

# HANDS-ON TRAINING COURSES FOR VENTILATION SYSTEMS INSTALLERS WITHIN THE PRAXIBAT INITIATIVE

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## ABSTRACT

This paper gives a quick overview of the PRAXIBAT programme led by the French Agency for Energy and Environment to improve building professionals skills to achieve low- or nearly zero-energy buildings. It looks more specifically at the initiatives targeted at ventilation systems installers, with practice-oriented trainings in quasi-real conditions.

## KEYWORDS

Ventilation systems, installation, ductwork airtightness

## PRAXIBAT CONTEXT

PRAXIBAT is part of the French national framework Grenelle. This initiative aims at implementing the national commission who made the recommendations for building area by training building professions in order to improve their skill.

PRAXIBAT will supply all trainees from the building area (school students, professional training, installers and fitters) studying facilities in 7 main areas:

- energy performance of walls and envelope (inc. air tightness);
- ventilation;
- lighting;
- wood (energy);
- solar (thermal) ;
- solar (PV);
- Heat Pumps.

Within these facilities all trainees should get enough equipment to be able to practice and install as in real situation.

Each administrative area is now preparing the facilities at regional level. In Rhone-Alpes for instance (administrative area near Lyon), almost 20 teaching institutes (inc. highschoools, Apprentice schools, private and national training organisms) will get funding to implement

the action in their facilities. The total number of funded institutes is not known yet but should be around 150 to 200 for all over France.

## **OUTLINE OF TRAINING SCHEMES FOR VENTILATION INSTALLERS**

The training programme for ventilation systems installers includes:

- Single house equipment (single exhaust and supply and exhaust)
- Ducts and accessories
- Outlets and air inlets
- Measurement equipment (pressure and anemometer)
- Visualization camera
- Documentation
- Access to reference documentation and information
- ...

At National level, we prepare the training facilities including:

- Kit for final student (slides, teacher's guide, films, samples, guidelines...)
- The training of reference teachers who will then train themselves in all administrative areas

The training is focused on installation as:

- Today we still have 40% of non compliant installations in new building, which is mainly due to installation difficulties, even with single exhaust systems
- Difficulties with supply and exhaust systems because they need more ducts

The trainees will discover ventilation systems directly in situation by mounting and unmounting a house ventilation system and its components. Installation of ducts and airtightness is an important part of the sessions, including:

- the different kind of ducts and tightness methods,
- how to use mastic and tapes,
- how to connect ducts with seals,
- checking tightness with fumes,
- learning with a video how to proceed with a duct airtightness test....



Figures 1 and 2: Example of ducts with different tightness seals

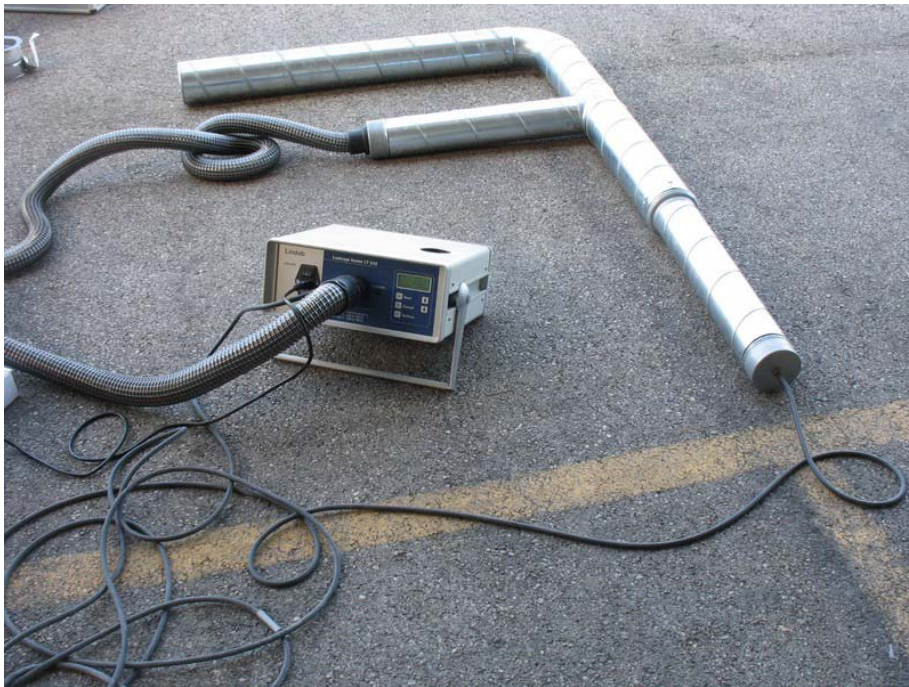


Figure 3 : Example of air tightness test

### **CONCLUSION AND FUTURE WORK**

Although the principle of the training is not new, its originality is to teach only by practical aspect. Students discover the question in situation by practice. They meet afterward to capitalize the teaching and memorise the main points seen on site. But most of the learning is practice-oriented and therefore well adapted to fitters.

The implementation of this system in all areas of France in a large number of institutes should allow to an improvement of practice to fit the objectives and avoid too many references of poor practice on site.

