EH/1/3 meeting
Wednesday 23rd March 2016

ISO/TC 43/SC 1 *Noise*

It was noted that SC 1 was scheduled to meet in May

2017. **Working groups**

ISO/TC 43/SC 1 WG 51 Noise from shooting ranges

It was reported that WG 51 was scheduled to meet in May 2017 in Copenhagen to discuss the revision of ISO 17201-6.

ISO/TC 43/SC 1 WG 45 *Description and measurement of environmental noise (Revision of ISO 1996-series)*

Members were reminded that GB had voted against
ISO 1996 Acoustics - Description, measurement and assessment of environmental noise
Part 1: *Basic quantities and assessment procedures*

and

Part 2: *Determination of environmental noise levels*

It was reported that Part 1 had been published as 2016 edition in ISO and, Part 2 would be published shortly but that neither part was implemented as a British Standard.

ISO/PAS 20065 was expected to be published soon and new work items for a separate standard on tonal noise and a PAS on impulsive noise were underway.

There was also discussion of initial work on wind turbine noise. It was suggested that an invitation be sent to members of Institution of Acoustics, and Chartered Institution of Environmental Health and Association of Noise consultants and the BSI committee on Wind Turbines (PEL/88) to solicit members to participate.

ISO/TC 43/SC 1 WG 54 *Perceptual assessment of soundscape quality*

Draft ISO 12913-2 had been significantly redrafted but was now on a tight timetable. Phil Dunbavin had circulated the current draft to appropriate members of EH/1/3. There was concern with the quality of the draft and therefore a proposal had been made to restart the work with a new project leader.

EH/1/3 agreed to support continuation of the current work and therefore to vote 'Yes' on the ISO Electronic Balloting system by Thursday 31 March for the current Working Draft to go forward to the CD enquiry stage for approval as a Committee Draft. This decision was agreed on the basis that in this enquiry the national member bodies can submit technical comments on the draft for its further development, and that pragmatically, if the CD was not approved then Part 2 of the Standard could be restarted in any case.
It was suggested that a meeting of GB experts be held before the next WG 54 meeting.

Outstanding votes

NWIP ISO 17201-6 *Acoustics – Noise from shooting ranges* — Part 6 *Measurement of noise exposure of shooter, observer or instructor for hearing protection*
Document EH/1/3_16_0005 = ISO/TC 43/SC 1 N 2117
[Committee deadline 2016-05-10]

It was agreed to submit a GB vote of approval and to confirm participation of J Grant/P Dunbavin. Members were invited to submit comments to the EH/1/3 secretary using the ISO commenting template.

Revision of BS 7445-1: 2003

Description and measurement of environmental noise

It was noted that ISO 1996 was progressing and would inform the revision of BS 7445.

Members of EH/1/3 were asked to send their comments and suggestions to John Grant, Steven Turner and Richard Collman by 2016-05-31 to enable them to prepare an initial outline for the revision of BS 7445 to be presented to the next EH/1/3 meeting in September 2016.

It was agreed that ISO 1996-1 and 2 should be retrospectively adopted with National forewords explaining why EH/1/3 does not approve their use. Phil Dunbavin and Steven Turner agreed to prepare National Forewords

Any other business

It was asked if ISO/TR 17534-3:2015 affected the application of ISO 9613-2:1996 *Acoustics — Attenuation of sound during propagation outdoors — General method of calculation*. It was proposed that ISO 9613-2 be retrospectively adopted; Simon Shilton agreed to prepare a draft National Foreword.

It was asked whether if ETSU-R 97 was withdrawn, could BS 4142 replace it. EH/1/3 agreed that it could not.

Members were reminded that the consultation on the ProPG draft Guidance would close at the end of March 2016 and the EC consultation on the evaluation of the environmental noise directive would close on 28th March 2016.

Members were invited to let the secretary know if they were interested in setting up a BSI affiliate scheme for distribution of standards through their trade associations.

Meeting EH/1/6, Thursday 31st March 2016

1 Opening of the meeting and apologies for absence

The chairman welcomed members and introduced the new secretary, Pavlin Matia, thanking Bernard Shelley for his temporary management of the committee. Apologies were recorded for Dr Jones (The Institute of Physics), Prof. Gibbs (University of Liverpool), and Danny McCaul (University of Salford).

2 Adoption of the draft agenda

The agenda given in document EH/1/6_16_0024 was accepted with the addition of with the addition of the following in 6.2:

— clarification on requirements in BS EN ISO 16283 Part 1: with respect to omnidirectional speakers,
— Feedback on WG 30 6.2,

and

— the addition of AOB as a standing item.

3 Standing items [See BS 0]

3.1 Constitution of the committee

- There were no outstanding invitations for organizations and individuals to join the committee.
- The current membership was considered appropriate.
- The co-opted, liaison and any WG expert category members were considered current and valid.

It was recommended by the outgoing secretary that the chairman together with the new secretary consider reviewing the membership of the committee.

3.2 Conflicts of interest

None was identified.

3.3 Declarations of IPR for published standards and work in progress

None was identified.

4 Review of the minutes from the EH/1/6 meeting held 2015-04-21 See document EH/1/6_15_0050

4.1 General

The minutes given in document EH/1/6_15_0050 were accepted with the following amendment:

Change the representing body for Robert Evans from British Gypsum to Gypsum Products Development Association.

4.2 Actions from the EH/1/6 meeting held 2015-04-21

Action 1 The committee secretary to add Mr Robert Evans as the UK expert to CEN/TC 126/WG 30 (development of ISO 11654). Done

Action 2 ISO/CD 10140-4 - The committee secretary to circulate the UK comments submitted at the first CD vote. Done

Action 3 NWIP ISO 20189-1 - The committee secretary to check with Mr Peter Symons if he is happy to participate as the UK expert. Continuing

5 Matters arising not otherwise on the agenda

There was none.

6 International work: report of the status of ISO/TC 43 SC 2 6.1 ISO/TC 43/SC 2 Building acoustics

It was noted that the last meeting was held in Milan in September 2015.

It was noted that the next meeting of the above committee will be held in May of 2017 in Copenhagen

6.2 Working groups

WG 17 Measurement of flanking transmission

It was noted that the DIS for ISO 10848 must be registered before 18-6-2016.

The first meeting to revise ISO 10848 Parts 1-4 was held with ISO meetings in Milan (15-9- 2015).

WG 18: Measurement of sound insulation in buildings and of building elements

— ISO/DIS 10140-4 Acoustics — Laboratory measurement of sound insulation of building elements - Part 4: Measurement procedures and requirements

[See document EH/1/6_15_0111]

GB had voted to approve.

— It was noted that CSTB (France) were proposing using many positions for low frequency measurements.

— ISO/DIS 10140-1 rev. 614, 615 (Notes from meeting in Milan, Sept 2015)

Comment GB011 to change the temperature was accepted. Comment GB042 to change the drawing will be addressed by Germany. Comments on ISO DIS 10140-4 were discussed.

— ISO/CD 10140-4 rev. 611, 616

It was noted that there is no designated scope for this revision; changes could be incorporated in Part 5.

— ISO 10140-5

A change was proposed for ISO 10140 and ISO 717 to refine the definitions and calculation procedures for delta R and delta L.

— ISO 16283

— BS EN ISO 16283-1 was published February 2014 — BS EN ISO 16283-2 was published December 2015 — BS EN ISO 16283-3 was published February 2016 The chairman provided an update on the preliminary meeting.

Concerns were raised over notification of complementary copies becoming available to committee members. Some members did not receive request to download the newly published standard – ISO 16283-part 2, while others had received a notification to download ISO 16283- Part 3.

Action – Secretary to investigate and arrange for links to be resent.

— ISO 16283-1

A revision was requested at the last ISO Plenary meeting. The revision has been submitted to ISO Secretariat in January 2016 – awaiting circulation.

- The committee has requested the below changes: Revisions agreed in relation to R' or DNT.
- In clause 4.1 and 4.2 delete reference to class 0 instruments.
- In 8.5.1 and 8.5.2 clarification of 'averaging'.

The DIS document for the ISO 16283-1 amendment has been registered at ISO and CEN and has been distributed to AFNOR and DIN for translation. The ballot is expected to commence in two months.

— ISO 16283-2

An error was identified in paragraph 7.3.2 where "tapping machine" is used but it should say "source" as indicated below. The ISO secretariat has been informed. Currently awaiting guidance from ISO Secretariat on how to proceed.

— ISO 16283-3

No corrections had been identified Phil Jones queried the requirements regarding omnidirectional loudspeakers, particularly hemi-dodecahedron loudspeakers, for which guidance would be helpful to use BS EN ISO 16283 Part 1 for accreditation.

Action: IOA/ANC (Phil Dunbavin)?UKAS (Grant Swankie) to raise the issue with manufacturers of hemi-dodecahedron loudspeakers to ask whether the loudspeakers satisy the requirements.

WG 29 Acoustic classification scheme for buildings

A meeting had been scheduled on the 13th April 2016 in Helsinki.

Phil Dunbavin reported that the committee is currently battling against a need for measurements down to 50 Hz.

WG 30 - Revision of ISO 11654 Sound absorbers for use in buildings -Rating of sound absorption

Robert Evans attended WG meeting which took place at the beginning of January 2016. German representatives requested the removal of annex B from standard. It was suggested that GB would request data to support the proposal.

The next is meeting scheduled for the summer of 2016 and Target for DIS is June 2017.

7 European work: report of the status of CEN/TC 126

7.1 FprCEN/TR 16961 ***Declaration of uncertainties in test reports***
Document EH/1/6_15_0113

The ballot had closed on 2016/02/03; GB had accepted with no comments.

7.2 Preparation for the CEN/TC 126 plenary meeting and other CEN meetings in Helsinki 12-15 April 2016.

The draft agenda had been issued as document EH/1/6_16_0016 (CEN/TC 126 N 1043). A revised version was issued as N 1068 (to be posted).

Particular items of concern were:

Agenda item 10 – New topics for discussion

10.1 Standardization of a Questionnaire for Socio-Acoustic Surveys in residential Buildings based on COST Action output (see CEN TC126 N 1064).

Discussion indicated that the committee was generally negative about this proposal.

10.2 Creation of an experts' group working on the Acoustic properties data for the BIM: The Chairman asked whether there were any concerns in relation to 10.2. Furthermore the chairmen enquired about whether the committee needed an experts group for those interested in BIM.

Action: Secretary to find out who from the construction department is involved with BIM and feedback to committee.

Committee was asked to provide feedback on this document prior to the meeting. Committee members should send feedback to the Chairman and secretary who will collate their feedback. It is likely that GB will vote against this and raise concerns about its necessity.

Action: Committee members to email chairman feedback from relevant industries.

Agenda item 10.3 Technical report (TR) proposed for the inter-laboratory test report to prepare a test code for drywall partition (WG9) (plasterboard)

The chairman asked for feedback from the committee in relation to the above item. BRE and The

Building Test Centre provided some feedback.

Alexandra Ahern will be attending the working group 9 meeting that will discuss item 10.3.

Action: Alexandra to feedback to the committee following the meeting. It was agreed that he delegation would be:

Carl Hopkins Leader (Convenor WG6), Gerry Pettit (Convenor WG 5), Phil Dunbavin (WG 29), Alexandra Ahern (WG 9).

8 Ballots

Draft BS EN 15657 *Acoustic properties of building elements and of buildings — Laboratory measurement of structure-borne sound from building service equipment for all installation conditions*
EH/1/6_16_0005 = Draft for public comment 16/30333609 DC

Comments were due 2016/03/14.

The committee agreed to approve with no comments. Approved on 01/04/2016.

Draft BS EN ISO 12354-1 *Building acoustics — Estimation of acoustic performance of buildings from the performance of elements*
Part 1 *Airborne sound insulation between rooms*

EH/1/6_16_0008 = Draft for Public Comment 16/30334494 DC

Comments were due 2016/03/28.

The committee agreed to approve with comments.

Action: Secretary to collate comments and submit with vote and to post submitted comments to the EH/1/6 ecommittee [Done].

Draft BS EN ISO 12354-2 Building acoustics — *Estimation of acoustic performance of buildings from the performance of elements*
Part 2 *Impact sound insulation between rooms*

EH/1/6_16_0009 = Draft for Public Comment 16/30334498 DC

Comments were due 2016/03/28.

The committee agreed to approve with comments.

Draft BS EN ISO 12354-3 *Building acoustics - Estimation of acoustic performance of buildings from the performance of elements*
Part 3 *Airborne sound insulation against outdoor sound*

EH/1/6_16_0010 **=** Draft for Public Comment 16/30334502 DC

Comments were due 2016/03/28.

The committee agreed to approve with no comments.

Draft BS EN ISO 12354-4 *Building acoustics — Estimation of acoustic performance of buildings from the performance of elements*
Part 4 *Transmission of indoor sound to the outside*

EH/1/6_16_0011 = Draft for Public Comment 16/30334506 DC

Comments due 2016/03/28

The committee agreed to approve with comments.

9 Allocation of ISO work in BSi on laboratory tests on water supply installations.

It was noted that all of the following, previously allocated as noted should be the responsibility of EH/1/6. There is a possibility to have liaison to EH/1/4 if necessary in future.

BS EN ISO 3822-3:1997+A1:2009 Acoustics. Laboratory tests on noise emission from appliances and equipment used in water supply installations. Mounting and operating conditions for in-line valves and appliances

– (previously allocated to EH/1/4) BS EN ISO 3822-2:1996 Acoustics. Laboratory tests on noise emission from appliances and equipment used in water supply installations. Mounting and operating conditions for draw-off taps and mixing valves
– (previously allocated to EH/1)

BS EN ISO 3822-3:1997+A1:2009 Acoustics. Laboratory tests on noise emission from appliances and equipment used in water supply installations. Mounting and operating conditions for in-line valves and appliances
– (previously allocated to EH/1/6)

BS EN ISO 3822-4:1997 Acoustics. Laboratory tests on noise emission from appliances and equipment used in water supply installations. Mounting and operating conditions for special appliances
– (previously allocated to EH/1/4)

Action: It was agreed that the secretary will check that the above projects have been moved to EH/1/6.

10 Any other business

It was noted that the formal vote on prEN 1793-1 through CEN/TC 226 Road equipment has been issued. It was also noted that the formula had been changed.

11 Date and Place of next meeting

It was agreed that the next meeting will take place on the 1st of November 2016

AITS FUNDED REPORT OF INTERNATIONAL/EUROPEAN MEETING
This report is to be submitted to the relevant BSI Programme Manager at the same time as the AITS form is returned (i.e. within 1 month of the date of the meeting). It will then be circulated to the relevant BSI Technical Committee.

Meeting of Committee: CEN TC126 WG2

Date(s) of Meeting: 12-4-2016

Place of Meeting: Helsinki, Finland
(Town & Country)

Author of report: Hopkins

Other UK attendees: Phil Dunbavin, Barry Gibbs

Countries & number in delegations [e.g. DE(4)] DE 3 N 1 BE 2 F 2 I 1 CH 1 PL 1

Additional major papers circulated at meeting

Items added to Agenda at meeting

None

List of discussed items

1. Opening of the meeting (9.00 am)

2. Roll call of WG2 members

3. Approval of the draft agenda (N 353)

4. Approval of the minutes of the last WG2 meeting in Brussels (N 346)

5. Revision of EN 12354-1…4 (Prediction of performance of buildings from the performance of elements):
- Information on CEN / ISO agreement
- End of enquiry expected on April 28 (after the meeting)
- Corrected drafts to be send to TC by the end of October

6. Preliminary work on revising EN 12354-5 (Sound levels due to service equipment):

- Main need: providing greater details for application to lightweight constructions as well as for extending the frequency range down to 1/3 octave 50 Hz
- Needs and structure of the revised standard to be discussed; any proposal are welcome (the convener will bring his)
- Progress in research on this subject to be checked and discussed; short presentations are welcome.

7. Next meeting

8. AOB

9. End of the meeting at 4.00 pm; to be followed by a 2 hour meeting of ISO/TC43/SC2/WG17

Other comments/items

Date of Next Meeting: 26-9-2016

Proposed venue for next meeting: AFNOR, Paris

Report from delegate

This page of the report should include such items as major discussion points, items of concern for UK, UK views accepted or not accepted, decisions, progress since last meeting, whether or not the objectives of the meeting were achieved, the effectiveness of the Chairman/Secretary, actions to be achieved by the next meeting.
A copy of the Agenda is to be attached to this report.

Item 5
End of enquiry for EN 12354 will be 28-4-2016 (i.e. after this meeting)

Corrected draft to be sent to TC126 by end of October 2016. If there are sufficient comments to justify a meeting then maybe there will be a meeting in September 2016.

ISO agreed to use the numbering system of the EN i.e. ISO 12354

Revision is with the CEN lead.

ISO has previously not considered Part 5 and 6 so at present they are purely at CEN level but a request will be made to ISO TC43 SC2 to consider adopting these at the next ISO TC43 SC2 Plenary.

Agree to change from ‘heavy’ and ‘light’ descriptors to Types A and B as indicated in the draft ISO 10848.

Introduce a term ‘coupling intersection’

Item 6
Discussion of future revision of EN 12354-5.
For transmission through pipes and ducts WG2 will need to identify experts outside the current committee.

For transmission through building structures we may need to amend the direct field correction at low frequencies. It was discussed whether to convert machinery structure-borne sound power into an equivalent airborne or tapping machine source. Decision is to add in the latter option as it might be considered more intuitive.

For structure-borne sound transmission through the structure from building equipment the convenor presented different options to go forward. The use of equivalent loss factors was considered but it was noted to be problematic because it was difficult to define an ‘equivalent mass’ and using a shaker or impact hammer as a calibrated source on plasterboard was difficult due to damage of the plasterboard. The preferred solution was to have 3 normative annexes in ISO 10848, one describing calibrated power sources, one defining Lne0,f and one defining transmission functions.

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Meeting of Committee: ISO/TC 43/SC 2/WG 29

Date(s) of Meeting: 13/04/2016

Place of Meeting: Helsinki, Finland
(Town & Country)

Author of report: Phil Dunbavin.

Other UK attendees: Alexandra Ahern

Countries & number in delegations – France 3, Belgium 2, Germany 3, Portugal 1, Italy 2, Spain 1, Finland 3, Norway 1, Sweden 1, Austria 1, Denmark 1, Poland 1.

Additional major papers circulated at meeting - None.

Items added to Agenda at meeting - Comments from Dr Aleksandras Jagmaitinskis, Vilnius, Lithuania.

List of discussed items - See agenda at the end of this report.

Other comments/items - Various presentations see item 4 of the agenda.

Date of Next Meeting: TBA

Proposed venue for next meeting: TBA

Report from delegate

1. **Opening of meeting**

   The meeting was opened and the draft agenda adopted. The minutes of the last meeting were approved.

2. **The ISO/NP 19488 time schedule**

   The deadline for the DIS is 27/3/2017. Birgit Rasmussen was of the view that the CD stage of two months should not be skipped and consequently the CD needs to be ready one month after today's meeting.

3. **Summary changes ISO/WD 19488 from 1st to 2nd version**

   Birgiit Rasmussen took the meeting through the changes to the draft since the last meeting.

4. Presentation of research results and findings observed since the Milan meeting

The German delegate, J Schiedel from Knauf, gave a presentation on listening tests regarding the auralization of sound insulation. This and the Norwegian study of field tests shows that DnT,w does not need to go down to 50Hz for airborne sound insulation but that the frequency extension down to 50Hz is appropriate for impact insulation. Other delegates believed that this was not representative of the real world.

The delegate from Spain made a presentation on "Optimized reference curves for objective rating of airborne sound insulation". The outcome of this research project might be of value to the revision of ISO 717:Part 1 but not to the classification standard.

There then followed a presentation from the German delegate, Martin Schneider, on the legal requirements in Germany and their sound insulation classes from DEGA. In Germany they do not measure the sound insulation but do calculations.

The Italian delegation presented a paper on the Acoustic Classification of Buildings in Italy.

The Norwegian delegate, Liris Turunen-Rindel, made a presentation on the application of the Norwegian Standard NS 8175.

Christian Simmons made a presentation about the Swedish classification scheme.

The delegate from Finland made a very brief verbal presentation.

The Austrian delegate, Heinz Ferk, made a presentation on the Austrian classification scheme.

Birgit Rasmussen explained what was done in Denmark with respect to acoustic classification.

Bart Inglatere described the very simple three class scheme operated in Belgium.

Brief verbal presentations were made by the French and Portuguese delegates about what is currently done in their countries.

5. Discussion selected topics for the next ISO/WD 19488

Phil Dunbavin will re-draft Table 9 for the CD in the next four weeks to consider speech privacy more realistically.

It was decided to change the standard so that the use of ClassA_{50} or Class A_{100} is a choice of the user in each country. The reporting or use of both descriptors is no longer mandatory and the text has been changed to reflect this decision.

There was considerable debate as to whether the standard should be withdrawn from the Vienna Agreement by CEN. A vote could not be taken on this for two reasons. Firstly no one knew if that was even possible and secondly the delegates all had no mandate from their respective countries mirror committee as to how they should vote.

6. Plan/Decisions (what/who/when)

The draft will now be tidied up into the CD and issued.

7. Next meeting place(s) & date(s)

The next full meeting will be held on the 16th May 2017 in Copenhagen. There may be an intermediate meeting on the 26th of September in Paris at Afnor..

8. AOB - There was no AOB.

9. Closing of meeting & Farewell - The meeting was closed.

Agenda – 3rd ISO/TC 43/SC 2/WG 29 meeting Helsinki, 13 April 2016

Meeting place & time

Date & Time: 13 April 2015, 09:30-16:30
Place: METSTA, Meeting center, Eteläranta 10, 00130 Helsinki, Finland.

Agenda		Documents	Comments
1.	**Opening of meeting** Roll call Adoption of agenda Approval of Milan minutes	 WG29 N16 WG29 N13	
2.	**The ISO/NP 19488 time schedule** Time schedule preparation of CD and DIS.	WG29 N13	
3.	**Summary changes ISO/WD 19488 from 1st to 2nd version** Information about main changes by the WG convenor. Presentation of details and implications by the task group leaders from the Milan meeting. Main comments on structure and changes? Parts of contents to be moved to Annexes? (e.g. Clause 8). Identifying - preliminarily - issues for discussion in this meeting, point 5, e.g.: - Habitable / non-habitable rooms (Clauses 4,5,6) - $L_{den, indoor}$ (Clause 5) - ISO 10052 (Clause 6) - Rev.time again? (Clause 7) - Privacy to be introduced? (Annex A)	WG29 N10 N14 & N15	
4.	**Presentation of research results and findings observed since the Milan meeting** Presentations preferably max 10 minutes. Conclusions?		*Please announce presentations before the meeting (topic, publication).*
5.	**Discussion selected topics for the next ISO/WD 19488** Issues to be decided based on the preliminary list from point 3 and added topics.		*Split up into smaller groups?*
6.	**Plan/Decisions (what/who/when)** Preparation of detailed plan for actions from now until DIS.		
7.	**Next meeting place(s) & date(s)** Next full meeting probably in connection with ISO/TC 43/SC 2 & WG meetings in May 2017 in Denmark Other suggestions for “smaller” meetings? WebEx/Skype?		
8.	**AOB**		
9.	**Closing of meeting & Farewell**		

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Meeting of Committee: Meeting about test codes.

Date(s) of Meeting: 14/04/2016

Place of Meeting: Helsinki, Finland
(Town & Country)

Author of report: Phil Dunbavin

Other UK attendees: Alexandra Ahern.

Countries & number in delegations – France 4, Belgium 2, Germany 2, Italy 2, Spain 1, Finland 3, Norway 1, Sweden 1, Austria 2, Denmark 2, Switzerland 1, Turkey 1.

Additional major papers circulated at meeting – None.

Items added to Agenda at meeting– None.

List of discussed items – See the agenda at the end of this report.

Other comments/items – None.

Date of Next Meeting: No further meeting are required.

Proposed venue for next meeting: N/A

Report from delegate

1. **CEN TC 126 introduction and presentation (Marc Rehfeld)**

   The meeting didn't completely follow the proposed structure given in agenda… so the notes given below are structured to match the given presentation as best as possible

   Goal for generation of testcodes

   - To
     - improve uncertainty data available,
     - give extension rules,
     - provide tabulated values
   - it is a CEN task that had been asked for
   - It is necessary for CE marking

   Why improve

   - CEN TR 15226 states that if the uncertainty has not been developed then labs should use ± 6 dB which seems quite high
   - 12999 -1: brief explanation of the use of 95 % confidence interval and apparently this explains the given values in CEN TR 126133……. Although it is understood that there is some confusion about how to actually use the 12999 method.

   History

   - EN 12758 (testcode developed for glass) was the 1st Test code to be developed & by using min & max data (i.e. envelope method) for glazing the uncertainty was reduced from 4 dB to 1dB.
   - This has not yet been included in 10140-1 but this is on its way

   Discussion

   - Martin Shneider (Germany) raised question regarding use of K=2 in this application. He had been in contact with Wistock and considered that it was for the labs to decide what confidence interval was appropriate and whether it needed to be 2 sided. He said that labs should be free to choose as long as this was specified in the test report i.e. K= 1 gives a 68 % confidence interval.
   - It is thought Marc Rehfeld was of the opinion that this would be too confusing to the readers of the test report

2.WG 9 presentation (Cyrille Demanet)

2.1 Introduction

- Cyrille started by giving thanks to people in the room who contributed as WG members and /or Labs for their time and contributions
- He confirmed that the Interlab Round Robin on dry wall was tested in 2010
- Analysis of data was conducted for 4 years looking at how we can use data to reduce the uncertainty values from the values previously given by the Pompoli Round Robin
- It then took a further year to write EN 16703
- Cyrille then mentioned the list of labs who participated in the Round Robin and the Internoise publication in 2011 which summarised initial findings
- Cyrille described the preparation that was taken over the period of a year before the Round Robin was started in order to agree a variety of parameters and tools to try giving good consistency of test and maintaining confidentiality of laboratories. Items prepared included
  - Method to analyse data

- Method to capture lab data
- Method to capture test results
- A standard construction and installation procedure
- Product characteristics
- Procedures for material packing list and storage
- Procedure for requested tests

o Cyrille gave thanks to all the suppliers of materials, labs for providing time/ lab space, Eurima & Eurogypsum and Wistock from PSTB who although not a member of the WG continued to receive copies of all WG documents and give advice regarding uncertainties

o Cyrille asked for comments regarding the preparation documents. From the BTC perspective Alexandra Ahern mentioned it was good to have clear guidance. That for BTC we found there was no guidance given on drying time but that we asked the question before proceeding. Cyrille commented how it was interesting some labs asked and others didn't however too much could not be read into this as some labs who did not ask would have made assumptions due to how they normally build test specimens every day. He agreed it was a learning point that may have improved the control of the installations

2.3 ILT Results

- Cyrille showed 2 slides, one for each type of partition used in the Round Robin. Each slide showed an overlay of the SRI curves for all laboratories for the given construction shown next to it (Type 1 single frame or Type 2 twin frame)
- Cyrille made several comments about the variation shown in particular that there was much more discrepancy when it came to the twin frame construction. There was mention that potentially contributions from flanking transmission could be a factor

2.4 Analyses

- Lots of different parameters were cross referenced (eg room volumes) no correlation was found with any particular factor. The first conclusion of the WG was there was absolutely no obvious way to determine the causes of the variation.
- One of the outcomes of the Pompoli Round Robin was the recommendation to avoid wood or steel frames. This correlation was not observed in the data from the 2010 Round Robin and it was pointed out that there was no improvement in the uncertainty values after this requirement was brought in
- Four key areas of investigation were identified during the analyses stage
    - Air tightness control: cracks in compound were suspected for the flat spectrum shapes at high frequency - so learning regarding control of installation
    - Perimeter softness: variation was found from approx. 2kHz upwards due to different compounds and setting times…. Again supporting the learning that installation has to be controlled
    - Diffusivity: one lab was asked to re-build and test with extra diffusers in room, which improved the result. Later comment came back to this to state this may have also been due to re-build of test specimen. Comment was made that if we follow requirements of test standard we should have already checked our room diffusivity, Cyrille also allowed that when the lab tests constructions different from their everyday (i.e. Perhaps normally test doors or glass …etc.) then this is where labs may not detect problems with diffusivity.
    - Flanking: higher SRI values were found when the Type 2 partition (twin frame) was constructed across an acoustic break

2.5 Test code methodology

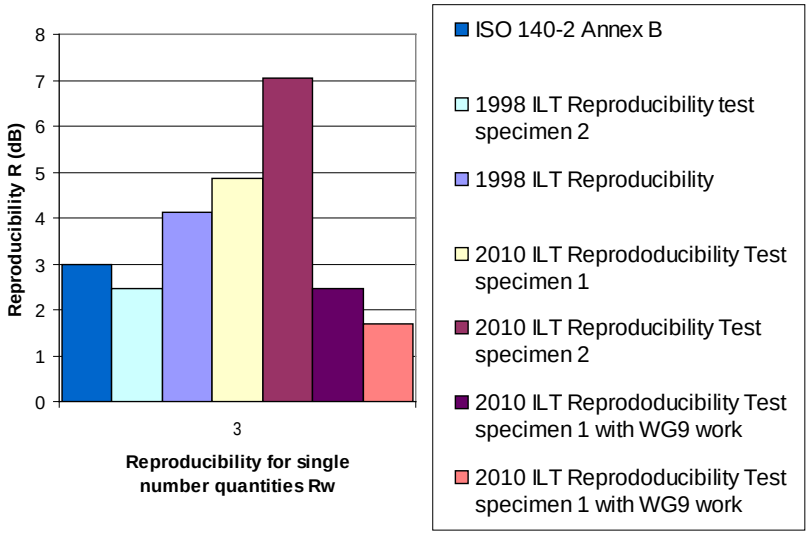
Principle of the testcode EN16703 has developed such that it is now intended to be used to validate laboratories using 2 standard reference constructions in order to identify potential investigation area and improve knowledge of the laboratory

- Build the reference partitions
- For each construction compare the full spectrum with the envelope

- If outside the envelope then conduct further investigations to satisfy yourselves everything is correct and improve knowledge of lab design

2.5a Outcome of this methodology

- better control of reproducibility
    - while 2010 uncertainty was initially worse that recorded from Pompoli it is commented that for the Pompoli Round Robin it is believed it was the same team who conducted the installation at each laboratory(linked to learning about control of installation)
    - The uncertainty calculated using only the labs which fulfil the envelope criteria significantly improved the uncertainty values
    - There was clarification on the legend of figure 9 incorrectly labelled 2010 Round Robin Type 2 in the presentation & the report. Although unable to confirm without checking, Cyrille believes the 2010 value with the higher uncertainty was for the Type 2 partition as there was greater variation on the twin frame construction.



2.5b Open Discussion

- Martin Shneider questioned the validity of calculating the reproducibility based on a sub set of laboratory results which had already been used as part of the whole group to calculate the envelope criteria
- Pascal Ozouf confirmed that this method had been agreed with Vistock at a much earlier date.
- It was re-iterated that the real use of this envelope criteria was to help laboratories to identify potential problems with their lab designs, methodology etc. and put an emphasis on them to investigate and learn more about their setups
- Martin Shneider made comments about the spread of results shown at low frequency. He asked why were laboratories so concerned about testing low frequency when you compare the spread of results at low frequency with the spread of results at high frequency
- A comment from Alexandra Ahern was that not all contributing laboratories included test data at the low frequencies. This spread was perhaps a natural result of reduced number of comparisons and that the spread was likely to be much worse at low frequency if all labs had provided this data
- Discussion on installation guidance included questions about potential for flanking if plasterboard was installed directly off the floor, although this seemed to be more in reference to site application. Cyrille confirmed the purpose of the reference partitions was just to provide clear details of type of construction specified just for this validation exercise, not for every subsequent construction…. He also suggested that for everyday use national bodies may want to consider build guidance for a particular construction type e.g. drywall - as they do in France
- Jochen Schiedel (Knauf Germany) raised a query about the use of small plasterboard used in the validation exercise in order to test for diffusivity leading to a debate about design and use of diffusers. It was confirmed this was just a quick and easy suggestion to use as part of the Round

Robin but that labs may want to investigate further and have more permanent diffusers for normal setup.

2.6 Laboratories Feedback

2.6a - Martin Shneider experience (Stuttgart) applying the testcode outside of the Round Robin

- Motivation: as university they wanted to see how it would work although they have no actual need to currently use it. Cyrille helped them to obtain suitable materials as the original Round Robin materials no longer available
- Presented slides showing how they tested the partition 4 times with different sealing details around the perimeter and got different spectrum shapes…. Again showing the importance of the installation
    - One bead around inner layer one side only
    - Bead around inner layer on both sides
    - Bead around both layers on one side and around only inner layer on the other sider
    - Bead around both layers on both sides
- For the twin frame partition they were above the upper limit of the envelope, and they consider this to be due to improved flanking transmission design of their laboratory – raising a question of what is the 'true result' ie. The average of a group or the one with reduced flanking transmission through lab design
- Summary: drying time affects the SRI, they believe the deviations to envelope experience with Type 1 partition was due to connection to frame, and they believe the deviations to envelope experienced with Type 2 partition was due to where the envelope average was set
- Comparison of 2 techniques to measure Young's modulus of plasterboard
    - Contradictory results can be given by the two methods
    - Both techniques are difficult to be conducted by standard acoustic labs
    - Would a shaker at edge of board be better instead of in the middle
- Conclusion:
    - Not a problems for them that they are outside the envelope
    - Not clear what part of the SRI is affected by the test standard, workmanship issue and the construction type
    - Standard does give a way to help verify test setups and measurement procedures to check quality of lab and it does give a defined boundary to prompt investigation
- Discussion:
    - Cyrille confirmed that results have shown that Young's modulus has not shown itself to be a key factor in the lab variation despite initial concerns when the Round Robin was being organised
    - Birgit Rasmussen (Denmark) suggested that this issue about what is a 'true result' is as a result of us experiencing 'democracy within science' and that it might have to be 'lived with'
    - Cyrille confirmed that for labs outside of envelope it is just an opportunity to then investigate and find out more about your lab

2.6b Jochen Schiedel experience (Knauf) applying the testcode

- As a lab they don't really want to change as they have a standard method and changing would have an effect on the consistent repeatability and therefore the comparability of their test data…. However they had to look at this after a request from Knauf France to provide tests to the testcode
- They didn't change the path or speed of the moving speaker, the path of the rotating mic, the diffusers or the absorber setup
- They have a concrete aperture which is lined with plywood fixed to the concrete with mortar. This lining is to provide fixings for partitions
- Presentation a sequence of experiments

- Included using a lining around the perimeter where the test specimen meets the wall/ceiling/ floor. Lining made of 12.5mm gypsum board with mineral wool and included covering the acoustic break
- Results showed that they could make alterations to their lab to force the result to be within the envelope, but this required to deliberating introduce flanking (inserting wedges between the plywood linings) in order to bring the high frequency values down into the envelope

- **Conclusions:**
  - Round Robin data is welcomes and encouraged
  - Improvements delivered by the testcode include, specifying information to be reported, definitions which can be referred to and definition of a reference partition
  - Further improvements to be considered:
    - Long term & international availability of materials in reference partition
    - Reliable airtight connection between partition & aperture
    - Elastic break between cladding
    - Upper limit not justified
    - Suggestion that aperture lining could be added as a potential investigation technique for labs
    - Restrictions on the partition size perhaps reviewed
  - Concerns that reporting low levels of uncertainty could be a problem when it may not be what is experienced by customers as this value is based on a subset of labs
  - It is not felt the testcode is mature enough to make it mandatory
  - They would offer a EN 16703 setup but will not be recommending it
  - They were forced into looking at EN16703 validation method but it did provide insight
  - Research and communication on this field should continue
- Discussion
  - Cyrille did state it is a choice about whether to apply the testcode, but it was clear he was disappointed to hear a clear message of a lab that would not be using it. Alexandra Ahern believed that he agreed it would probably not be a good idea to deliberately implement the changes Knauf had to apply in order to shape their results curves but he was also looking for willingness to use the experience to continue investigating with the standard
  - K Larsson (Sweden) made comments that this setup was completely forbidden in the 10140 test standards referring to the test about timber frames. A correction was made by myself that this was a 'concrete' frame, 'lined' with timber for practicality purposes. Cyrille made comment that even labs that just have concrete have issues with the potential variability due mounting conditions such as the condition from multiple fixings or that potential flex that could be perceived by use of plugs. He re-iterated that the data from the Round Robin showed no correlation with the different frame designs of the contributing labs. The findings of the Pompoli Round Robin was the reason for the text in 10140 but perhaps this was due to poor quality of those frames as it was not seen in the 2010 Round Robin
  - Pascal reminded all about the potential influence from absorption from materials around the aperture as well as the mounting conditions

2.7 Conclusion WG9

Cyrille thanked all for the good discussion and asked that we start using the testcode in order start gaining experience with it.

3 Test Code Conclusion Marc Rehfeld

Marc thanked all contributions, and stated that even if this testcode is not perfect, it is a big step forward, and perhaps other products could also look at testcodes to help labs etc. improve understanding of how the construction and lab design work together

Marc made comment that there are varying levels of expertise of labs, some with more involvement with standardisation than others. It is possible for a lab to believe it is doing everything correctly just because they've bought and read and standard without perhaps having the discussions and investigations necessary for confidence in the quality of measurement so this testcode will perhaps encourage effort to improve understanding.

4 Meeting closure

There being no further comments and having reached the end of the allocated time for the session, the meeting was closed

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Draft Agenda of the meeting about testcodes (EN 16487, EN 12758, EN 16703) – test reports and presentation to laboratories/TC126 members

14 April 2016 from 09:30 to 12:30

METSTA Mechanical Engineering and Metals Industry Standardization in Finland, Meeting center, Eteläranta 10, 00130 Helsinki,

1. **CEN/TC126 introduction and presentation (Marc Rehfeld)**
    1. Actual status
    2. Presentation of test codes methodology (glazing, ceiling and drywall partition)
    3. How to use test codes
2. **WG9 presentations**
    1. Introduction - C.Demanet
    2. ITL results
    3. Analyses
3. **Test code methodology**
    1. Laboratories feed-back
    2. Conclusion WG 9 - C.Demanet
    3. Questions and Answers WG 9
    4. Test codes conclusion Marc Rehfeld
4. Closure of the meeting.

AITS FUNDED REPORT OF INTERNATIONAL/EUROPEAN MEETING
This report is to be submitted to the relevant BSI Programme Manager at the same time as the AITS form is returned (i.e. within 1 month of the date of the meeting). It will then be circulated to the relevant BSI Technical Committee.

Meeting of Committee: CEN/TC126

Date(s) of Meeting: 14 & 15 April 2016

Place of Meeting: Helsinki, Finland
(Town & Country)

Authors of report: Carl Hopkins**,** Phil Dunbavin and Gerry Pettit

Other UK attendees:

Countries & number in delegations [e.g. DE(4)]
AT(2), BE(1), DE(2), DK(2), FR(4 + Chairman + Secretary), IT(3), NO(1), PL(1), PT(1), SE(2), SF(3), TR(1), UK(3), Eurima (1), ISO/TC43/SC2 WG29 (1)

Additional major papers circulated at meeting
None

Items added to Agenda at meeting
None

List of discussed items
As per agenda. Report follows agenda numbering.

Other comments/items
None

Date of Next Meeting:
w/c 12 June 2017

Proposed venue for next meeting:
Sweden. (Stockholm or Borås)

Report from delegates

1. Welcoming and opening of the meeting (*14:00*)

2. Roll call of delegates

3 Adoption of the draft agenda
Agreed to discuss the 2 BIM items (7.2 & 10.2) under 10.2

4 Appointment of the decisions committee
Pascal Ozouf (French), Martin Schneider (German). Gerry Pettit (English) and Secretary.

5 Approval of the report of the 24th plenary meeting held in Lisbon (N1017)
Approved –No comments.

6 Report of the Secretary and/or the Chairman (N1070)
- Status of the work programme (review of Lisbon decisions)
Document N1070 (her written report) was talked through by the secretary.

7 Liaisons
7.1 Report of liaison officers
CEN/TC33. Britta Tipsmark Hougaard (N1055)
CEN/TC129. Marc Rehfeld (N1056)
CEN/TC156. Kimmo Konkarikoski (N1057)
CEN/TC88. Sylvain Berger – No report (TC126 will consider this liaison as being dormant until a report is filed. A TC126 decision)

7.2 Review of liaisons (N1047)
Liaison to the new CEN/TC442 (BIM) was proposed (Chairman Mr. Rooth, Norway). Liaison officer to be appointed.
Discussion on this topic was postponed until item 10.2 was reached.

A liaison to with CEN/TC89 "Thermal performance of buildings and building components" was proposed. Liaison officer to be appointed.
This liaison was not approved. Any relevant issues about linked thermal and acoustic properties would be picked up by the TC88 liaison.

7.3 Discussion about the revision of FprEN 1793-1 Road traffic noise reducing devices – test method for determining the acoustic performance – part 1: Intrinsic characteristics of sound absorption under diffuse sound field conditions (CEN/TC226). (N1067)
Denmark raised the issue of a formula from ISO 354 being changed by this standard.
It was felt that there was nothing that CEN/TC126 could do about this.

8 Review of the Technical Committee working groups
8.1 WG 1 Methods for measuring the sound insulation of building elements and the acoustic performance of buildings. (N1058)
The convenor was not present.
EN 16205 is due to be sent for enquiry by May 2017.

8.2 WG 2 Prediction of the acoustic performance of buildings from the performance of elements (Michel Villot) (N1059)
Parts 1 – 4 of EN 12354 have been updated. Being balloted in CEN and ISO (as ISO 15172). (Enquiry ends 28 April 2016).

Next meeting in September 2016.
There is still the need to start work on Part 5 which is currently under a PWI.

8.3 WG 5 Coordination working group (Gerry Pettit) (N1060)

No meetings have been held since the last plenary meeting as the WG is waiting for:

- Coordination requests from product TCs
- New proposals for the revision of ISO 717 from ISO/TC43/SC2/WG18.

8.4 WG 6 Laboratory measurement of the flanking transmission (N1061)
(Carl Hopkins)

WG6 met on 12 April 2016 with the task of defining Type A and Type B elements.
The revised CDs of the 4 parts of EN ISO 10848 are to be sent to the ISO secretariat by the end of May 2016 for DIS registration.

8.5 WG 7 Laboratory measurement of airborne and structure borne sound from (N1062)
building equipment (Michel Villot).
The main technical comments on EN 15657 have been considered so it is expected a finalised document will be ready after the next WG meeting in September 2016.
The revision of EN 14366 Laboratory measurement of noise from water installations is under a PWI. Activation will be considered at the next meeting in September 2016.

8.6 WG 9 Drywall systems of plasterboards with steel studs (Cyrille Demanet)
A meeting was held in the morning of 14 April 2016. The work is now finished.
A decision was taken to make WG9 dormant.

8.7 WG 10 Acoustic guidance to CEN/TC 33 (Bernd Sass)
No report from the convenor.
EN 14351 from TC33/WG1 is not yet ready for enquiry but it will be circulated to CEN/TC126.

8.8 WG 11 Test code for suspended ceilings (Jean-Baptiste Chéné)
Although there are no active WIs for this WG no decision was taken on its disbandment or making it dormant until the EN ISO 10848 revision is complete.

8.9 Technical Report 16961 – Declaration of uncertainties in test reports, EN ISO 12999-1 (default +/- 4 dB uncertainty for laboratory tests)
A decision was taken for a second ballot to be launched after dealing with several technical issues raised and to allocate the work to a TG of CEN/TC126/WG1 with Marc Rehfeld as convenor.

9 <u>CEN/ISO Vienna Agreements issues – Cooperation between CEN/TC 126 and ISO/TC 43/SC 2</u>

9.1 Amendments & revisions of EN ISO 10140 series –
*EN ISO 10140-1 (WG18 Marc Rehfeld).
Translation completed. Ballot will start in May 2016.
*EN ISO 10140-4 Acoustics - Laboratory measurement of sound insulation of building elements - Part 4: Measurement procedures and requirements.
The DIS has been approved. Recent work in the University of Leuven has shown that there are more factors affecting uncertainties than those presently considered.
The Leuven University report will be circulated.

*EN ISO 10140-2, -3 and -5: proposed for revision. Also the proposed introduction of CEN/TR "Declaration of uncertainties in test reports" principles in the new revised standards.
The work is still at a preliminary stage.

9.2 EN ISO PWI 717-1 and PWI 717-2 (WG 18):
ISO/TC 43/SC 2 has agreed to establish PWI 717-1 with Philip Dunbavin as Project Leader and PWI 717-2 with Jeong-Ho Jeong as Project Leader and Hiroshi Sato as Co-Project Leader.
No meeting to discuss ISO 717-1 has yet taken place. The work will start later this year.
No information on the ISO 717-2 work was available.

9.3 EN ISO 19488 “Acoustic classification scheme for dwellings”. Birgit Rasmussen.
A WG meeting was held on 13 April 2016. It is expected that a CD will be sent out within a month.
It has been realised belatedly that as an EN ISO it would have to be adopted by CEN members and it might conflict with national regulations. As an ISO it could be adopted by those CEN members who wished to use it.
There was a majority in favour of asking a new question (abstention from Germany) as to whether members wanted the Vienna agreement applied to ISO 19488.
A decision was taken to cover this issue.

9.4 EN ISO 12354 Estimation of acoustic performance of buildings from the performance of elements: revision of EN 12354 series (WG2) and systematic review of matching ISO 15172 series.
Progress was covered by agenda item 8.2.

9.5 EN ISO 10848-1 to -4 Laboratory measurement of the flanking transmission of airborne and impact sound between adjoining rooms.
ISO/TC42/SC2/WG17 Carl Hopkins. The parallel CEN group is CEN TC126 WG6.
Progress was covered by agenda item 8.4.

9.6 EN ISO 11654 Acoustics -- Sound absorbers for use in buildings -- Rating of sound absorption –Alexander Mayer (ISO/TC43/SC2/WG30).
No information.

9.7 EN ISO 16283 series Acoustics - Field measurement of sound insulation in buildings and of building elements.
Part 3 published in March. Part 1 amendment sent to DIN in January 2016.

9.8 ISO/NP 18484 "Acoustics — Indoor acoustic environment" ISO/TC43/SC2/WG27
The convenor is about to retire so a successor is required.
Cyrille Demanet is acting as secretary and could possibly take on the convenorship.

9.9 New work item and creation of a new WG (31)
Revision of ISO 3822-3:1997+Amd.1:2009
A draft has been prepared by the convenor.

9.10 New work item and creation of a new WG (32)
Revision of ISO 9053:1991
A draft is required by September 2017.

9.11 Revision of ISO 10534-2:1998 Acoustics Determination of sound absorption coefficient and impedance in impedance tube
Part 2: Transfer-function method was proposed by France. A NWIP will be provided for ISO/TC43/SC2 for voting.

10 New topics for discussion

10.1 Standardization of a questionnaire for Socio-Acoustic Surveys in residential Buildings (as an example: Chapter 6 of COST Action TU0901). (N1064)
The general feeling was that there was not the competence in TC126 to deal with this specialist subject. The COST document providing such a questionnaire was already published so there was no need for a standard.

10.2 Creation of an expert group working on the Acoustic properties data for BIM (Building Information Modelling) – integration into CEN/TC126/WG5 or new WG?
A new WG will be set up with Bart Ingelaere as convenor.
Bart Ingelaere was also appointed as liaison officer to CEN/TC 442.

10.3 Proposal for a technical report (TR) of the inter-laboratory test report used to prepare a test code for drywall partitions (WG9).
It was agreed this was not a good idea. It was noted that not all the laboratory results from the round robin were included in the report.

10.4 New work item proposed: Methods to characterize acoustic properties of ventilation ducts
This was a French proposal outlined by Pascal Ozouf.
It was agreed that this topic needed to be dealt with by ISO/TC43/SC1.

11 Conclusions of these reports and actions to be taken
Discussed and agreed under agenda items.

12 Confirmation/update of CEN/TC 126 Business plan (N1028)
No changes proposed at this time.

13 Metrology research needs of TC 126 concerning EURAMET EMPIR program (N1041 and N1042)
No action needed.

14 List of laboratories (N1052)
A call for any updates to the list was made.
A suggestion was made for guidance on how to arrange and interpret the outcomes of round robin tests. It was suggested that it could be a task to WG1 and a decision was taken to this effect.

15 Preparation of the next meeting
Sweden in w/c 12 June 2017

16 Any other business
None

17 Approval of decisions
8 decisions were taken. 7 of them unanimous.
They have been circulated by AFNOR as N1078.

18 Closure of the meeting on 2016-04-15 at 13:00