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k **Road vehicles — Crosstalk** determination for multi-axis load cell

bitic, de force. Véhicules routiers — Détermination de l'effet transverse sur capteur



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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 36, *Safety and impact testing*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at <u>www.iso.org/members.html</u>.

Road vehicles — Crosstalk determination for multi-axis load cell

1 Scope

This document establishes an adequate procedure to determine crosstalk values in order to improve comparability of measurement results between testing laboratories and to enable a load cell performance rating in accordance to the crosstalk specification for transducers in vehicle crash testing given in ISO 6487, SAE-J211-1 and SAE J2570.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at <u>http://www.electropedia.org/</u>

3.1

crosstalk

undesired measured output of a transverse channel under defined load on the calibrated axis

Note 1 to entry: Crosstalk is alternatively known as transverse or cross sensitivity.

4 Field of application

The described measurement procedure refers to any multi-axis load cell.

The crosstalk value helps to check the transducer's performance and to identify sources of error during the calibration process. Therefore, it is recommended to determine the load cell's crosstalk value during the calibration. It could be an indicator for a wrong test setup (loading point, fixtures, channel allocation, overloading, etc.).

5 Crosstalk determination

5.1 Test setup requirements and general preconditions

Prior to determination of crosstalk values, the conditions as follows need to be maintained.

- The load cell calibration test setup follows the common standards for vehicle crash transducers for forces and moments.
- The crosstalk value is only considered for the traceable calibration range, which is defined in the calibration standard by a minimum and a maximum.
- Manufacturer's calibration fixtures or calibration fixtures which have been validated in regard to the manufacturer's fixture characteristics are utilised. While using a fixture for moment loading,