



**DATE:** 5 June 2016  
**TO:** CAA Committee on Standards  
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Chair, CAC/ ISO/TC43/SC2

### ***Report of Subcommittee on Building Acoustics, June 2016***

This report presents an update on key standardization activity in ISO/TC43/SC2 and ASTM E33, the key standards developers relevant for building acoustics in Canada. Accepted changes to the National Building Code (NBCC) for 2015 use a mix of ASTM and ISO standards. The review and approval process for changes to the NBCC was completed late in 2015 and the new NBCC was published in January 2016. Work on a further revision to include impact (footstep) sound in the 2020 edition of the NBCC should start soon, and NRC is preparing a set of Guideline documents to help users of the new Code requirements for sound control.

#### ***1. Issues in ISO/TC43/SC2:***

Last meeting of ISO/TC43/SC2 was in Milan in September 2015, with no Canadian delegate (David Quirt had travel problems). Steady advance of the ISO standards beyond their ASTM counterparts invites serious consideration of eventually basing the noise control provisions in the National Building Code completely on ISO standards, but meanwhile they provide concepts for ASTM to adapt.

- Ratings for sound transmission: Development of new ratings (in ISO 717 Parts 1 and 2) has restarted. This draft has potential to provide improved ratings for both airborne and impact sound, which would justify switching Canadian requirements to ISO, but opposition by some European organizations could stall that for years.
- Revision of ISO 15712 series: The ballot on reconfirmation of the old version (basically a 1990 European set of documents) had mixed response, but the Berlin meeting (sept.2015) decided to push for harmonizing an ISO revision under CEN lead, which could change the numbering back to those of the original CEN 12354 series but should lead rapidly to a significantly updated new version. The ISO ballot closed in May; Canada voted to approve the new versions. Part 1 is central to the 2015 Building Code revision, and Part 2 will be needed for the expected addition of provisions for control of impact noise.
- Green Acoustics: A new Working Group has been established to develop acoustical performance standards suitable for use in the evaluation/rating of sustainable buildings under programs such as LEED. Focus is on hospitals and commercial buildings. Marginal enthusiasm from Europe may stall or sink the preliminary draft.

Next meeting of ISO/TC43/SC2 is planned for May 2017; JDQ plans to attend, and funding for a second participant may be feasible. Several new members have joined the Canadian Advisory Committee to ISO/TC43/SC2 (John Swallow, Alan Oldfield and Mihkel Toome). Others interested in participating in the building acoustics CAC are urged to contact Dave Quirt.

## **2. Issues in ASTM E33:**

Members of our CAC have had leading roles within ASTM Committee E33, which is responsible for standards in “Building and Environmental Acoustics”. The committee meets twice each year and is responsible for all ASTM standards pertinent to sound transmission in buildings (and hence for building codes). Brad Gover from NRC attended the last meeting of E33.

Unfortunately E33 has developed no standards for the structure-borne transmission that is a large part of the problem in typical buildings, so ISO standards are now used as the core for the requirements in the NBCC. Issues currently being addressed in ASTM E33 include:

- Updating test methods for field measurement of airborne (E336) and impact (E1007) sound transmission to include clarifications on applicability in small spaces, and reporting requirements.
- Revision of Classification E1332 for Outdoor-Indoor Transmission Class, to include definition of Apparent OITC and clarification regarding angular dependence.
- A new Guide for sound transmission in lightweight framed buildings, to provide practical guidance to designers and practitioners.
- A new standard for a heavy/hard impact source suitable for impact testing of high-performance fitness floors
- A new test method for the laboratory measurement of mechanical impedance of building elements and prediction of the sound transmission loss performance
- Round robins to develop updated statements of precision and bias for test methods for laboratory measurement of airborne (E90) and impact (E492) sound transmission.

Activity to maintain and revise ASTM standards is presented on the ASTM website, and for building acoustics, this is at <http://www.astm.org/COMMIT/SUBCOMMIT/E33.htm> . For each current standard, there is a brief summary of significance and use, plus the scope, and an outline of the issues for any current revision.