SLOVENSKI STANDARD
oSIST prEN 16990:2016

01-julij-2016

Nehomologirana lahka motorna vozila za prevoz oseb in blaga in pripadajoča oprema - Terenska vozila (s pogonom na vsa štiri kolesa) in zunajcestna vozila - Varnostne zahteve in preskusne metode

Non-type approved light motorized vehicles for the transportation of persons and goods and related facilities - All Terrain Vehicles (ATVs - Quads) and Side by Side Vehicles - Safety requirements and test methods

Véhicules motorisés légers non soumis à la réception par type pour le transport de personnes, de marchandises ainsi que d'autres équipements - Véhicules tout terrain (VTT - Quads) et véhicules côte à côte - Exigences de sécurité et méthodes d'essai

Ta slovenski standard je istoveten z: **prEN 16990**

ICS:

43.080.99	Druga tovorna vozila	Other commercial vehicles
43.140	Motorna kolesa in mopedi	Motorcycles and mopeds

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EUROPEAN STANDARD

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Non-type approved light motorized vehicles for the transportation of persons and goods and related facilities - All Terrain Vehicles (ATVs - Quads) and Side by Side Vehicles - Safety requirements and test methods

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 354.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (prEN 16990:2016) has been prepared by Technical Committee CEN/TC 354 “Non-type approved light motorized vehicles for the transportation of persons and goods and related facilities - All Terrain Vehicles (ATV s –Quads) and Side by Side Vehicles – safety requirements and test methods”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2006/42/EC.

For relationship with EU Directive 2006/42/EC, see informative Annex ZA, which is an integral part of this document.

Introduction

This document is a type C standard as stated in EN ISO 12100:2010.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

1 Scope

This European Standard applies to “Side by Side machines” or “SbSs” as defined in Clause 3, propelled by internal combustion engines using liquid fuels (petrol, diesel, bio-fuels, lpg) and/or electric drive, intended to be used primarily on unpaved surfaces and not intended to be used on public roads[1)].

This European Standard defines safety requirements relating to the elements of design, operation, and maintenance of Side by Side machines and deals with all significant hazards, hazardous situations and events relevant to Side by Side machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). It deals with the significant hazards during the whole lifecycle of the product as defined in of EN ISO 12100:2010, 5.3

This European Standard is not dealing with:

— Side by Side Machines exclusively intended for competition[2)];

— Side by Side Machines intended to be used by persons under the age of 14 years;

— agricultural and forestry tractors coming under Regulation (EU)167/2013;

— 3 or 4 wheeled vehicles coming under Regulation (EU)168/2013;

— accessories for additional functions[3)];

— the additional hazards due to the use of the Side by Side Machine on public roads;

— the additional hazards due to the use of remote control.

This document is not intended to cover all terrain machines (ATVs) complying with EN 15997.

This European Standard is not applicable to Side by Side machines which are manufactured before the date of its publication as EN.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 614-1:2006+A1:2009, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*

EN 953, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*

CR 1030-1, *Hand-arm vibration — Guidelines for vibration hazards reduction — Part 1: Engineering methods by design of machinery*

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1) In general, machines intended for use on public roads have to fulfil specific requirements and require official “type-approval”.

2) The main criterion to be applied to judge whether machines are to be considered as exclusively intended for competition is whether they are designed according to the technical specifications laid down by one of the officially recognised racing associations.

3) Towing hook and load carrying provisions remaining within the vertical projection onto the ground of the machine are not considered as accessories.

EN 14930:2007+A1:2009, *Agricultural and forestry machinery and gardening equipment - Pedestrian controlled and hand-held machines - Determination of accessibility of hot surfaces*

CEN/TR 15172-1, *Whole-body vibration - Guidelines for vibration hazards reduction - Part 1: Engineering methods by design of machinery*

EN 60335-2-29, *Household and similar electrical appliances — Safety — Particular requirements for battery chargers*

EN 61310-1, *Safety of machinery - Indication, marking and actuation - Part 1: Requirements for visual, acoustic and tactile signals*

EN ISO 3744, *Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane (ISO 3744)*

EN ISO 4871:2009, *Acoustics - Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13857:2008, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

SAE J 386 (201208), *Operator Restraint System for Off-Road Work Machines*

SAE J 2292 (200612), *Combination Pelvic/Upper Torso (Type 2) Operator Restraint Systems for Off-Road Work Machines*

UNECE Regulation 14.07, *(Sup.1, Uniform Provisions concerning the provisions concerning the approval of vehicles with regard to safety belt anchorages*

UNECE Regulation 16.06, *(Sup.1), Uniform Provisions concerning the approval of Safety-belts, restraint systems and vehicles fitted with Safety belts and restraint systems*

OECD test code 3, *OECD standard code for the official testing of protective structures on agricultural and forestry tractors (dynamic test)* (Edition 2015 – July 2014)

OECD test code 4, *OECD standard code for the official testing of protective structures on agricultural and forestry tractors (static test)* (Edition 2015 – July 2014)

OECD test code 6, *OECD standard code for the official testing of front mounted roll-over protective structures on narrow-track wheeled agricultural and forestry tractors* (Edition 2015 – July 2014)

OECD test code 7, *OECD standard code for the official testing of rear mounted roll-over protective structure on narrow-track wheeled agricultural and forestry tractors* (Edition 2015 – July 2014)

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

3.1
Side by Side machine (SbS)
self-propelled, operator-controlled, non-articulated machine operable on four or more wheels, with a gross vehicle mass of 2000 kg or less, a minimum MRO of 300 kg and a maximum design speed of > 25 km/h, designed to transport persons and/or cargo and pull and push equipment where the driver and at least one passenger are sitting side by side on non-straddle seats.

Note 1 to entry: A Side by Side machine is steered by a control other than a handlebar and is designed for recreational or utility purposes and shall carry no more than 6 people.

3.2
brake lever
handle
hand-operated control which, when activated, causes the brake(s) to be applied

3.3
brake pedal
foot-operated control which, when activated, causes the brake(s) to be applied

3.4
steering system
the steering system includes the steering control (the part directly operated by the driver in order to steer the machine), the column, the mechanism which links the column to the wheels and any powered assistance

3.5
engine stop switch
device used to stop engine operation

3.6
gearshift control
control for selecting among a number of sets of transmission gears

3.7
manual fuel shutoff control
manual device designed to turn the fuel flow from the fuel tank on and off

3.8
neutral indicator
light or other means of indicating when a SbS transmission is in the neutral position

3.9
cargo area
rack or other designated area intended by the manufacturer to carry cargo on the SbS

3.10
tongue mass
vertical mass on towing device coupling point

3.11
towing device
device used for the attachment of a trailer or other equipment

3.12
Mass in Running Order (MRO)
total mass of an SbS, including a full load of fuel, oil, batteries and coolant, but without any operator, passenger, accessories, or cargo

3.13
wheelbase (L)
longitudinal distance from the centre of the front axle to the centre of the rear axle

3.14
wheel travel
displacement of a reference point on the suspension (such as the wheel axle) from when the suspension is fully extended (no force applied) to when it is fully compressed

3.15
brake stopping distance (S)
distance travelled by a SbS from the start of a brake application to the point which the SbS reaches a complete stop

3.16
braking deceleration
rate of change of SbS speed from the point of initial brake application to the point where the SbS stops

Note 1 to entry: Mean fully developed deceleration (MFDD) is defined as the average deceleration between 80 % of the vehicle test speed and 10 % of the vehicle test speed.

3.17
manual clutch
device activated by the operator to disengage the engine from the gearbox

3.18
mechanical suspension
system which permits vertical motion of a SbS wheel to the chassis and provides spring and damping forces

3.19
neutral
designated transmission position where there is no continuity or direct mechanical connection between transmission input and output

3.20
parking brake
brake system which, after actuation, holds one or more brakes continuously in an applied position using purely mechanical means without further action

3.21
parking mechanism
drive train system that locks the drive train when the transmission control is placed in a designated park position

3.22
service brake
main brake system consisting of the control, the transmission and the brake proper whose function is to progressively reduce the speed of a moving machine or to bring it to a halt

3.23
secondary brake
brake system that makes it possible by application of the service brake control to halt the vehicle within a reasonable distance in the event of failure of the service braking system

3.24
speed limiting device
device intended to limit the maximum speed of a machine

3.25
low pressure tyre
tyre with reference inflation pressure as mentioned in ISO 29802

3.26
electric starter interlock
device that prevents the SbS engine from being started by electric cranking under certain conditions

3.27
ignition system
system in a spark-ignited internal combustion engine that ignites the mixture by producing a spark

3.28
instructions handbook
publication supplied by the manufacturer as part of the SbS, which provides information and instruction regarding use, operation, care, and maintenance of the SbS

3.29
accelerator
device that controls the speed of the machine

3.30
accessory
SbS manufacturer supplied/approved optional supplementary part to enhance the use of a SbS

Note 1 to entry: E.g. tyre chains, canopy, lights, cab, etc. It does not include attachments.

3.31
attachment
components designed primarily to perform a specific task and for mounting on a machine, utilising the machine's power and control system

3.32
battery-electric machine
electric machine in which the power source is a storage battery(s)

3.33
body restraint
hand hold or combination hand hold/hip restraint, anchored securely to the body or seat platform of the machine creating a barrier to help prevent an occupant from sliding outside the machine

Note 1 to entry: This does not include seat belts.

3.34
battery
container consisting of one or more cells, in which chemical energy is converted into electricity and used as a source of power

3.35
Gross Machine Mass
GVM
maximum stated mass including operating weight, material load, personnel, options, accessories, and attachments

3.36
hand hold
readily accessible device mounted securely to the machine that can be encircled by the fingers of one hand for the purpose of holding on

3.37
operator
trained and authorised person who exercises control over the motion of the SbS

3.38
operator's seat
seat located directly behind the steering wheel

3.39
test machine
SbS which conforms to the manufacturer's specifications for optimum performance (unless otherwise stated)

Note 1 to entry: All optional and accessory items offered by the manufacturer shall be considered in performing each test, which shall be conducted with optional and accessory items installed, or not installed, so as to create the most severe test conditions.

3.40
travel control
device that control the speed, braking, forward, and reverse direction of the machine

3.41
electric powered vehicle
SbS which is equipped with one or more electric traction motor(s) operated solely or in combination with another power source, e.g. an internal combustion engine

4 List of significant hazards

This clause contains foreseen significant hazards, hazardous situations and events, as far as they are dealt with in this document, identified by risk assessment as significant for this type of machinery and which require action to eliminate or reduce the risk. However, the list may not be exhaustive.