



SLOVENSKI STANDARD
SIST EN 16942:2016+A1:2021

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Goriva - Identifikacija združljivosti z vozili - Grafični prikaz informacij za potrošnika

Fuels - Identification of vehicle compatibility - Graphical expression for consumer information

Kraftstoffe - Identifizierung der Fahrzeug-Kompatibilität - Graphische Darstellung zur Verbraucherinformation

Carburants - Identification de la compatibilité des véhicules - Expression graphique pour l'information des consommateurs

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EUROPEAN STANDARD
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Fuels - Identification of vehicle compatibility - Graphical expression for consumer information

Carburants - Identification de la compatibilité des véhicules - Expression graphique pour l'information des consommateurs

Kraftstoffe - Identifizierung der Fahrzeug-Kompatibilität - Graphische Darstellung zur Verbraucherinformation

This European Standard was approved by CEN on 26 August 2016 and includes Amendment 1 approved by CEN on 13 December 2020.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3
Introduction	4
1 Scope	5
2 [A1] Normative references	5
3 Terms and definitions	5
4 Principle	6
5 General identifier requirements	6
5.1 Colour scheme	6
5.2 Discrimination of fuel types	6
5.3 Size.....	7
5.4 Compatibility categorization	7
6 Placement of the identifier	7
6.1 General.....	7
6.2 Refuelling points	7
6.3 Vehicles.....	7
6.4 Vehicle manuals and dealerships.....	8
7 Identifier for petrol-type fuels.....	8
7.1 Shape and sizes	8
7.2 Symbols.....	8
8 Identifier for diesel-type fuels.....	8
8.1 Shape and sizes	8
8.2 Symbols.....	9
9 Identifier for gaseous type fuels	9
9.1 Shape and sizes	9
9.2 Symbols.....	9
10 Outline of optional consumer information at national level.....	9
Annex A (informative) Examples of labels	12
A.1 General.....	12
A.2 Identifier examples for petrol-type fuels	12
A.3 Identifier examples for diesel-type fuels.....	13
A.3.1 Examples for FAME containing diesel-type fuels.....	13
A.3.2 Example for paraffinic diesel fuel	14
A.4 Identifier examples for gaseous fuels.....	14
Annex B (informative) List of actual fuels and their specifications.....	16
Annex C (informative) Examples of labelling.....	17
C.1 Unleaded petrol-type fuels	17
Bibliography.....	19

European foreword

This document (EN 16942:2016+A1:2021) has been prepared by Technical Committee CEN/TC 441 "Fuel labelling", the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2021, and conflicting national standards shall be withdrawn at the latest by September 2021.

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

This document includes Amendment 1 approved by CEN on 13 December 2020.

This document supersedes A1 EN 16942:2016 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

This document supports the implementation of European Directive 2014/94/EU [1]. This document has been developed on the basis of instructions of the European Commission via letters to CEN and CENELEC.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 16942:2016+A1:2021 (E)**Introduction**

In accordance with Article 7, of the Directive 2014/94/EU [1] the EU Member States have to bring into force by 18 November 2016 the laws, regulations and administrative provisions necessary in order to ensure that user information on the compatibility of their vehicles with the fuels or electricity recharging points is provided in motor vehicle manuals, at refuelling and recharging points, as well as on motor vehicles and in motor vehicle dealerships in their territory.

As specified in the Article, this information has to be based on labelling provisions of ESO¹⁾ standards setting technical specifications of fuels. However, none of the labelling provisions of the existing European Standards for fuel quality **A1** (such as EN 228 [2] for unleaded petrol-type fuels **A1** and EN 590 [3] for diesel fuel) includes a graphical expression that meets the requirements of the Directive.

In a letter to CEN of 26 August 2015, the European Commission requested the work of CEN/TC 441 to aim at development and adoption of appropriate European Standard(-s) setting harmonized compatibility labelling specifications for individual fuels placed on the market. These provisions should include a graphical expression, including a colour coding scheme. The graphical expression should also be in line with the following requirements of Article 7 of Directive 2014/94/EU:

- a) to provide relevant, consistent and clear information as regards to those motor vehicles which can be regularly fuelled with compatible fuels placed on the market,
- b) to be simple and easy to understand;
- c) to be able to be placed in a clearly visible manner:
 - 1) on corresponding fuel pumps and their nozzles at refuelling points,
 - 2) on or in the immediate proximity of fuel tanks, filler caps for vehicles, recommended and compatible with that fuel and in motor vehicle manuals.

CEN decided that it would develop a single standard laying down the systematics of the graphical expression for the identification of fuel-vehicle compatibility that would cover a multitude of (existing and future) market fuels. This would allow industry and governments to use this document as basis for implementation of Directive 2014/94/EU. Also existing and future European Standards that need to set requirements regarding labelling can refer to this Standard.

The development of this standard focused on vehicles placed on the market for the first time, which does not preclude the application of this standard also to vehicles already in circulation.

This document is not intended to replace any existing quality, safety or performance recommendations, marketing or branding communication currently featured in similar locations at re-fuelling points, vehicle fuel caps or vehicle manuals.

A1 Additional requirements for labelling of refuelling points in Europe can be found in the specific standards concerning these fuels. For instance, for hydrogen, see EN 17127 [22]. **A1**

1) European Standardization Organization.

1 Scope

This European Standard lays down harmonized identifiers for marketed liquid and gaseous fuels. The requirements in this standard are to complement the informational needs of users regarding the compatibility between the fuels and the vehicles that are placed on the market. The identifier is intended to be visualized at dispensers and refuelling points, on vehicles, in motor vehicle dealerships and in consumer manuals as described in this document.

Marketed fuels include for example petroleum-derived fuels, synthetic fuels, biofuels, natural gas, **A1** LPG **A1**, hydrogen and biogas and blends of the aforementioned delivered to mobile applications.

A1 NOTE For the purposes of this document, the terms “% (m/m)” and “% (V/V)” are used to represent respectively the mass fraction, μ , and the volume fraction, φ . **A1**

2 **A1** Normative references

There are no normative references in this document. **A1**

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

compatibility

fuel/vehicle compatibility

possibility of the fuel to be regularly used in a vehicle without adverse effects on the performance characteristics of the vehicle as declared by the vehicle manufacturer

Note 1 to entry: Usually, it is the components of the vehicle that are exposed to the fuel or the exhaust gases that may show compatibility issues.

3.2

nozzle

mechanical system, fitted to the hose of the dispensing system, consisting of a filling nozzle body

Note 1 to entry: This definition is derived from EN 14678-3:2013, 3.8 [4].

3.3

filler cap

sealing mechanism of the fuel filling point on a vehicle

3.4

filler flap

area of vehicle bodywork that covers a filler cap and opens to provide access to the filler cap or provide a fuel sealing mechanism for cap-less systems

3.5

identifier

graphical expression of compatibility consisting of shape and symbol

3.6

symbol

expression by a combination of letters, numbers or pictorials

EN 16942:2016+A1:2021 (E)**3.7****vehicle**

motor vehicle

transport modality that can be fuelled with a marketed fuel at a refuelling point

Note 1 to entry: Vessels are included herein, in line with [1].

3.8**dispenser**

fuel pump

equipment through which a fuel is supplied to a transport modality

3.9**refuelling point**

facility for the provision of any fuel through one or more dispensers



Note 1 to entry: In practice, terms like service station or filling station are also used.

4 Principle

The identifier laid down in this European Standard consists of a simple shape and symbol that is used to assist consumers in identifying the compatibility of the fuel supplied at a refuelling point. It complements European Standards for setting technical specifications of fuels and also for installation and commissioning of refuelling points.

This European Standard defines for each harmonized labelling identifier the size, shape, colour and other information of relevance for compatibility recognition, as well as the location of placement on the refuelling points and near the vehicle fuel tank.

The labelling provisions, including those on the graphical expression are designed in such a way that they can be adapted to fuels offered on the market for which currently no European Standard for setting technical specifications of fuels exists.

This European Standard provides harmonized compatibility labelling across Europe and thus effectively support the implementation of Article 7 of Directive 2014/94/EU [1] by the EU Member States. The European Standard complements the informational needs of a vehicle user arriving at a refuelling point as regards to the compatibility between a fuel and motor vehicle engine so that consumer can easily distinguish amongst fuel types and grades  (e.g. unleaded petrol , diesel, LPG, natural gas, etc.) and the compatibility of those fuels with their vehicle's engine.

Annex A provides examples of each of the identifiers defined in this European Standard.



5 General identifier requirements**5.1 Colour scheme**

The identifier shall be executed in black with a white or silver internal background.

NOTE Silver labels or plates are common identification spots, for instance in cars and on motor cycles.

5.2 Discrimination of fuel types

In the identifier a shape is used to discriminate three different base fuel types:

- a)  unleaded petrol-type fuels, 
- b) diesel-type fuels, and

c) gaseous type fuels.

5.3 Size

The minimum size of the identifier is defined for a potential need of more than one identifier to be put on a vehicle which can regularly use more than one fuel type offered on the market, in combination with the available space on the filler flap and on the dispenser.

In order for the consumer to recognize the fuel when approaching the dispenser, a larger minimum size is set for the fuel pump.

It is recommended to scale the size upward for the benefit of recognition of the consumer.

5.4 Compatibility categorization

The fuel/vehicle compatibility is categorized by a symbol.

The symbol consists of combination of letters and numbers in normal, Latin script. The symbol shall be based on a Arial Bold font. The symbol shall be placed in the middle of the shape.

NOTE 1 The symbol is based on an industry-wide accepted fuel designation, such as described in Annex B. The symbol does not imply to give any further technical information or certify for any product quality.

NOTE 2 The symbol is not meant to indicate the actual content of biofuel (or the absence thereof).

6 Placement of the identifier

6.1 General

The use of the identifier is intended to meet the informational needs of a vehicle user arriving at a refuelling point regarding the fuel/vehicle compatibility so that a consumer can easily identify the fuel that their vehicle can use.

The presentation of the identifier shall be clearly visible, easily legible and displayed to the consumer on the placement described in this clause.

6.2 Refuelling points

The identifier shall be affixed on the nozzle and on the dispenser, in a position giving a clear one-to-one relation between fuel and nozzle and, fuel and dispenser respectively, in a durable and easy to read position.

In case of a fuel grade selection device, information shall be affixed in a position giving a clear one-to-one relation between the fuel and the selection push button.

In case of a payment or selection terminal that is separate from the nozzle, it is recommended to affix the identifier near the nozzle instrument and near the selection device.

6.3 Vehicles

The identifier shall be affixed in the immediate proximity of the relevant vehicle fuel filler cap or filler flap, in a position giving the consumer a clear one-to-one relation between fuel and vehicle, in a durable and easy to read position.

In case a vehicle can regularly use more than one fuel type, the relevant identifiers shall all be placed around the same location, preferably next to each other.

A recommended location for the identifier is the inside of the filler flap, if present.

EN 16942:2016+A1:2021 (E)**6.4 Vehicle manuals and dealerships**

Information on whether a vehicle can regularly use a fuel type shall be indicated by use of the relevant identifier in the user manuals and in vehicle dealerships in a way that is common practice and is easy to obtain and understand by the user of the vehicle.

It is recommended that the identifier be located close to related information such as the European Standard against which the compatible fuel should be identified at the refuelling point and, in case of petrol, the recommended Research Octane Number (RON).

7 Identifier for petrol-type fuels**7.1 Shape and sizes**

The shape for petrol-type of fuels is a circle.

The size of the identifier shall be:

- a minimum of 13 mm in diameter, with an outer line thickness of 1,4 points, for placement on the nozzle (see 6.2), on the vehicle (see 6.3) and in the vehicle manual (see 6.4), and .
- a minimum of 30 mm in diameter, with an outer line thickness of 3,2 points, for placement on the dispenser (see 6.2) and in the vehicle dealership (see 6.4).

The font size of the symbol shall be scalable to the size of the shape, but the minimum being 14 points.

7.2 Symbols

^{A1} The symbol for unleaded petrol-type fuels according to the relevant standards or equivalent national legislation of the fuel delivered is "EX", with X being replaced by a number that refers to the maximum ethanol content in volume percentage.

Directive 98/70/EC and its amendments [16, 17, 18, 19] define the quality of petrol-type fuels on basis of the ethanol maximum content and a maximum oxygen content. For the sake of simplicity, the symbol refers only to the maximum ethanol content.

EXAMPLE For an unleaded petrol containing 5 % (V/V) of ethanol and up to 3,7 % (m/m) of oxygen due, for instance, to blending of ETBE, symbol 'E10' applies instead of 'E5'.

NOTE Further guidance on how to label unleaded petrol-type fuels is given in Annex C. ^{A1}

8 Identifier for diesel-type fuels**8.1 Shape and sizes**

The shape for diesel-type fuels is a square.

The size of the identifier shall be:

- a minimum of 13 mm by 13 mm, with an outer line thickness of 1,4 points, for placement on the nozzle (see 6.2), on the vehicle (see 6.3) and in the vehicle manual (see 6.4), and
- a minimum of 30 mm by 30 mm, with an outer line thickness of 3,2 points, for placement on the dispenser (see 6.2) and in the vehicle dealership (see 6.4).

The font size of the symbol shall be scalable to the size of the shape, but the minimum being 14 points, with an exemption of 13 points for a four character symbol.

8.2 Symbols

A1 8.2.1 The symbol for diesel type fuels according to the relevant standards or equivalent national legislation of the fuel delivered is “BX”, with X being replaced by a number that refers to the maximum Fatty Acid Methyl Ester (FAME) content in volume percentage.

NOTE The “BX” has no relationship towards the amount of actual biological content since it does not cover renewable hydrocarbons blended into diesel fuel and/or co-processed biological hydrocarbons in diesel fuel. Further guidance on how to label diesel-type fuel is given in Annex C. **A1**

A1 8.2.2 The symbol for paraffinic diesel fuel types according to the relevant standard or equivalent national legislation of the fuel delivered is “XTL”.

NOTE Paraffinic diesel fuel can contain up to 7 % (V/V) Fatty Acid Methyl Ester (FAME). Further guidance on how to label diesel-type fuels is given in Annex C. **A1**

9 Identifier for gaseous type fuels

NOTE The requirements in this Clause are in addition to the vehicle identification requirements following other Regulations [5, 6, 7].

9.1 Shape and sizes

The shape for gaseous type fuels (independent of their origin) is a 90°-angled diamond.

The size of the identifier shall be:

- a minimum width of 13 mm, with an outer line thickness of 1,4 points, for placement on the nozzle (see 6.2), on the vehicle (see 6.3) and in the vehicle manual (see 6.4), and
- a minimum width of 30 mm, with an outer line thickness of 3,2 points, for placement on the dispenser (see 6.2) and in the vehicle dealership (see 6.4).

The font size of the symbol shall be scalable to the size of the shape, but the minimum being 11 points.

9.2 Symbols

9.2.1 The symbol for **A1** LPG **A1** according to the relevant standard or equivalent national legislation of the fuel delivered is “LPG”.

9.2.2 The symbol for natural gas or methane supplied as a gas by means of compression according to the relevant standard or equivalent national legislation of the fuel delivered is “CNG”.

9.2.3 The symbol for natural gas or methane that has been liquefied by means of cooling according to the relevant standard or equivalent national legislation of the fuel delivered is “LNG”.

9.2.4 The symbol for hydrogen gas according to the relevant standard or equivalent national legislation of the fuel delivered is “H2”.

10 Outline of optional consumer information at national level

The implementation of Directive 2014/94/EU [1] provides information that is additional and complementary to legal metrology, national regulations and other information designed for the purposes of consumer information or brand promotion by the retailer. For recognition by newcomers at a fuel pump or refuelling point, especially consumers driving throughout Europe, the form and expression of such national information should be similar throughout Europe. This Clause therefore