**AGENDA**

**TRC meeting**

**Date and time:** 12 September 2017, 13.00-14.30  
**Location:** WebEx

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**DISTRIBUTION**

TRC Core Members  
TRC Corresponding Members  
Invited Rapporteurs  
REHVA Office

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**ITEM** | **PERSON IN CHARGE**
---|---
1. Opening | Opening and introductory round of the participants  
 | Jarek Kurnitski
2. Agenda and Minutes | Approval of the Agenda and the Minutes of the TRC meeting on 26 June 2017 (Annex 1)  
 | Jarek Kurnitski
3. EPB Standards | Review of EPB standard EN 15316-4-2 on Heat-Pumps  
 | Livio Mazzarella, Alexander Sperr
4. Task Forces (TFs) Updates | **GB drafts under review**  
 | - *Displacement ventilation*: typesetting, may be printed by the REHVA Brussels Summit.  
 | - *Fire safety*: further delay, final draft contains German parts again, have to be translated. Won’t be printed by the Brussels Summit, postponed till 2018.  
 | - *MedZEB* Part I and II  
 | - *Historical buildings*  
 | Risto Kosonen  
 | Othmar Brändli  
 | Ahmet Arisoy  
 | Francesca D’Ambrosio  
 | Jarek Kurnitski

**Ongoing TFs - updates**  
- *Residential ventilation* - Guidebook final draft out for comments  
- *Air filtration in HVAC systems* (GB 11 update) - updates about TF participants and timeline (Annex 2)  
- *Building Commissioning* - QUANTUM-REHVA TF - Task Force members’ roles to be defined (Annex 3)  
 | Livio Mazzarella  
 | Ole Teisen/ Stefan Plesser/ Anita Derjanecz

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1 If not present, the person in charge must report in advance about the item. Otherwise, the agenda item is postponed.
<table>
<thead>
<tr>
<th>ITEM</th>
<th>PERSON IN CHARGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Building Commissioning - ISHARE-REHVA - GB contents and possible publication in Europe?</td>
<td>Ole Teisen/Jarek Kurnitski</td>
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<tr>
<td>- ABCE Cx Certification Scheme - updates about the experts’ working groups</td>
<td>Cormac Ryan</td>
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<td><strong>New TF ideas:</strong></td>
<td></td>
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<tr>
<td>- Air curtains</td>
<td>Francesco Scuderi/Ivo Martinac</td>
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<tr>
<td>- Technical systems of greenhouses</td>
<td>Jarek Kurnitski/Jaap Hogeling</td>
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<td><strong>New TFs - work plan yet to be presented</strong></td>
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<td>- Hygiene in air-conditioning systems (GB 9 update)</td>
<td>Atze Boerstra</td>
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<td>- Hygiene in drinking-water supply systems - Work in progress, Work Plan ready by November, next meeting 7 November. Call for new TF members - AiCARR?</td>
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<td>- IEQ in school buildings (REHVA-ISHRAE TF)</td>
<td>Milos Lain/Atze Boerstra</td>
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<tr>
<td><strong>5. Other issues</strong></td>
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<td>GB14 “Indoor climate quality assessment” is out of stock; does it need an update or can it be just reprinted?</td>
<td>Jarek Kurnitski</td>
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<td><strong>6. Next meetings</strong></td>
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<tr>
<td>REHVA Brussels Summit - 13 November 2017, 15:00-17:30</td>
<td>Jarek Kurnitski</td>
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REHVA New Task Force

“Air filtration in HVAC systems – Review”

Proposal to review and update Guidebook 11 “Air filtration in HVAC systems”

1 BACKGROUND

REHVA has published in 2009 a Guidebook on Air filtration with the aim of helping the designer and user to understand the background and criteria for air filtration: how to select air filters and avoid problems associated with hygienic and other conditions at operation of air filters. This guide was based on CEN Standard EN 13779: 2007 that is going to be replaced during 2017 by EN 16798-3, which introduces some changes. Thus, there is a need of revision to update the guide to the latest technical solutions.

2 OBJECTIVES

New Task Force has the following technical objectives:
2. To update the existing guide to the latest technical solutions on the base of the new filtration standard: EN ISO 16890, EN ISO 10121, EN ISO 16170, ISO 29462 and ISO 29463
3. Electrostatic and UVC filters
4. Example and requirements to design filtration system according to ISO EN 16890

The outcome of the Task Force will be reported in the format of REHVA guidebook, which is to be targeted to HVAC engineers, but also for decision makers, authorities, construction clients etc. wider audience working with health in buildings.
3 WORK PLAN

The working plan consists of a deep review of the actual guide to update the content, expand if needed, and to make references to the new CEN standards.

Actual contents

1. Air Filtration in a nutshell
2. Terminology
3. Use of air filters – WHY
4. General engineering criteria
5. Filtration principle
6. Particulate air filter test methods
7. Particulate air filters
8. Gas phase air filters
9. Particulate air filters in service
10. Hygienic consideration of air filters
11. Application and selection of air filters
12. Certification of air filters
13. Air filtration check list
14. References

Reviewed contents

1. Air Filtration in a nutshell (updated)
2. Terminology (updated) (updated)
3. Use of air filters – WHY (updated)
4. General engineering criteria (updated)
5. Filtration principle (updated)
6. Particulate air filter test methods (updated)
7. Particulate air filters (updated)
8. Gas phase air filters (updated)
9. Electrostatic and UVC filters (NEW)
10. Particulate air filters in service (updated)
11. Hygienic consideration of air filters (updated)
12. Application and selection of air filters (updated)
13. Certification of air filters (updated)
14. Air filtration check list (updated)
15. References (updated)
4 MEMBERS OF THE TASK FORCE

The Task Force is open for all experts of REHVA members and supporters. The task force chair and guidebook editor is Riccardo Romanò (Chairman ISO TC 142 - “Cleaning equipment for air and other gases”).

The members of the task force are:
- Jan Gustavsson – Sweden (past editor) (to be enquired, co-chair?)
- Alain Ginestet – France (past author) (to be enquired)
- Paolo Tronville – Italy (past author) (confirmed) (Chairman CEN TC 195 – “Methods of testing and classification of air filters for general air cleaning”)
- Marko Hyttinen – Finland (past author) (to be enquired)
- Marco Rossi - Italy (Convenor of UNI/CT 242, Italian mirror group to ISO TC 142 and CEN TC 195)
- Ivo Martinac - Sweden

Some experts out of REHVA could be invited.

5 WORKING METHODS

Emails, Skype, WebEx. Face to face meetings only in connection with other REHVA meeting or other events.

6 SCHEDULE

July-August 2017, call for other REHVA experts
September 2017, working group set up and confirmation or modification of the working plan
October 2017, confirm of deadlines
...
October 2018, first draft of the guidebook to comments
May 2019, delivered for Annual meeting 2019

6 FUNDING

Mainly by the individual members and their organizations, AiCARR in primis.
ANNEX 3

Updated Work Plan - QUANTUM & REHVA Task Force
Quality Management for Buildings

WORK PLAN - QUANTUM & REHVA Task Force (TF)

Quality Management for Buildings

Objectives and added value to the market

Within QUANTUM project, REHVA is in charge of setting-up a “Task Force on coherent quality management for buildings as a means to reduce energy consumption” and to publish the results in a REHVA Guidebook. The aim of this Task Force is to provide guidance for those responsible for the design, installation, commissioning, operation and maintenance of technical building systems and for energy auditors.

Using an evidence based approach the positive impact of a coherent quality management on energy performance will be demonstrated. (QUANTUM, 2015). The guidebook will focus on non-residential, new constructed buildings and buildings that undergo major renovation, where all existing operations and maintenance procedures are upgraded.

The task force will aggregate existing studies publications on this subject and provide state of art knowledge, overview of European, ISO and global standards, insight into EU regulations (possibly national level implementation) and case studies.

The importance of quality management as crucial element within building commissioning will be outlined. The Task Force will build on existing REHVA publications where found relevant. The main added value of this guidebook would be to provide an overview on the different aspects of quality management within commissioning phase thus increasing awareness and knowledge on this essential piece of the construction and building sector puzzle.

Intended deliverables

- Guidebook (printed or electronic format)
- Online tools (apps, software tools) and protocols
- Hard copy and soft copy (interactive PDF i.e. with hyperlinks)

**Potential target groups**

- Building owners, designers, specifiers, system integrators, installers, building commissioners, facility managers, energy inspectors, energy auditors, students
- EU and MS level policy makers
- Professional associations and interest groups
- Standardization bodies

**Objectives**

This Task Force has the following technical objectives:
- to define quality management within the construction process ensuring that the designed performance criteria are achieved during operation (QUANTUM, 2016)
- to provide an overview of the existing framework in Europe and best practices in and beyond Europe (QUANTUM, 2016)
- to identify the most critical gaps throughout the building construction process (QUANTUM, 2016)
- to elaborate tools, guidelines and protocols for quality management and supervision that help reducing the performance gap
- to collect QUANTUM case studies demonstrating both the approach and the benefits
- to foster a common basis and overview of the commissioning process through also the creation of a harmonised common terminology

**Activities**

- Reach out to all ongoing activities on Commissioning
- Define channels where to promote commissioning/to advocate the development of EU level policy recommendations

**Outcomes**

Outcomes of the Task Force’s work:
- Quality management guides and protocols. Led by Stefan Plesser
- A European Commissioning terminology and contribution to global terminology definition programmes. Led by Ole Teisen
- REHVA guidebook on quality management for building commissioning

Both the deliverables will target engineers, but also decision makers, authorities, construction sector clients etc. wider audience working with energy performance of buildings

**Tentative list of content of REHVA guidebook**

Subject to improvement or changes during the development of the guidebook, to enhance synergies, without exceeding overlaps, with other ongoing TF and other relevant activities within REHVA network.

1. Introduction: role and state of the art of quality management in the construction process
2. Terminology, standards and studies (may benefit from QUANTUM D1.5). Led by Ole Teisen
3. Quality gaps from design to commissioning phase  
4. Organisation of the quality management process  
5. Roles and responsibilities, and drivers of the different parties to participate in the Cx-process  
6. Quality management tools and guidelines to close the gaps  
7. Case studies. At least some QUANTUM cases should be included  
8. 3rd party commissioning and certification of Quality Management  
9. References  

It will be responsibility of the Task Force to establish and define as soon as possible the boundaries of guidebook, such as:  
- the specific timeframe of the commissioning process which the guidebook should focus on\(^2\)  
- the categories of buildings involved (e.g. only new or also existing buildings)  
- the geographical coverage (regarding also the case studies)

**Chair of the TF and members (indicative, all to be yet invited)**

**Chairs:** Stefan Plesser (TUD-IGS/synavision), Ole Teisen (Sweco Danmark A/S), Livio Mazzarella (AiCARR)

**Invited participants from QUANTUM project:**

<table>
<thead>
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<th>First name</th>
<th>Surname</th>
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<td>Factor 4</td>
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**Invited / possible participants from REHVA network:**

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\(^2\) Initial, seasonal, continuous, retro-commissioning, re-commissioning
The TF is open for all experts REHVA TRC members and REHVA supporters.

Potential independent reviewers

To be determined during the development of the guidebook, eventually selected from the list of potential members who refused to join the TF activities on regular basis.

Short analysis of existing studies and publications (EU & INT)

QUANTUM report on state-of-the-art of quality management (QUANTUM, 2016) will be the starting point of this first review. Mutual exchange and benefits are foreseen between the Task Force deliverables and the ones of QUANTUM project such as:

- public report on optimization of the generic quality management process (D1.3, expected at the end of 2017) may contribute to part 4 of the GB (Organisation of the generic quality management process)
- summary report on inputs from this project for the standardization process with CEN and EU legislation (D1.5, expected at the end of 2019) may contribute to part 2 of the GB (terminology)
- report on the integration of QM into environmental certification for buildings (D3.1, expected at the end of 2019) may contribute to part 7 of the GB (3rd party commissioning and certification of Quality Management)

Additional deliverables from QUANTUM project will be also explored depending on the specific content to be included in the guidebook.

Commissioning-related information are also mentioned in some REHVA guidebooks such as:

- Cleanliness of ventilation systems (GB 8): e.g. pages 2-3, 14-20, 27-28
- Hygiene requirement for ventilation and air-conditioning (GB 9): e.g. pages 10-12, 23-35
- Advanced system design and operation of GEOTABS buildings (GB 20): e.g. pages 53-63
- Introduction to Building Automation, Controls and Technical Building Management (GB 22): e.g. pages 62-70

Synergies with other activities within REHVA network will be explored, such as:
• REHVA Task Force on Commissioning certification scheme and REHVA previous commissioning task force (could contribute to part 1, introduction, and 4 on the organisation of quality management process)
• ISHRAE guidebook on commissioning
• PROF/TRAC platform on training

Case studies

To further promote the project outcome, case studies should include at least one concrete example (and related data) among the pilot buildings chosen within QUANTUM project.

Indicative budget

• Organisation of Task Force meetings and the work: 10.000
• Editorial work and publication if the guidebook: 8.000

Costs, and staff effort is co-funded by the QUANTUM project.

Indicative time schedule

<table>
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<tr>
<th>What</th>
<th>When</th>
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<tbody>
<tr>
<td>1 TF preparatory meeting during REHVA Annual Meeting in London</td>
<td>2-3 April 2017</td>
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<tr>
<td>2 Invitation of the TF members</td>
<td>Q1 2017</td>
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<tr>
<td>3 QUANTUM webinar, further discussion and gathering of additional feedbacks for the guidebook (BUILD UP webinar)</td>
<td>27 April 2017</td>
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<tr>
<td>4 Task Force presentation and approval of the work Plan</td>
<td>Q1 2017 (?)</td>
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<tr>
<td>5 Final scope and list of GB content</td>
<td>Q2 2017</td>
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<tr>
<td>6 Material collection, case studies, development of protocols</td>
<td>Q2 2017 – Q2 2018</td>
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<td>7 1st draft of individual chapters → 1st aggregated draft</td>
<td>Q3 2018</td>
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<tr>
<td>8 Collection of comments from all TF members on aggregated draft</td>
<td>Q3 2018</td>
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<tr>
<td>9 Final draft submitted to the TRC</td>
<td>Q3 2018</td>
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<td>10 External review process</td>
<td>Q4 2018</td>
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<tr>
<td>11 Printing</td>
<td>Q1 2019</td>
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