

A review of the measurement procedure of the ISO 1996 standard. Relationship with the European Noise Directive

Barrigón Morillas J.M.

Montes González D.

Rey Gozalo G.

Accuracy in the knowledge of the sound field incident on a façade is essential for proper planning of control actions. Independently of the chosen method for noise mapping, if we wish to know the exposed population, it is essential to measure the incident noise level on the façade. Regarding the geometry of the measuring point in relation to the façade and other elements of the environment, the normative part of the ISO 1996-2 standard only makes reference to the distance between the microphone and the façade. The rest of the geometric aspects that could influence the result of a measurement are not considered in the standard. Although some of these aspects are considered in Annex B, the annex is only informative. The ISO 1996 standard is considered in the European Noise Directive as a reference in the elaboration of strategic noise maps, the main tool for assessing the exposure of the population to noise pollution. This work presents a detailed review of the literature and proposes research strategies in order to study the relationships between the ISO 1996-2 standard measurements procedure and the accuracy of the estimations of noise doses received by people obtained by the application of the European Noise Directive. The published results show significant relative differences with respect to the values proposed by the standard for the corrections and indicate the possibility of the influence of these results on the accurate development of strategic maps. © 2016 The Authors.

Environmental noise standards

Geometric urban configuration

Noise pollution

Traffic noise

Urban noise measurements

Acoustic fields

Acoustics

Environmental regulations

Geometry

Pollution

Environmental noise

Measurement procedures

Research strategy

Standard measurements

Strategic noise maps

Traffic noise

Urban configurations

Urban noise

Noise pollution

accuracy assessment

estimation method

measurement method

noise pollution

pollution control

pollution policy

standardization

building industry

environmental exposure

Europe

human

industrial noise

measurement accuracy

microphone

noise measurement

noise pollution

noise reduction

noise standard

priority journal

Review

sound intensity

standardization

urban area