
Mopeds — Measurement method for determining maximum speed

*Cyclomoteurs — Méthode de mesure pour déterminer la vitesse
maximale*



Reference number
ISO 7116:2011(E)

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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.

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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 7116 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 23, *Mopeds*.

This third edition cancels and replaces the second edition (ISO 7116:1995), which has been technically revised.

Introduction

In this third edition of ISO 7116, all the test methods and conditions, such as accuracy of measuring system and climatic conditions, are reviewed and updated for the purpose of obtaining measurement results with higher accuracy.

The test method and conditions on circle type test tracks, which are used in several regions, are also revised substantially in view of the similarity with testing results on straight test tracks.

Mopeds — Measurement method for determining maximum speed

1 Scope

This International Standard specifies a method for determining the maximum speed of a moped as defined in ISO 3833.

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 6726, *Mopeds and motorcycles with two wheels — Masses — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions in ISO 6726 and the following apply.

3.1

maximum speed

$v_{\max}$

highest steady speed of test moped

3.2

moped kerb mass

m_k

Moped dry mass to which is added the mass of the following:

- fuel: tank filled at least to 90 % of the capacity specified by the manufacturer;
- auxiliary equipment usually supplied by the manufacturer in addition to that necessary for normal operation

EXAMPLES Tool-kit, carrier(s), windscreen(s), protective equipment, etc.

4 Symbols

Table 1 — Symbols

Symbols	Definition	Unit
A_{len}	accuracy of measurement equipment of the measurement section length	m
A_{speed}	resultant accuracy of speed measurement	%
A_{time}	accuracy of time measurement equipment	s
d_T	relative air density during the test	—
d_0	relative air density at the standard reference conditions	—
e_{speed}	resultant speed measurement error of system	km/h
L_{st}	length of the measurement section of type 1, type 3 and type 5 test tracks	m
L_{st1}	length of the measurement section 1 of type 2 and type 4 test tracks	m
L_{st2}	length of the measurement section 2 of type 2 and type 4 test tracks	m
p_T	total barometric pressure during test	kPa
p_0	total barometric pressure at standard reference conditions	kPa
T_T	air temperature during test	K
T_0	air temperature at standard reference conditions	K
t	time to run the measurement section	s
t_a	time to run the measurement section in direction a	s
t_b	time to run the measurement section in direction b	s
t_i	time to run the measurement section test run i	s
v	moped speed	km/h
v_{ave}	average speed of moped of two-direction tests	km/h
v_i	moped speed test run i	km/h
v_{max}	maximum speed of test moped	km/h
ρ_0	air volumetric mass	kg/m ³

5 Standard reference conditions

The standard reference conditions shall be as follows:

- total barometric pressure, p_0 : 101,325 kPa;
- air temperature, T_0 : 293,15 K;
- relative humidity, H_0 : 65 %;
- air volumetric mass, ρ_0 : 1,205 kg/m³;
- relative air density, d_0 : 0,931 9.