AIVC –TIGHTVENT

Inspection of ventilation systems in new regulations in European countries

French Regulation RE2020

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FRENCH REGULATION RE2020

New EP regulation :

- Energy and Environnemental Performances Regulation RE 2020 (ex - Thermic Regulation RT2012)
- **Beggining**: **January, 1st 2022**
- Inspection of ventilation system is **mandatory** for a scope of buildings and ventilation systems

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Which kind of building or ventilation system is concerned by this requirement?

Buildings and ventilation system concerned by mandatory inspection of ventilation system:

- New residentiel buildings:
  - Single family dwellings
  - Multi family dwellings,

- And with mechanical ventilation system:
  - Either single exhaust ventilation system
  - Or balanced ventilation system.

➢ The majority of new residential buildings are equiped with a mechanical ventilation system

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Who is allowed to perform the inspection (1/2)?

A **qualified inspector** :

- **Qualification approved** by the Ministry in charge of Building Regulations
- **And** who is:
  - either **independant inspector**, independant from client, system designer, installators
  - or the **installator** who is in the charge of the coordination of the **whole building's ventilation system** (air inlet, air transfert, air outlet).

➢ Qualification scheme similar to the airtightness tester scheme.

qualification

+

Independant inspector

Ventilation installator, in charge of the whole building's ventilation system

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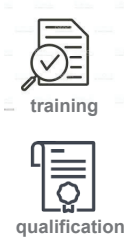
Who is allowed to perform the inspection (2/2)?

To be **qualified operator**:

- **Train** and **validate final exam** of the training scheme approved by the ministry
  - theoritical and practical exam
- **Then**, obtain the **qualification** approved by the Ministry



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Type of control (1/5)

- Mandatories diagnostic and measurments introduced by the energy and environmental performances regulation (RE2020 Ventilation Protocol)
- 3 parts in the control:
  - **Pre-inspection:** analysis of documents and preparation of the in situ audit
  - **Ventilation diagnostic (in situ):** diagnostic in situ
  - **Ventilation measurements (in situ):** Flow rates and/or air pressures (for humidity DCV systems (demand-control ventilation))

	Codification des points de vérification (Guide)	Fiches du guide	Points de vérification	Points obligatoires
	G		Général	
Pré-inspection	G7	1.2	La documentation décrivant l'installation de ventilation **est disponible** (plans, descriptif, étude VMC, éléments de fonctionnement et de maintenance…)	X
Pré-inspection	G8	1.2	Le système de ventilation prévue est cohérent avec le récapitulatif standardisé d'étude énergétique et environnementale (dans le cadre de la RE2020)	X
Vérifications fonctionnelles	G9	2.1	Les alarmes en cas de non-fonctionnement des systèmes de ventilation sont correctement localisées	X
Vérifications fonctionnelles	G10	2.1	Les alarmes fonctionnent	X
	C		Caisson de Ventilation	
	C12	2.3	Le ventilateur est accessible par une trappe d'au moins 50*50 cm ne se trouvant pas dans un placard ou une armoire de rangement	X
	C14	2.3 et 2.4	L'accès au ventilateur est sécurisé	X

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Type of control (2/5)

- **Pre-inspection:** analysis of documents and preparation of the in situ audit
  - Availability of studies documentation (design, calculations, …)
  - Ventilation system installed consistent with ventilation system used in the regulatory study (used in the Energy Performance calculation of the building)
  - Completeness of the ventilation system

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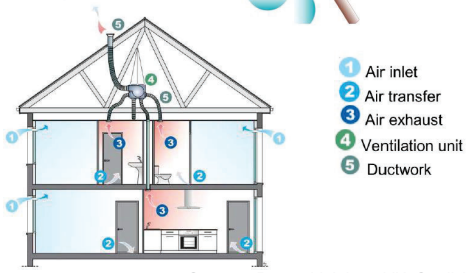
Type of control (3/5)

- **Ventilation in situ diagnostic:** verification of about 60 checkpoints on:
  - General
  - Ventilation unit
  - Ductworks
  - Air transfert
  - Air inlet
  - Air exhaust



Cerema, Romuald Jobert, VIA Qualité

  - ➢ Completeness of the ventilation system
  - ➢ General state of the ventilation system in regards with regulations
  - ➢ Verification if each part of the system is:
    - Installed
    - Well installed (according to regulations) (accessibility for instance)
    - Works (mechanical systems)

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Type of control (4/5)

- **Ventilation measurements:**
  - **Flow rates and/or air pressures** (for humidity DCV systems (demand-control ventilation))
    - On every air outlet
    - Calibration is indicated in the regulatory protocol
    - Sampling
      - Of the ventilation units in the case of several buildings,
      - Of dwellings for ventilation units that serve more than 5 dwellings.
  - Ductwork airtightness only if the value introduced in the EP regulation is better than the default value.

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Type of control (5/5)

- **Mandatory checkpoints** : around 60
- **Optional checkpoints**: around 50 (could be used for a label for instance)

Periodicity of the control

- **Once**, **at the end of the construction**

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Non-conformity

- Non-conformity is **written** in the final document attesting the compliance with EP regulation (declaration)

Database

- Inspection and measures results are centralized and analysed in an **online database (Ventilation National Observatory)**:
  - Secure login for inspectors, qualification organisations, Cerema
  - Public global statistics online

  ➢ In process. A first available version should be online in the summer 2022.

Observatoire National Ventilation

Thank you!

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