



SLOVENSKI STANDARD

SIST EN 15997:2012

01-februar-2012

Štirikolesniki (ATV - quad) - Varnostne zahteve in preskusne metode

All terrain vehicles - Safety requirements and test methods

All Terrain Vehicles (ATVs - quads) - Anforderungen und Prüfverfahren

Véhicules tout terrain (VTT - quads) - Exigences et méthodes d'essai

Ta slovenski standard je istoveten z: EN 15997:2011

[SIST EN 15997:2012](https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012)

<https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012>

ICS:

43.140 Motorna kolesa in mopedi Motor cycles and mopeds

SIST EN 15997:2012

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 15997:2012

<https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012>

EUROPEAN STANDARD

EN 15997

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2011

ICS 43.140

English Version

All terrain vehicles (ATVs - Quads) - Safety requirements and test methods

Véhicules tout terrain (ATV - Quads) - Exigences de sécurité et méthodes d'essai

Geländegängige Fahrzeuge (ATV - Quads) - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 15 October 2011.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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.

CEN members are the national standards bodies of 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

SIST EN 15997:2012

<https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012>



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	5
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	8
4 List of significant hazards	12
5 Safety requirements and/or protective measures	15
5.1 General.....	15
5.2 Mechanical hazards	15
5.2.1 Throttle control	15
5.2.2 Braking devices	15
5.2.3 Steering system	17
5.2.4 Moving parts.....	17
5.2.5 Sharp edges	18
5.2.6 Rider foot environment.....	19
5.2.7 Fuel and hydraulic systems.....	20
5.2.8 Rider's seat and handlebar.....	20
5.2.9 Passenger handholds	20
5.2.10 Mechanical suspension	20
5.2.11 Drive train controls	21
5.2.12 Neutral indicator	21
5.2.13 Indication of reverse drive selection	21
5.2.14 Electric starter interlock.....	21
5.2.15 Access systems to the rider's station and maintenance points.....	22
5.2.16 Foot controls	22
5.2.17 Lighting equipment (headlamps, tail lamps and stop lamps)	22
5.2.18 Stability	22
5.2.19 Category Y and Category T ATV speed capability requirements	23
5.2.20 Engine stop switch	24
5.2.21 Manual clutch control.....	24
5.2.22 Unauthorized use.....	24
5.2.23 Flag pole bracket	24
5.3 Electrical hazards	24
5.3.1 General.....	24
5.3.2 Over-current protective devices.....	25
5.3.3 Batteries.....	25
5.3.4 Protection against the neutralisation of the starter security	25
5.4 Hot surfaces	25
5.4.1 General.....	25
5.4.2 Temperature limits for touchable surfaces	26
5.5 Noise control	27
5.5.1 Noise control at source by design	27
5.5.2 Noise control by protective measures	27
5.5.3 Noise reduction by information.....	27
5.6 Vibration hazards.....	27
5.7 Material/substance hazards.....	27
5.8 Controls and indicators	28
5.9 Storage provisions	28
5.10 Ergonomics	28
5.11 Errors of fitting.....	28

6	Verification of the safety requirements and/or protective measures	28
6.1	Verification methods	28
6.2	Verification of final assembly	30
7	Information for use	30
7.1	General	30
7.2	Signs (pictograms), written warnings	30
7.3	Accompanying documents (in particular the instruction handbook)	31
7.4	Marking	34
Annex A	(informative) Examples of All Terrain Vehicles (ATVs - Quads)	35
Annex B	(normative) Service brake performance	37
B.1	Measuring maximum speed	37
B.2	Measuring service brake performance	37
Annex C	(normative) Parking brake/Mechanism performance	39
C.1	Test Conditions	39
C.2	Test Procedure	39
Annex D	(normative) Handlebar	40
Annex E	(normative) Rider foot environment	41
E.1	Test probe	41
E.2	Type 1 ATV Test procedure	41
E.3	ATV Type 2 test procedure	42
Annex F	(normative) Longitudinal stability	43
F.1	Test conditions	43
F.2	Test procedure	43
Annex G	(normative) Hot surfaces	45
G.1	Identification of contact zones	45
G.2	Temperature measurement procedure	50
Annex H	(normative) Noise test code	52
H.1	General	52
H.2	Operating and mounting conditions	52
H.3	Noise measurements	52
H.4	Test environment	53
H.5	Determination of A-weighted emission sound pressure level at rider's ear	53
H.6	Determining if further measurements are necessary	54
H.7	Determining the A-weighted sound pressure levels over a surface enveloping the vehicle	54
H.8	Determining the A-weighted sound power level from the A-weighted sound pressure levels over the measurement surface	56
H.9	Information to be recorded	57
H.10	Information to be reported	58
H.11	Declaration and verification of noise emission values	58
Annex I	(informative) Vibration test code	59
I.1	Background	59
I.2	Coupling the hand and body to the vibration source	60
I.3	Positioning and operating the vehicle during the test	61
I.4	Parameters to be measured	61
I.5	Determination of the vibration levels	61
I.6	Information to be recorded	61
I.7	Information to be reported	62
Annex J	(informative) Pre-delivery form	63
J.1	General	63
J.2	Dealer's declaration	63
J.3	Purchaser's declaration	64
J.4	ATV pre-delivery certificate	64
Annex K	(informative) Examples of warnings, pictograms and combinations that may be used	66
Annex L	(normative) Evaluation sheet before letting a person use the ATV	69

EN 15997:2011 (E)

Annex M (informative) Instructions for tyres to be included in the instructions handbook	70
M.1 General.....	70
M.2 Instructions on use.....	70
M.3 Tyre and wheel maintenance.....	70
M.4 Tyre replacement	70
M.5 Tyre ageing.....	70
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	71
Bibliography	72

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 15997:2012](https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012)

<https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012>

Foreword

This document (EN 15997:2011) has been prepared by Technical Committee CEN/TC 354 "Ride-on, motorized vehicles intended for the transportation of persons and goods and not intended for use on public roads - Safety requirements", the secretariat of which is held by AFNOR.

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 May 2012, and conflicting national standards shall be withdrawn at the latest by May 2012.

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 15997:2012](https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012)

<https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012>

Introduction

This document is a type C standard as stated in EN ISO 12100 (all parts).

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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 15997:2012](https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012)

<https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012>

1 Scope

This European Standard applies to “All Terrain Vehicles” or “ATVs” as defined in Clause 3 using liquid fuels (e.g. petrol, diesel). This European Standard does not deal with requirements relating to use on public roads ¹⁾.

This European Standard is not dealing with:

- ATVs exclusively intended for competition ²⁾;
- agricultural and forestry tractors coming under the Directive 2003/37/EC;
- accessories for additional functions (towing hook and load carrying provisions remaining within the vertical projection onto the ground of the vehicle without these load carrying provisions are not considered as accessories);
- the additional hazards due to the use of the ATV on public roads;
- the additional hazards due to the use of remote control.

This European Standard deals with all significant hazards, hazardous situations and events relevant to ATVs, 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 5.3 of EN ISO 12100-1:2003.

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

NOTE For the purpose of this document, any reference to the vehicle should be regarded as a reference as a machine.

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.

EN 614-1, *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*

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

EN 61310-1, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals (IEC 61310-1:2007)*

1) In general vehicles 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 vehicles 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.

EN 15997:2011 (E)

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 3744:2010)*

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

EN ISO 11201, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201:2010)*

EN ISO 11688-1, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995)*

EN ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*

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

ISO 29802, *All terrain (AT) tyres and rims — Symbol marked pneumatic tyres on 5 degrees tapered rims — Designation, dimension, marking and load ratings*

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 15997:2012](https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012)

3 Terms and definitions

<https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012>

For the purposes of this document, the terms and definitions given in EN ISO 12100-1:2003 and the following apply.

3.1 all-terrain vehicle (ATV)
motorised vehicle, propelled by an internal combustion engine with liquid fuel, intended primarily to travel on unpaved surfaces on four wheels with low-pressure tyres, having a seat designed to be straddled by the rider and handlebars for steering, and subdivided into two types as designated by the manufacturer

3.1.1 ATV Type I
ATV intended for use by a single rider and no passenger and further identified by four intended usage categories as follows:

3.1.1.1 ATV Type I category G (General Use Model)
ATV Type I intended for recreational and/or utility use by a rider age 16 or older

3.1.1.2 ATV Type I category S (Sport Model)
ATV Type I intended for recreational use by an experienced rider, age 16 or older

3.1.1.3 ATV Type I category Y (Youth Model)
ATV Type I of appropriate size intended for recreational use under adult supervision by a rider under age 16 and further categorized as follows:

3.1.1.3.1**category Y6+**

category designed for use by children age 6 or older

3.1.1.3.2**category Y10+**

category designed for use by children age 10 or older

3.1.1.3.3**category Y12+**

category designed for use by children age 12 or older

3.1.1.4**ATV Type I category T (Transition Model)**

ATV of appropriate size that is intended for recreational use by a rider age 14 or older under adult supervision, or by a rider age 16 or older

3.1.2**ATV Type II**

ATV with provisions for the rider and one passenger

NOTE 1 An ATV Type II is equipped with a designated seating position behind the rider designed to be straddled by no more than one passenger.

NOTE 2 Type II ATVs are limited to one intended usage category as follows.

3.1.2.1**ATV Type II category G (General Use Model)**

ATV Type II intended for recreational and/or utility use by a rider age 16 or older with provision for one passenger

iTech STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 15997:2012](https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012)

3.2**brake lever or handle**

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

<https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012>

3.3**brake pedal**

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

3.4**clutch lever**

manual control that engages and disengages the clutch manually

3.5**rider**

person who is operating the machine

3.6**gearshift control**

control for selecting among a number of sets of transmission gears

3.7**handlebar**

device used for steering and rider support and as a place to mount hand-operated controls

3.8**manual fuel shutoff control**

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

EN 15997:2011 (E)

- 3.9**
neutral indicator
light or other means of indicating when an ATV transmission is in the neutral position
- 3.10**
throttle control
control which is located on the handlebar and which is used to control engine power
- 3.11**
cargo area
rack(s) or other designated area(s) intended by the manufacturer to carry cargo on the ATV
- 3.12**
tongue mass
vertical mass on towing device point
- 3.13**
towing device
device used for the attachment of a trailer or other equipment
- 3.14**
vehicle curb mass
total mass of an ATV, including a full load of fuel, oil, and water, but without any rider, passenger (if applicable), accessories, or cargo
- 3.15**
vehicle load capacity (maximum mass capacity)
highest load recommended in the instructions handbook to be carried by an ATV in its “as manufactured” condition
- NOTE This vehicle load capacity includes the mass of rider, passenger (if applicable), cargo, accessories, and trailer tongue mass (if applicable), but not the vehicle curb mass.
- 3.16**
wheelbase (L)
longitudinal distance from the centre of the front axle to the centre of the rear axle
- 3.17**
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
- 3.18**
brake stopping distance (S)
distance travelled by an ATV from the start of a brake application to the point which the ATV reaches a complete stop
- 3.19**
braking deceleration
rate of change of vehicle speed from the point of initial brake application to the point where the vehicle stops
- 3.20**
manual clutch
device activated by the rider to disengage the engine from the gearbox
- 3.21**
mechanical suspension
system which permits vertical motion of an ATV wheel to the chassis and provides spring and damping forces

3.22**neutral**

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

3.23**parking brake**

brake system which, after actuation, holds one or more brakes continuously in an applied position without further action

3.24**parking mechanism**

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

3.25**service brake**

primary brake system used for slowing and stopping a vehicle

3.26**speed limiting device**

device intended to limit the maximum speed of a vehicle

EXAMPLE A mechanical device limiting throttle travel.

3.27**low pressure tyre**

tyre with reference inflation pressure between 25 and 45 kPa

NOTE see ISO 29802

3.28**braking device**

device consisting of the control, the transmission and the brake proper whose function is progressively to reduce the speed of a moving vehicle or to bring it to a halt, or to keep it stationary if it is already halted

3.29**electric starter interlock**

device that prevents the ATV engine from being started by electric cranking under certain conditions

3.30**flag pole**

long, thin, semi-rigid, vertical pole with a brightly coloured pennant, usually red or orange, on the top end which attaches at the rear of the ATV to the flag pole bracket

3.31**footrests**

structure, such as footpegs and footboards, supporting the rider's and/or passenger's feet

3.32**handlebar crossbar**

rigid member attached to and connecting the left and right sides of the handlebar

3.33**ignition system**

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 15997:2012](https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012)

<https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012>

EN 15997:2011 (E)**3.34****instructions handbook**

publication, supplied by the manufacturer as part of the ATV, which provides information and instruction regarding use, operation, care, and maintenance of the ATV

3.35**passenger handhold**

device grasped by the passenger to provide support and help maintain the passenger's balance while riding

3.36**reverse control**

control for selecting the reverse direction of movement of the ATV

4 List of significant hazards

This clause contains all the 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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 15997:2012](https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012)

<https://standards.iteh.ai/catalog/standards/sist/2694e791-3c14-44d6-8bae-b9d384348603/sist-en-15997-2012>

Table 1 — List of significant hazards

Clauses / Subclauses	Danger zone or source of hazard	Type of hazard	Relevant clause of this standard
4.1	Mechanical hazards		
4.1.1	Acceleration deceleration Quick acceleration or deceleration of the ATV may lead to loss of control by the rider and the rider being ejected from the machine	Being thrown	5.2.1, 5.2.2
4.1.2	Approach of a moving element to a fixed part		
	Hands or parts thereof may be trapped between steering handle and tank	Crushing	5.2.3
	Wheels or other parts of the transmission could trap hands or feet	Cutting/crushing/drawing in	5.2.4
	Feet being trapped under rotating wheels is one of the major hazards on ATVS	Entanglement/drawing in	5.2.4, 5.2.6
4.1.3	Mobility Unless ATVs are fitted with adequate steering suspension, seating and transmission controls, the rider will not have full control over the vehicle	Being thrown	5.2.8, 5.2.9, 5.2.10, 5.2.11, 5.2.12, 5.2.13, 5.2.14
4.1.4	Rotating elements		
	Feet being trapped under rotating wheels is one of the major hazards on ATVs	Cutting/crushing/drawing in	5.2.4
		Entanglement/drawing in	5.2.4, 5.2.6
4.1.5	Rough slippery surface	Slipping and falling	5.2.15, 5.2.16
4.1.6	Sharp edges		
	Sharp parts on the handlebar could cut the user when he operates the machine	Cutting or severing (handlebar)	5.2.5
		Cutting or severing (other parts)	
4.1.7	Stability Stability is compromised when tyres are underinflated (tyres separating from rims) or overinflated (may not adapt to the terrain)	Being thrown, crushing	5.2.18
4.2	Electrical hazards		
4.2.1	Arc Risk of direct/indirect electric contact	Electric shock	5.3.1, 5.3.3
4.2.2	Live parts Contact with high tension parts (ignition system) may lead to shocks	Shock	5.3.1