats

Telefoon Fax

Factuuradres (indien dit afwijkt van bovenstaand adres)

Postbus / Adres

Postcode Plaats

Datum Handtekening

Retourneren

Fax: 015 2 690 271
E-mail: klantenservice@nen.nl
Post: NEN Standards Products & Services,
t.a.v. afdeling Klantenservice
Antwoordnummer 10214,
2600 WB Delft
(geen postzegel nodig).

Voorwaarden

- De prijzen zijn geldig tot 31 december 2018, tenzij anders aangegeven.
- Alle prijzen zijn excl. btw, verzend- en handelingskosten en onder voorbehoud bij o.m. ISO- en IEC-normen.
- Bestelt u via de normshop een pdf, dan betaalt u geen handeling en verzendkosten.
- Meer informatie: telefoon 015 2 690 391, dagelijks van 8.30 tot 17.00 uur.
- Wijzigingen en typefouten in teksten en prijsinformatie voorbehouden.
- U kunt onze algemene voorwaarden terugvinden op: www.nen.nl/leveringsvoorwaarden.