



## Swedish Regulations, BBR and Compulsory Ventilation Checks (OVK)

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### **Ventilation and airtightness BBR 6:255**

Pressure conditions between supply air and extract air installations shall be adapted to the airtightness of the installation, to ensure that transfer of extract air to the supply air does not occur.



## BBR 6:255 - continued



Measurements of leakage in sheet metal ducts can be made in accordance with **SS-EN 12237**.

Information on airtightness testing of ventilation ducts: Formas publication *Methods for measuring air flow in ventilation installations (T9:2007)* and instructions in **AMA VVS & Kyl 09** and **SS-EN 15727**.



## BBR 6:531 Airtightness

(according to moisture)



*Some general recommendations:*

To prevent damage due to convection of moisture, the parts of the building that separate spaces with different climatic conditions should have as high airtightness as possible.



## **BBR 6:531 Airtightness continued**



Airtightness can affect the moisture level, thermal comfort, ventilation and a building's heat loss.

A method for determining air leakage is contained in **SS-EN 13829**.



## **Swedish Planning and Building Act, PBA (2010:900)**



Buildings are to provide opportunities for good hygiene, a good working environment and a satisfactory indoor climate.

From the legislation follows in addition that the ventilation systems must be looked after and maintained.



## **Compulsory ventilation checks SFS 2011:338, OVK**



- The owner of a building is responsible for ensuring that all checks are carried out
- before the system is brought into use for the first time
- at regular intervals during the lifetime of the building.



## **SFS 2011:338 (OVK)**



- The municipalities are responsible for supervision of OVK under the Planning and Building Act, PBA, and OVK regulations.
- The municipalities shall keep information on OVK records and status of the results.



## **SFS 2011:338 (OVK), continued**



OVK results (measurements) are also used as a basis for the assessment of indoor environment on complaints or appeals.

If OVK inspection intervals are not followed, or if remarks under OVK protocol are not taken, the municipality may resort to further action, e.g. financial penalty.



## **SFS 2011:338 (OVK), continued**



The building owner shall keep a copy of the OVK record of executed OVK inspections, with suggestions and information that may be relevant to a future energy performance declaration.



## Inspection intervals



Every 3 years:

- Day-care centres, schools etc.  
all types of ventilation
- Blocks of flats, office buildings etc.  
balanced ventilation

Every 6 years:

- Blocks of flats, office buildings etc.  
mechanical exhaust and natural  
ventilation



## Inspection intervals, continued



One and two- dwelling house, **FX-**,  
**FTX**-ventilation (mechanical  
exhaust with exchanger and  
balanced ventilation):

- first inspection when the ventilation  
system is taken into use





## Inspectors qualifications

Inspector **N**: one or two-dwelling houses, natural and mechanical exhaust at schools and in blocks of flats and office buildings

Inspector **K**: all types of ventilation



## Checking of energy uses and savings for ventilation

Performance data to calculate energy uses for ventilation (e.g. flows, effects on fans and motor dampers, SFP, operation times)

Recommendations to the owner of the building regarding energy saving measures for the ventilation system



## Checking of air conditioning systems

Air conditioning systems which are included in the ventilation systems (e.g. ventilation cooling through cooling battery, chilled beams and the like) subject to mandatory ventilation control and hence the requirement for proposals for energy efficiency.



## Checking of air conditioning systems, continued

Cooling in the process ventilation in industry is regulated through the Work Environment Authority regulations and not by the OVK regulation.





## Possible energy savings for existing ventilation systems



Energy savings advice are not allowed to impair indoor climate in the building!



## Examples of healthy energy savings of ventilation



- Change flows, pressure, steering and operation control to optimum values
- Improve the performance of ventilation systems
- Adjust operation time for different flows to activities and use of the building



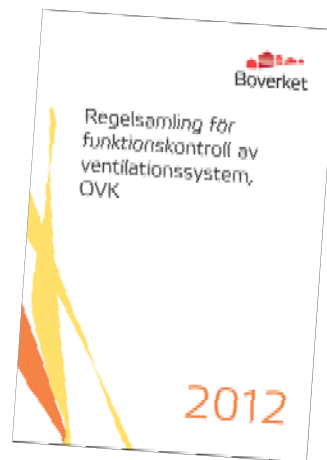
## Examples of healthy energy savings of ventilation, cont'd

- Improve operation and maintenance of ventilation
- Improve and create correct documentation and proceeding papers on ventilation for users and inspectors



## OVK Regulations 2012

<http://www.boverket.se/sv/om-boverket/publicerat-av-boverket/publikationer/2012/regelsamling-for-funktionskontroll-av-ventilationssystem-ovk/>



## For more information:



- Boverket, the Swedish Board of Housing, Building and Planning, [www.boverket.se](http://www.boverket.se) and specially on OVK:

<http://www.boverket.se/en/start-in-english/building-regulations/national-regulations/obligatory-ventilation-control/>,

- Swedish Energy Agency, [www.energimyndigheten.se](http://www.energimyndigheten.se)
- Work Environment Authority, [www.av.se](http://www.av.se)
- Funkis - Function Controller, trade association [www.funkis.se](http://www.funkis.se)

