

RESEARCH AND STANDARDISATION

RESPONSE FORM for Standardisation groups

To contribute to *EMPIR - the European Metrology Programme for Innovation and Research* *

Objective: to collect standardization needs and suggestions to develop research projects in testing and measurements for the upcoming EMPIR calls (2019 and 2020)

In the frame of the between CEN, CENELEC and EURAMET, CEN and CENELEC have been invited by the EURAMET Management to put forward their **testing and measurement needs in research** for consideration by metrology institutes for future calls under EMPIR.

Relevant technical groups (sector fora, advisory boards, coordination groups, TCs, WGs...) **are invited to contribute with**

- a short introduction or an overview paper of their unaddressed standardization needs for testing and measurement, and
- a contact person (secretary, chair, convenor, liaison officer, etc.) whom proposers for the Potential Research Topics can contact,

by using this Response Form and send it at :

STAIR EMPIR secretariat, Mr Ortwin Costenoble: empir@nen.nl

Deadline for the consultation: **14 December 2018**.

Proof of need by the TC/SC is highly recommended for a successful submission.

Source of the identified need (identification of TC, WG, etc, incl. title)	<input checked="" type="checkbox"/> CEN/TC 126 <input type="checkbox"/> CLC/TC 0/WG 0 <input type="checkbox"/> ISO/TC 0/SC 0 / WG 0 <input type="checkbox"/> IEC/TC 0/SC 0 / WG 0 <input type="checkbox"/> Other, namely <i>Identification, Title</i>
European entity responsible for submission of the need	CEN/TC126 Title:acoustic properties of building elements and of buildings
Person that can be contacted for more detail	Name : Marc Rehfeld, chair of CEN/TC126 email : marc.rehfeld@saint-gobain.com Telephone : +33664063426 Country: France
Unaddressed need (short description)	<p><i>Measurement of low-frequency sound insulation of façades of buildings</i></p> <p>The replacement of centralised large fossil fuel power stations by decentralised energy conversion devices like e. g. wind turbines, heat pumps or small combined heat and power plants draws sources of low-frequency noise closer to the living environment. To protect people inside buildings from these new noise sources, the sound insulation of the building's outer shell must be measured and optimised. The existing measurement method ISO 16283-3 covers the</p>

	frequency range from 50 Hz to 5 kHz only whereas results are needed down to at least 10 Hz. It is especially important to establish an international standard on this subject since only then the results become comparable and will be accepted by different parties.
Further explanation of need (TC business plan, road map, formal decision, work item, etc.)	<p>Several measurements down to lower frequencies have been reported (e.g. [1], [2] and [3]). There, the usual measurement procedure is simply extended towards lower frequencies without addressing the main question. This is that the sound insulation index is defined as the ratio between incident and transmitted sound power. It is questionable whether this approach is meaningful down to 10 Hz. This creates the need to develop a metrological system starting from a concise definition of the measurand via the development of measurement procedures up to their validation in comparison measurements.</p> <p>This need is reflected by a formal decision of the plenary meeting of CEN/TC 126 in June 2018: CEN/TC126 decides that a standardization need for the measurement of low frequency sound insulation of façades of buildings will be submitted to STAIR EMPIR.</p> <p>[1] Keränen et al: Façade sound insulation of residential houses within 5 – 5000 Hz – Presentation at EURONOISE 2018, Crete</p> <p>[2] Larsson et al: Façade insulation at low frequencies – influence of window design, International congress on acoustics 2016, Buenos Aires</p> <p>[3] D. Hoffmeyer, J. Jakobsen: Sound insulation of dwellings at low frequencies. Journal of low frequency noise, vibration and active control 29 (2010)</p>
Enclosures	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

*See more information at [EMPIR website](#)
[CEN/CENELEC website "Standards and metrology"](#)