

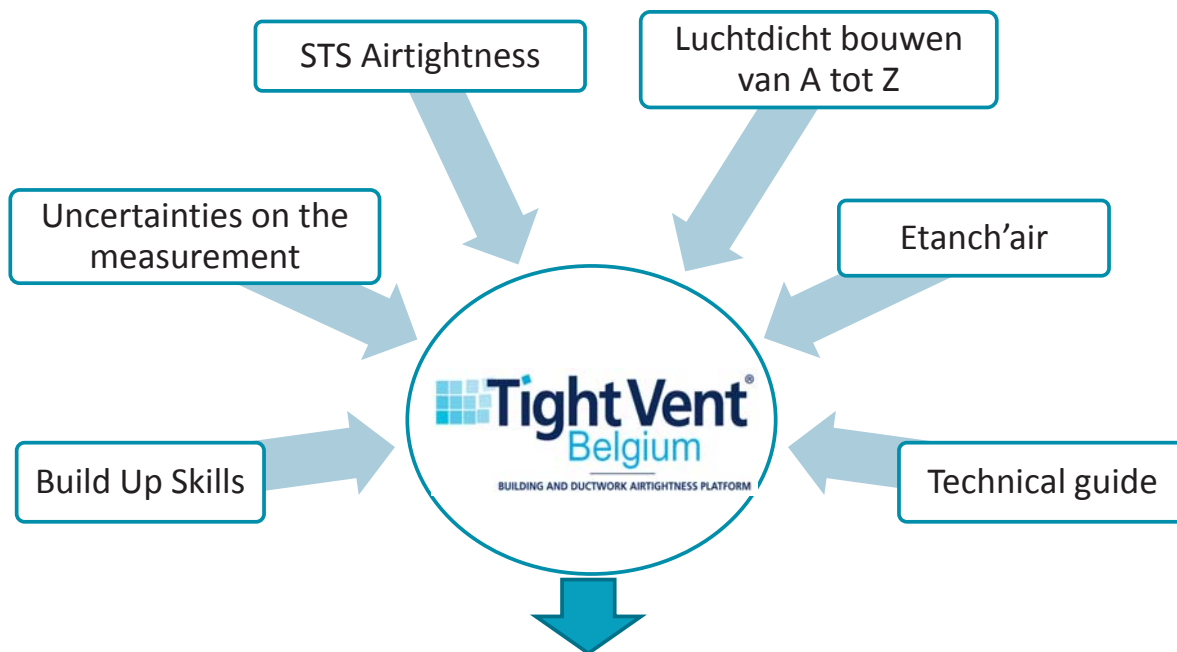


BUILDING AND DUCTWORK AIRTIGHTNESS PLATFORM

TightVent Belgium

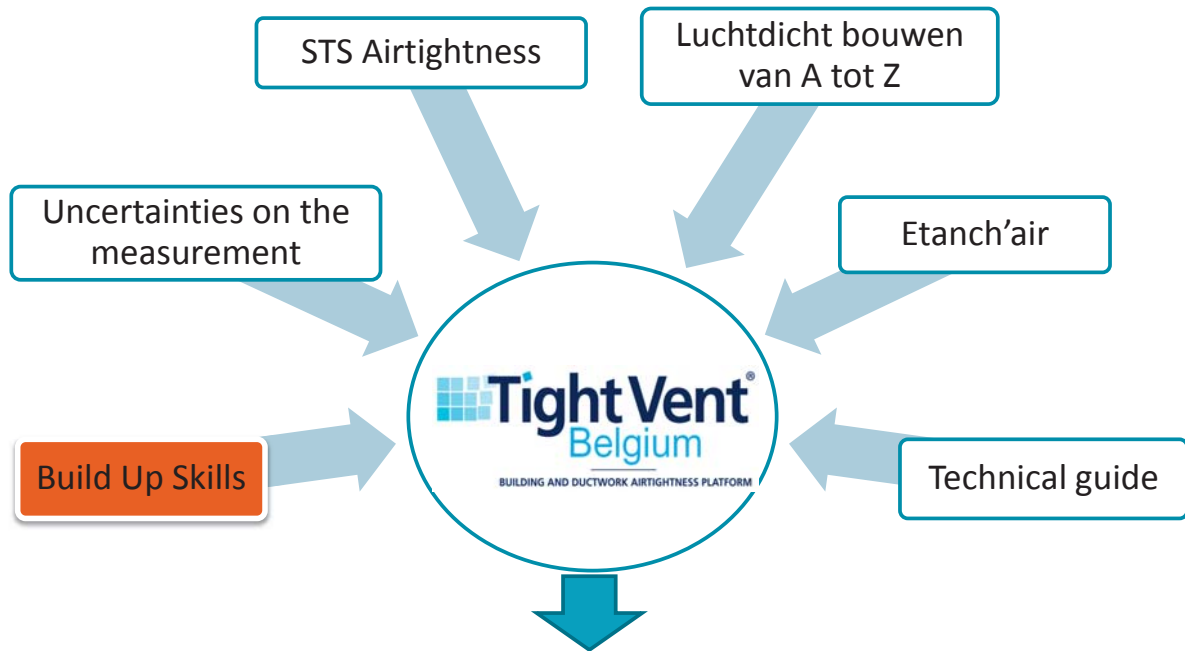
A new local network of airtightness
is starting up...

*Clarisse Mees - BBRI
Webinar 14/11/2013*



First step: Platform of airtightness testers to achieve a relevant quality framework and to follow up it day-to-day.

Second step: Wide range of activities related to building airtightness, ranging from good specifications, design issues, construction details and testing aspects, ...



First step: Platform of airtightness testers to achieve a relevant quality framework and to follow up it day-to-day.

Second step: Wide range of activities related to building airtightness, ranging from good specifications, design issues, construction details and testing aspects, ...

Build Up Skills



- An European project declined at the national level

- Partners: 

- **Objective : improve skills of builders**

- 9 topics
 - Airtightness
 - Replacement of exterior windows and doors
 - Ventilation
 - Coordination between workers
 - Heat pumps
 - PV and thermal solar collectors
 - Post-isolation of cavity wall
 - Isolation of roof
 - Sunscreen curtains

Build Up Skills: Conclusions



- Required pressurization test:
 - With or without leakages detection
 - Advisable: Architect and building contractor would be present during the test in order to make improvements on the envelope but also for training aspect and quality improvement
 - All building could be tested
 - The test could be required, but there could be no minimal performance required



Build Up Skills: Conclusions



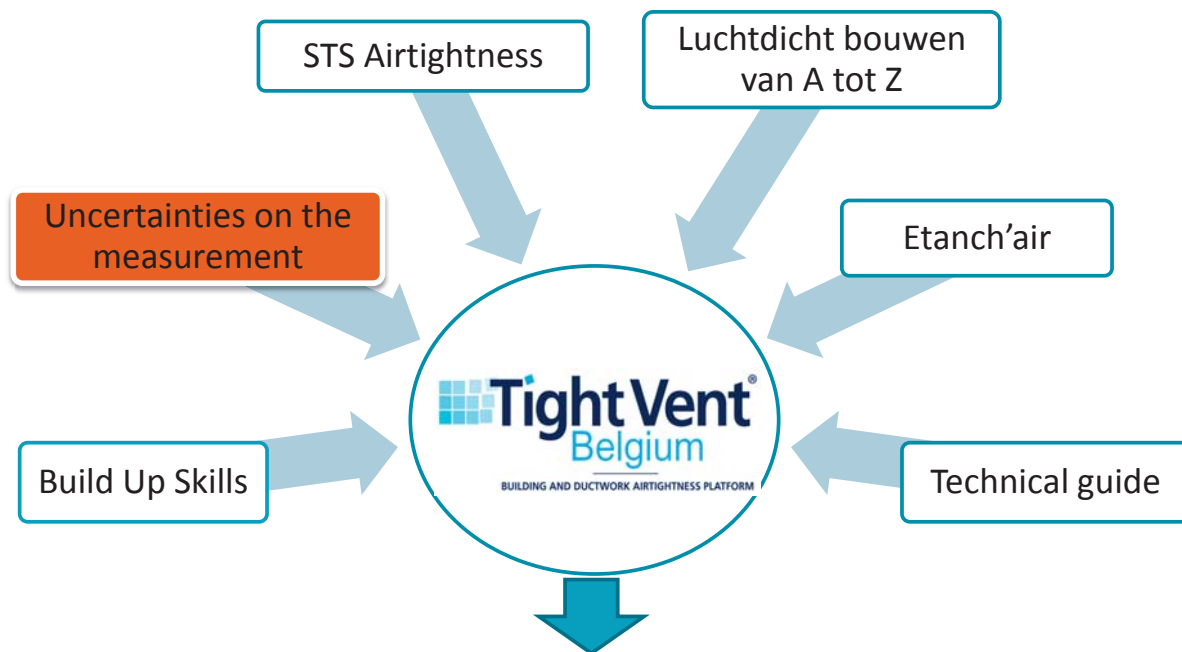
- Quality framework for the pressurization test:
 - If the test is required, it must be reliable
 - Good basic training for the testers
 - with exam
 - Good quality framework
 - Reliable measurements (method, equipment, operator, reporting)
 - Inventory of leakages by category
 - Control on site



Build Up Skills: Conclusions



- Realization of an airtight building:
 - Technical details available voor architects and building contractors (via on-line database)
 - Integration of airtightness issue in the cursus of architects and building contractors (also craftsmen)
- Manufacturers involvement
 - Performance of their products available
 - Reliable solutions
 - Durability of the performance: Ageing effect on their products



First step: Platform of airtightness testers to achieve a relevant quality framework and to follow up it day-to-day.

Second step: Wide range of activities related to building airtightness, ranging from good specifications, design issues, construction details and testing aspects, ...

Uncertainties on the measurement

- *Interlaboratory Tests for the Determination of Repeatability and Reproducibility of Buildings Airtightness Measurements*



C. Delmotte

- *Let's imagine*
 - *the same technician with the same blower door in the same building*
 - *How different can be 2 measurements of the airtightness?*

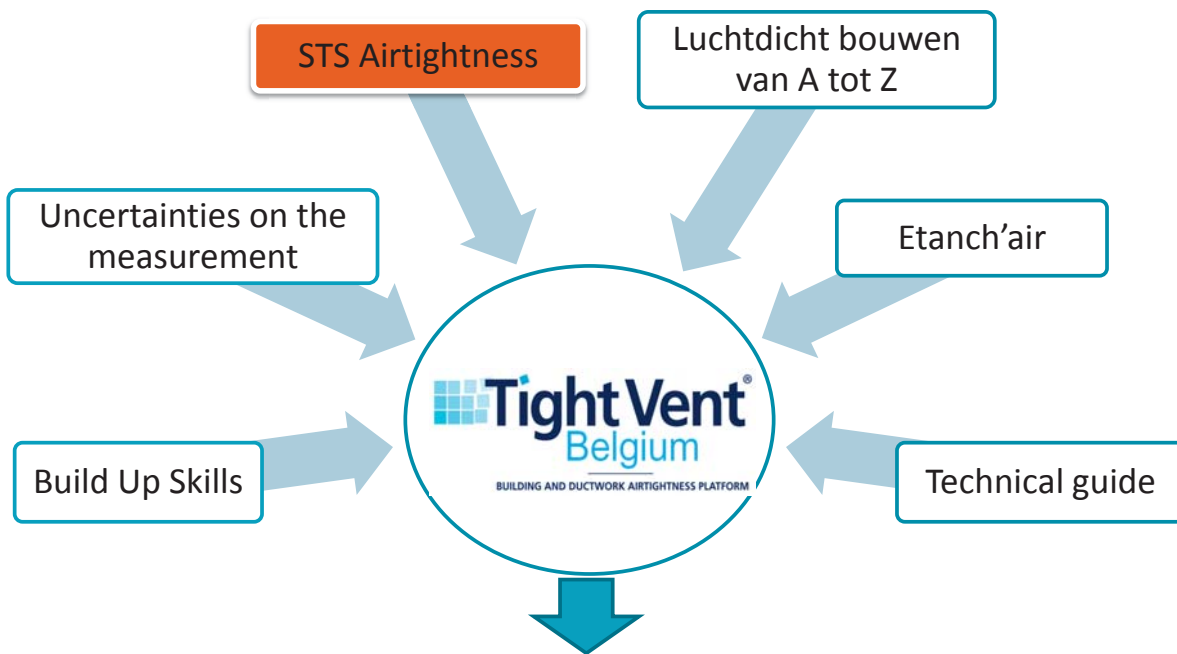
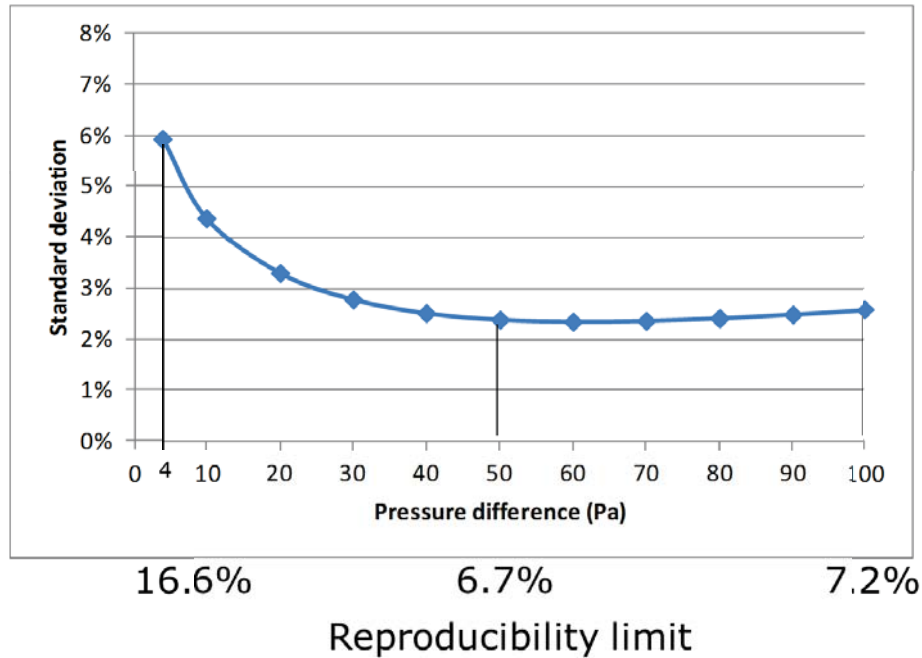
 - *...two technicians with their own blower door in the same building*
 - *How different can be 2 measurements of the airtightness?*

Uncertainties on the measurement



Uncertainties on the measurement

- *Variability of the average value*




First step: Platform of airtightness testers to achieve a relevant quality framework and to follow up it day-to-day.

Second step: Wide range of activities related to building airtightness, ranging from good specifications, design issues, construction details and testing aspects, ...

STS Airtightness

Spécifications techniques unifiées



Eengemaakte technische specificaties

*norme belge
enregistrée*

NBN EN 13829

1^{er} éd., février 2001

Indice de classement: B 62

Performance thermique des bâtiments - Détermination de la perméabilité à l'air des bâtiments - Méthode de pressurisation par ventilateur (ISO 9972:1996, modifiée)

Thermische eigenschappen van gebouwen - Bepaling van de luchtdoorlatendheid van gebouwen - Overdrukmethode (ISO 9972:1996, gewijzigd)

Thermal performance of buildings - Determination of air permeability of buildings - Fan pressurization method (ISO 9972:1996, modified)



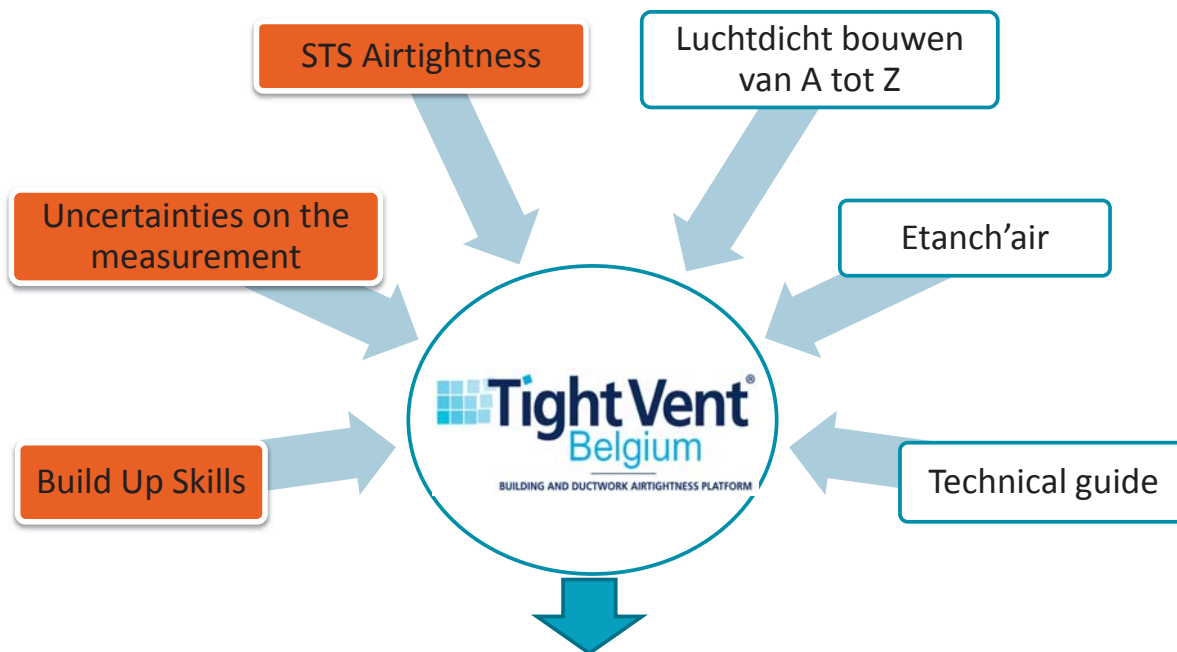
Home Données produits PEB Etanchéité à l'air Eclairage

Etanchéité à l'air

Spécifications supplémentaires pour la mesure de l'étanchéité à l'air de l'enveloppe des bâtiments

Il est possible d'utiliser le résultat d'une mesure de l'étanchéité à l'air dans la détermination du niveau E (ou du niveau E_w en Région wallonne). Les arrêtés d'exécution PEB dans chacune des 3 Régions stipulent que la mesure de l'étanchéité à l'air doit avoir lieu conformément à la norme NBN EN 13829:2001. Cette norme admet cependant 2 variantes, et laisse aussi un certain nombre d'autres questions dans l'incertitude.

C'est pourquoi les 3 Régions ont fixé ensemble un certain nombre de spécifications supplémentaires qui doivent être respectées pour qu'une mesure de l'étanchéité à l'air puisse être reconnue dans le cadre d'une déclaration PEB (finale).

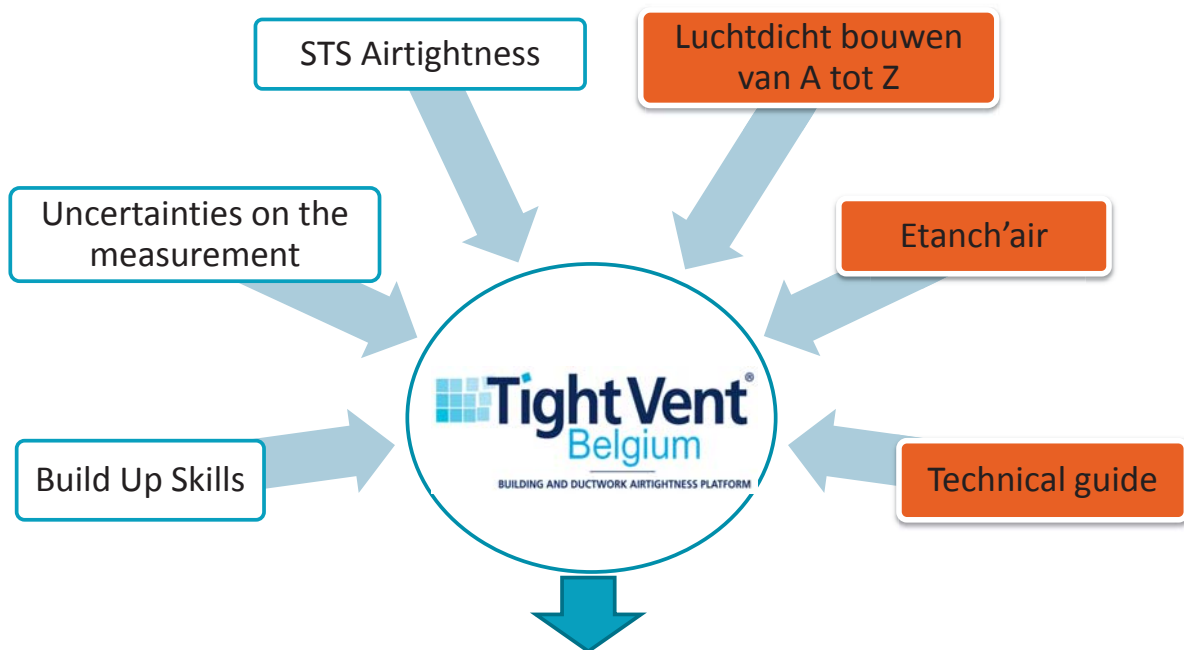


First step: Platform of airtightness testers to achieve a relevant quality framework and to follow up it day-to-day.

Second step: Wide range of activities related to building airtightness, ranging from good specifications, design issues, construction details and testing aspects, ...

A new local network of airtightness testers

- BBRI and TightVent Europe have organized an information day on airtightness issues in the Belgium context.
 - 52 persons exchanged points of views
- Given the positive feedback of the participants on the relevance of such meetings, it is likely to lead to the inauguration of a Belgian network named “TightVent Belgium”
- ***There is a wide support for a quality framework for airtightness testing***



First step: Platform of airtightness testers to achieve a relevant quality framework and to follow up it day-to-day.

Second step: Wide range of activities related to building airtightness, ranging from good specifications, design issues, construction details and testing aspects, ...

Etanch'air

- Research project subsidized by Wallonia
- Collaboration with 3 building contractors

- **Objectives:**

- Measure the leakages in-situ
- Develop the airtightness measurement for large buildings
- Elaborate a guide with technical solutions
- ...



Luchtdicht bouwen van A tot Z

- Research project subsidized by Flanders
- Collaboration between:



- **Objectives: a close follow up of twenty companies**

- Technical advises on site
- Trainings
- Several measurement to check the efficiency of different solutions
- ...

Technical guide

- Publication foreseen in 2014
- On-line details

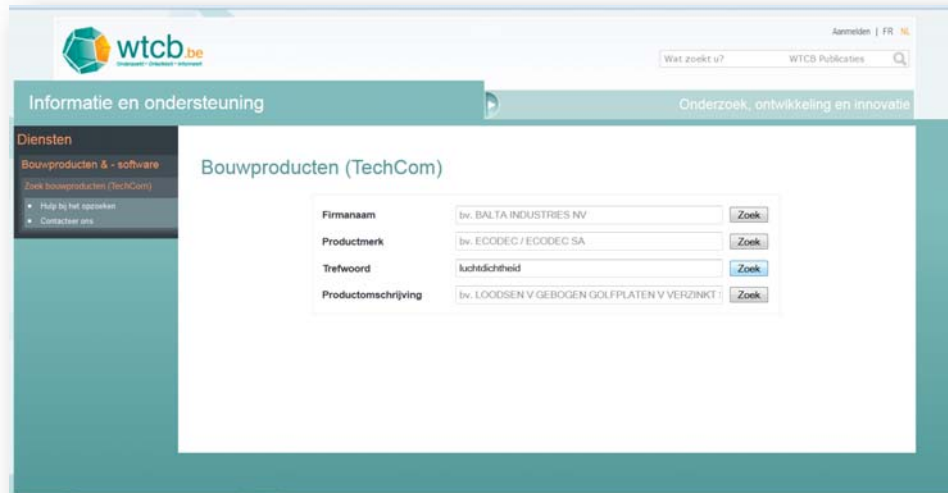


Technical guide

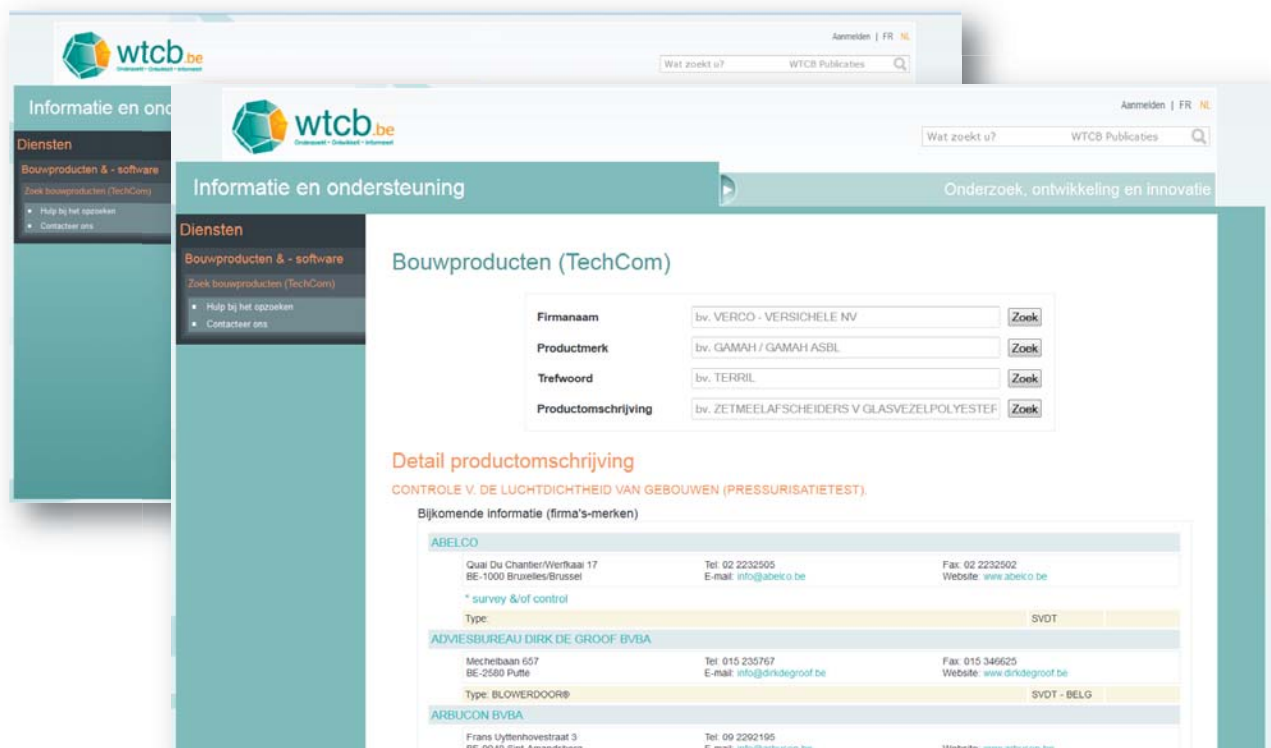
- Publication foreseen in 2014
- On-line details

- **Nature de la barrière à l'air :**
 - Enduit
 - Membrane d'étanchéité
 - Type de jonction : Sec-humide
 - Dalle béton
 - Type de jonction : Sec-humide
- **Principaux corps de métier concernés :**
 - Maçon
 - Plafonneur
- **Points d'attention :**
 - La membrane est collée à la dalle de béton. Afin d'assurer une bonne adhérence, la dalle doit être suffisamment propre.
 - La jonction entre la membrane et l'enduit est assurée avec un élément intermédiaire (scotch, ...), une juxtaposition de 2 cm minimum doit être prévue.
 - Sur la durée de chantier, le risque d'endommagement de cette membrane est important. L'entrepreneur-carreleur doit être extrêmement soigneux lors du découpage de la bande périphérique afin de ne pas endommager celle-ci. Une mesure de précaution peut être d'insérer temporairement entre le matériau sensible et la bande périphérique un plat métallique assurant la butée contre laquelle l'extrémité de l'outil de découpe s'appuie.
 - Le passage des techniques au niveau de la membrane doivent être traités.

Techcom Database



Techcom Database



Techcom Database

The screenshot displays the Techcom Database website interface. At the top, there is a search bar with the text 'Wat zoekt u?' and 'WTCB Publicaties'. Below the search bar, the website header includes the 'wtcb.be' logo and navigation links. The main content area is titled 'Bouwproducten (TechCom)' and features a search form with the following fields:

- Firmanaam: bv. VERCO - VERSICHELE NV
- Productmerk: bv. GAMAH / GAMAH ASBL
- Trefwoord: bv. TERRIL
- Productomschrijving: bv. ZETMEELAFSCHEIDERS V GLASVEZELPOLYESTER

Below the search form, there is a section titled 'Detail productomschrijving' with the heading 'CONTROLE V. DE LUCHTDICHTHEID VAN GEBOUWEN (PRESSURISATIE TEST)'. This section lists 'Bijkomende informatie (firma's-merken)' and provides details for three companies:

Firma	Adres	Tel.	E-mail	Fax	Website
ABELCO	Quai Du Chantier/Werfkaai 17 BE-1000 Bruxelles/Brussel	02 2232505	info@abelco.be	02 2232502	www.abelco.be
ADVIESBUREAU DIRK DE GROOF BVBA	Mechelbaan 657 BE-2580 Putte	015 235767	info@dirkdegroof.be	015 346625	www.dirkdegroof.be
ARBUON BVBA	Frans Uytendovestraat 3 BE-9040 Sint-Amandsberg	09 2292195	info@arbuon.be		www.arbuon.be

Conclusions

- There is a wide range of activities related to building airtightness, ranging from good specifications, design issues, construction details and testing aspects, ...
- Awareness raising and stakeholders concertation is crucial
- From the various activities, it is clear that there is a wide support for a quality framework for airtightness testing
- It is within this context that TightVent Belgium is conceived

Thank you for your attention



BUILDING AND DUCTWORK AIRTIGHTNESS PLATFORM