



# ISO 362-3 Indoor-testing of pass-by noise

## Update



ISO TC43/SC1/WG42  
Project leader U. Messer, BMW Group



# ISO 362-3 Indoor-testing of pass-by noise

## Objective and scope

### Why this new Standard?

To provide a basis to obtain the official recognition of an Indoor-pass-by-test for type approval

### Scope:

This standard specifies an engineering method for measuring the noise emitted by road vehicles of categories M and N by using a semi anechoic chamber.

The specifications are intended to achieve an acoustical correlation between testing the exterior noise of road vehicles in a semi anechoic chamber and the outdoor testing as described in ISO 362-1.

This standard provides all necessary specifications and procedures of the indoor-testing to obtain results which are comparable to typical run-to-run variations of measurements on today's type approval test tracks.



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## Motivations

- New regulatory requirements require new tools for better understanding of noise emission physics
- Independence from outdoor climatic conditions
  - § Improve the test efficiency for manufacturers and type approval authorities
  - § Improvement of the reproducibility
- creating the basis for a virtual type approval test in the future



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## Update - History

- 04/2010 Adoption as 'New Work Item' by ISO-Secretariat and designation of B. Meini (BMW Group) as project-leader, reporting to ISO/TC 43/WG 42 (convenor D. Moore)
- 06/2010 1st meeting of the working group in Munich
- 05/2012 Adoption of the '1st Committee Draft'
- 10/2013 Approval of the 2nd CD
- 01/2015 Approval of the Draft International Standard
- 05/2016 Final DIS is approved
- 07/2016 Publication of the International Standard ISO 362-3**



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## Update

- The work on the ISO standard 362-3 is successfully finished
- The result is a well proofed and validated engineering method
- The indoor test for pass-by noise emission replicates real world outdoor tests under controlled environmental conditions and yields comparable results as shown by validation
- The standard was published in July 2016 and is ready for regulatory implementation as an additional option
- Next steps for regulatory implementation to be defined:
  - Ø ISO to prepare informal document for future GRB to amend applicable regulations

**Welcome GRB input and comments**



## **Indoor-testing of pass-by noise**

**Thank you for your  
attention!**

# Technical Background



# Indoor-testing of pass-by noise

## Contents

In general the content is based on ISO 362-1

Special attention is directed to the following topics:

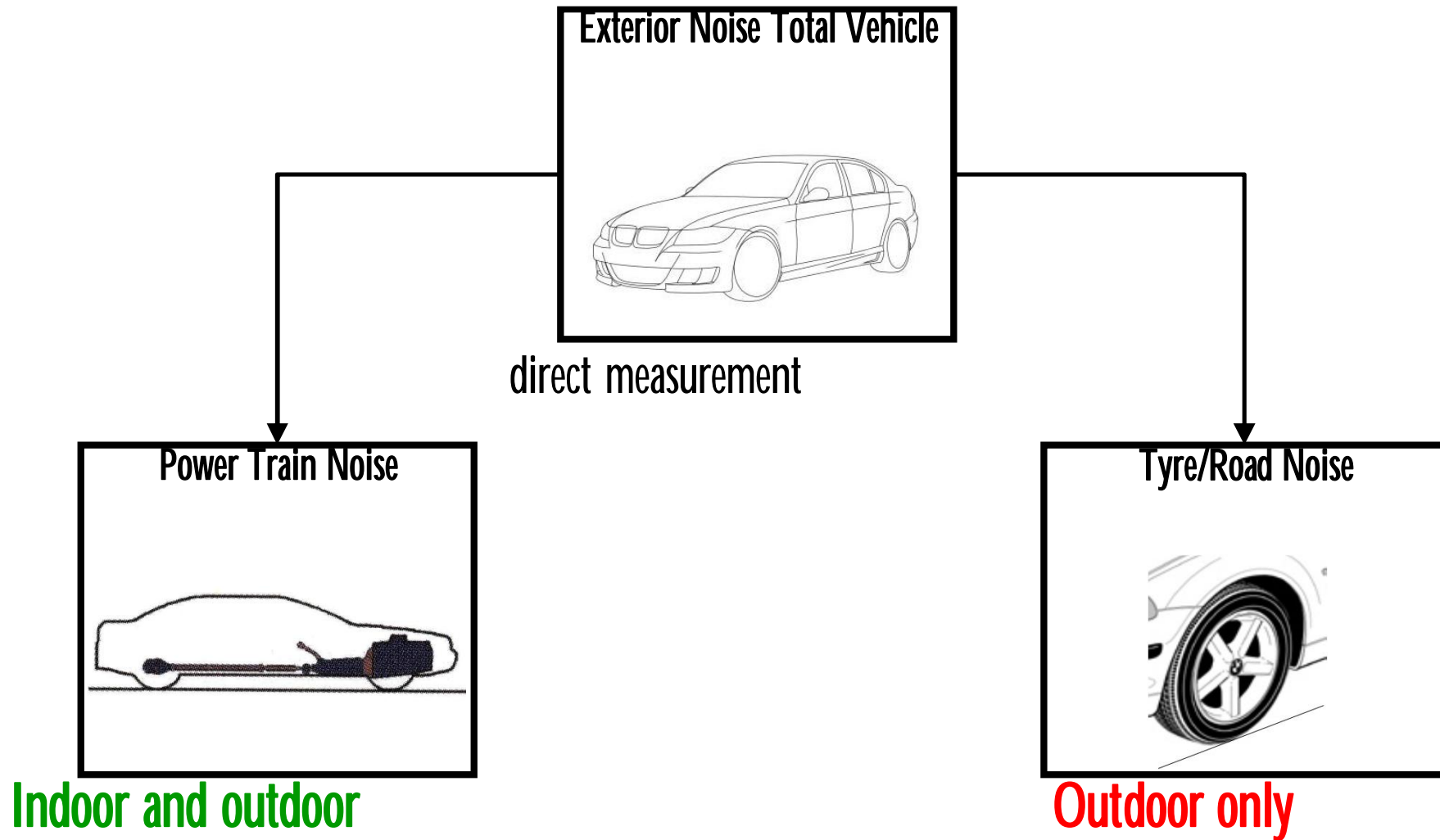
- Instrumentation
- Test room requirements
- Dynamometer requirements
- Test procedures
- Test method





# Indoor-testing of pass-by noise

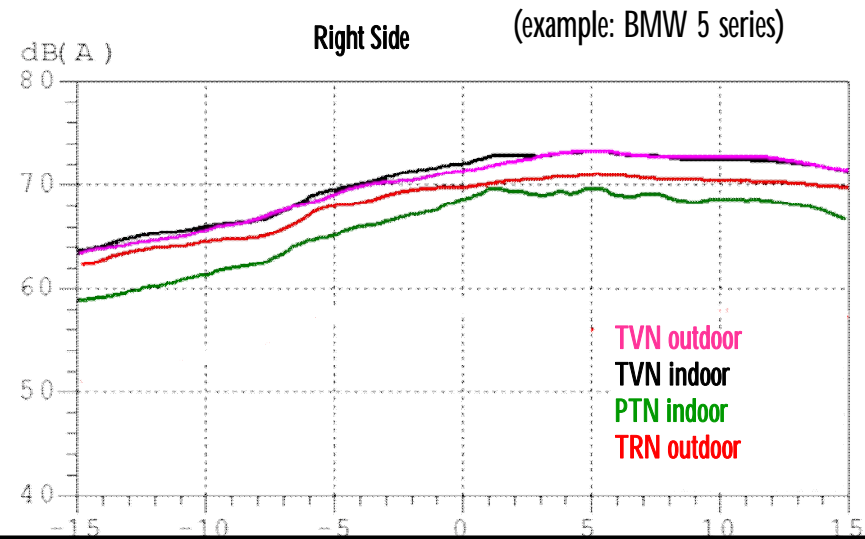
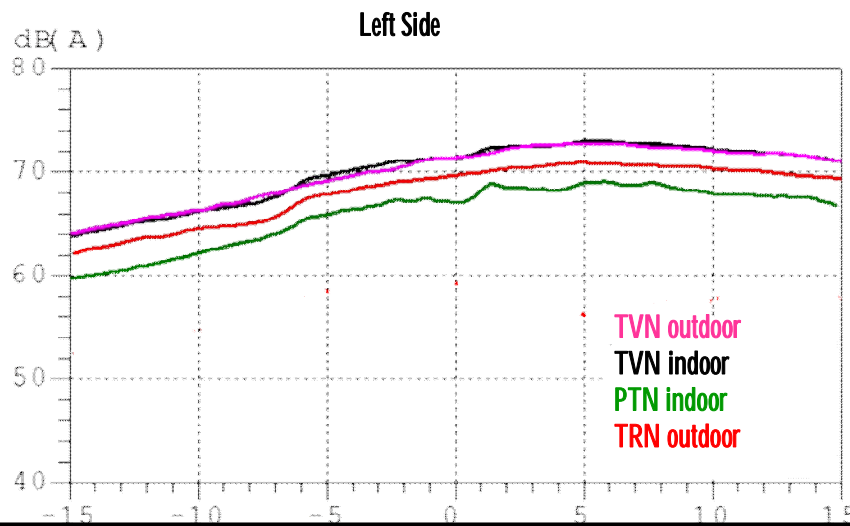
## Test method - General





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## Indoor – outdoor comparison



The precision of this standard is confirmed by the Fraunhofer Institute Stuttgart.

