TECHNICAL REPORT

ISO/TR 13499

First edition
1998-12-15

Road vehicles — Data exchange format for impact tests

Véhicules routiers — Format d'échange de données pour les essais de choc

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.

Technical Reports are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to preparate International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

— type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;

— type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;

— type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 13499, which is a Technical Report of type 2, was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 12, *Restraint systems*.

Annex A of this Technical Report is for information only.

Road vehicles — Data exchange format for impact tests

1 Scope

This Technical Report specifies a data format to exchange impact test measurements and data between laboratories.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this Technical Report. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this Technical Report are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 1000, *SI units and recommendations for the use of their multiples and of certain other units.*

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times.*

3 Data medium

Physical:	floppy disc 3,5"	for example, or any other medium
Data format:	DOS format	
Data code:	ASCII	

4 File structure

4.1 Units

All data shall be expressed in SI units, in particular for:

— acceleration, in metres per second squared;

— velocity, in metres per second (see ISO 1000).

4.2 Organization

The information are stored in several files: one "test descriptor" file for the whole test and one "test channel" file for each channel. The content descriptor is not required in each line.

The information given in 4.3 and 4.4 is to be considered as essential but complementary information may be added at the end of each file. Each line specified in 4.3 and 4.4 shall be documented.

4.3 Test descriptor file

This file contains general information concerning the test. Each piece of information is separated by a "carriage return" and "line feed" (CR/LF). Each character string may contain up to 80 characters. Information within one string shall be separated by one space.

Name: "filename".ISO, where "filename" has up to 8 characters and is specific to the test.

Content:

Name of the laboratory	
Contact name	Person to contact in case of problems
Contact phone	
Contact fax	
Name of the customer	
Laboratory test reference number	
Customer test reference number	
Title	
Medium number/number of media	
Comments: Test object designation	Use REM to indicate comments line, for example angle
Type of the test	
Date of the test according to ISO 8601	
Number of test objects	p
Name of object 1	
Name of object 2	
...	
Name of object p	
Velocity of object 1 in metres per second	
Velocity of object 2 in metres per second	
...	
Velocity of object p in metres per second	
Mass of object 1 in kilograms	
Mass of object 2 in kilograms	
...	
Mass of object p in kilograms	
Sign convention and instrumentation standard	Including edition date
Number of channels	n
Name of channel 1	Corresponding to file "filename.001"
Name of channel 2	Corresponding to file "filename.002"
...	
Name of channel n	Corresponding to file "filename.n"

Any number of additional lines may be added to provide more information.

An example of the test descriptor file is given in clause A.1.

4.4 Test channel file

This file contains information concerning the specific channel and all its measurement values expressed in physical balanced units. Each piece of information is separated by a "carriage return" and a "line feed" (CR/LF).

Name: "filename".NNN, where NNN is the channel number.

Content:

/Customer test reference number
/Test object number
/Name of the channel   A code may be used
/Location
/Direction
/Filter type   Antialiasing filter specification or cut off frequency
/Filter class   xxx
/Channel amplitude class
/Sampling interval   Time step expressed in seconds
/Unit   0 means digital channel
/Comments   Use REM to indicate comments line
/Time of first sample, in seconds
/number of samples m
Value of sample 1   See note
Value of sample 2
...
Value of sample m

NOTE   All the values should start by a number or a sign (+ or –) followed by a number.

An example of the test channel file is given in clause A.2.

Annex A
(informative)

Examples of test descriptor and test channel files

A.1   Example of a test descriptor file

File name   H0031G.ISO

ISO/TC22/SC12/WG3 SAFETY LABORATORY

M. DUPONT

33.1.47.69.00.00

33.1.47.69.00.00

ISO/TC22/SC12/WG6 SAFETY LABORATORY

H0031G

CUSTOMER TEST REFERENCE NUMBER

23.4 Kg IMPACTOR THORAX DROP TEST

1/2

REM CALIBRATION OF THORAX

PART 572 HYBRID III 50TH THORAX

2002/08/13

2

IMPACTOR

THORAX

6.4

0

23.4

72

SAE J211 - Issued 1988/10/

4

IMPACTOR VELOCITY

IMPACTOR ACCELERATION

STERNUM DISPLACEMENT

THORAX ACCELERATION

A.2 Example of a test channel file

File name   H0031G.002

/CUSTOMER TEST REFERENCE NUMBER

/1

/IMPACTOR ACCELERATION

/IMPACTOR REAR CENTER

/X

/4 POLES BUTTERWORTH PHASELESS DIGITAL FILTER

/180

/2 000

/0.0001

/m/s^2

/REM COMMENTS

/REM COMMENTS AGAIN

/-0.02

/2201

0.0005

0.0009

0.001

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0.001

NOTE 1   The channel name should be consistent between the "Test descriptor file" and the "Test channel file".

NOTE 2   The channel name should be understandable even when coded.

Bibliography

[1]   ISO 6487:—[1], *Road vehicles — Measurement techniques in impact tests — Instrumentation.*

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[1] To be published. (Revision of ISO 6487:1987)