

# ISO 8721:2018 (E)

## Road vehicles — Measurement techniques in impact tests — Optical instrumentation

---

### Contents

	Foreword
1	Scope
2	Normative references
3	Terms and definitions
4	Symbols and abbreviated terms
5	Performance
5.1	General requirements
5.2	Reference distance
5.3	Time base system
5.4	Performance of the optical data channel
5.4.1	General
5.4.2	Performance indices
5.4.3	2D performance value
5.4.4	3D performance value
5.4.5	Performance value of the optical data channel
5.5	Accuracy of the optical data channel
5.5.1	Accuracy indices
5.5.2	Length measurement error and accuracy value of a reference distance
5.5.3	Length measurement error and accuracy value of the optical data channel
5.6	Types of procedure
5.6.1	General
5.6.2	Type of procedure — Online
5.6.3	Type of Procedure — Offline
5.7	Conformity statement
5.8	Derived quantities
5.9	User-defined variables
6	Documentation
Annex A	(normative) Index determination methods
A.1	2D performance indices
A.1.1	Focal length index, ifl
A.1.2	Distortion index, id
A.1.3	Target detection index, itd
A.1.4	Target size index, its
A.1.5	Motion blur index, imb
A.1.6	Point motion index, ipm
A.1.7	Control point distribution index, icpd
A.1.8	Camera set-up index, ics (only for 2D film analysis)
A.1.9	Plane scale index, ips (only for 2D film analysis)
A.1.10	Time base index, itb
A.1.11	Time origin identification index, itoi
A.1.12	Sections of the image
A.2	3D performances indices
A.2.1	Intersection index, ii
A.2.2	Synchronism index, isy
A.3	Accuracy indices
A.3.1	Camera position calculation index, icpc

- A.3.2 Scale index, is
- A.4 Inspection record
  - A.4.1 General
    - A.4.2 Main part with results
    - A.4.3 Performance value
    - A.4.4 Length measurement error and accuracy value
    - A.4.5 2D indices
    - A.4.6 3D indices
  - A.5 Examples
    - A.5.1 Type of procedure — Online/3D
      - A.5.1.1 Test description
      - A.5.1.2 Determination of the test results
      - A.5.1.3 Documentation of the conformity check results
    - A.5.2 Type of procedure — Offline/3D
      - A.5.2.1 Test description
      - A.5.2.2 Determination of the results of the preliminary test
      - A.5.2.3 Determination of the results of the impact test
      - A.5.2.4 Documentation of the conformity check results
    - A.5.3 Type of procedure — Online/2D
      - A.5.3.1 Test description
      - A.5.3.2 Determination of the test results
      - A.5.3.3 Documentation of the conformity check results

**Annex B (informative) Measurement methods**

- B.1 Online procedure
  - B.1.1 Validation target points
  - B.1.2 Test method
- B.2 Offline procedure
  - B.2.1 2D analysis
    - B.2.1.1 Test target
    - B.2.1.2 Test method
  - B.2.2 3D analysis
    - B.2.2.1 Test target
    - B.2.2.2 Test method

**Annex C (informative) Clarification of parameters**

- C.1 Compilation of the variables
- C.2 User-defined values
- C.3 Input values

**Annex D (informative) Dependences between the indices and the variables**