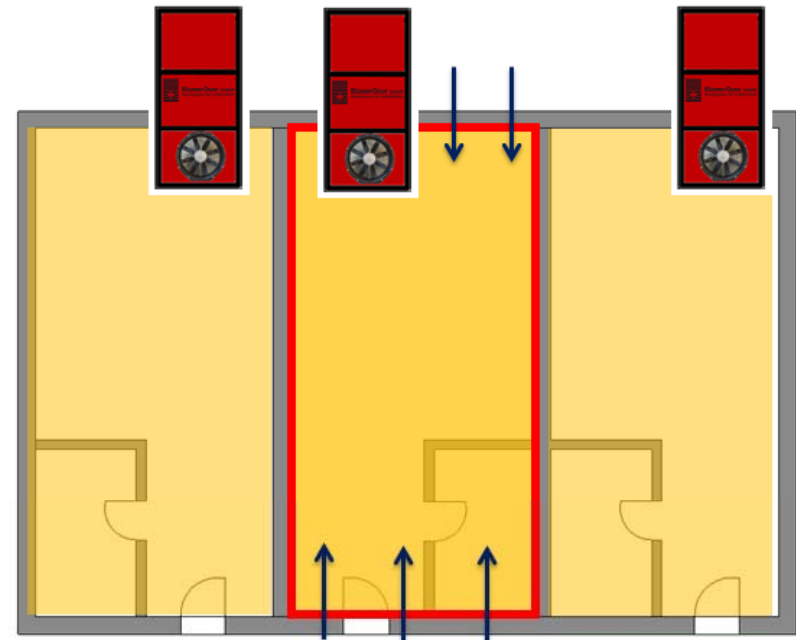


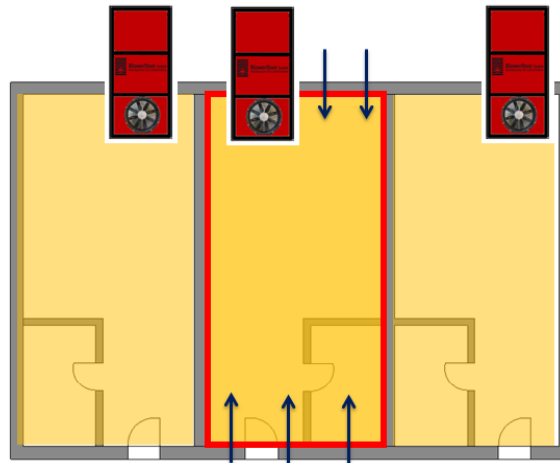
The Guarded BlowerDoor Test



Task

If a building enclosure is airtight and no attention is given to tightness between units / building parts, you will be sharing sounds, odors, pollutants like formaldehyde or tobacco smoke with your neighbors for example in a multifamily house. Studies have shown that ventilation systems are much more effective if units are compartmentalized.

With the guarded BlowerDoor test it is possible to determine internal and external air flows.



Examples

Apartment



... without airflow to neighbour apartments

Row house



... without airflow to neighbour houses

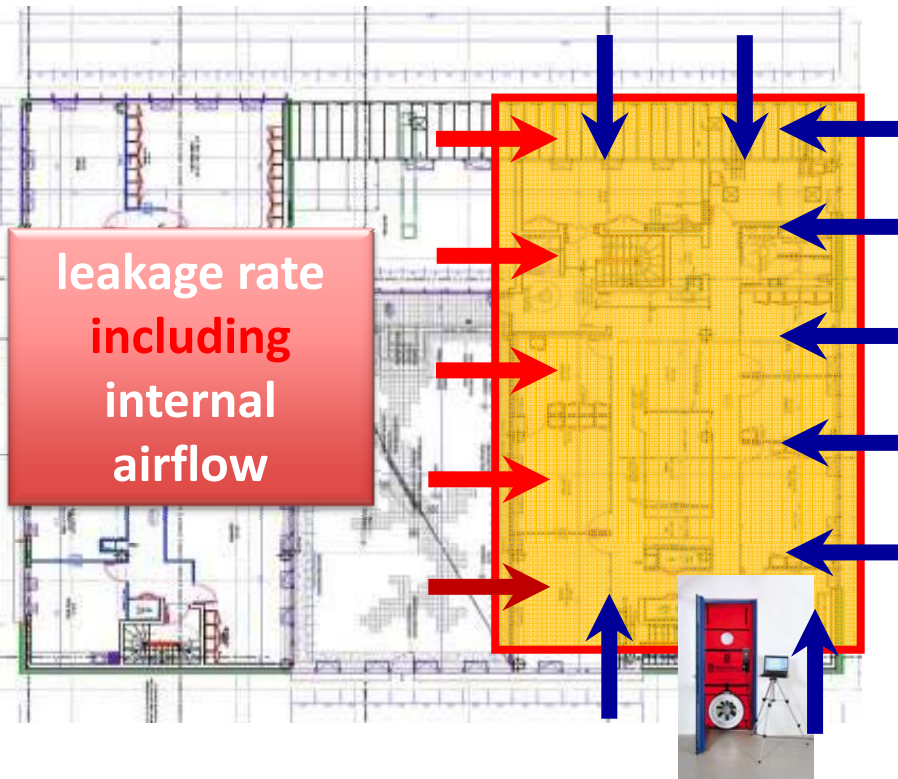
Part of big building



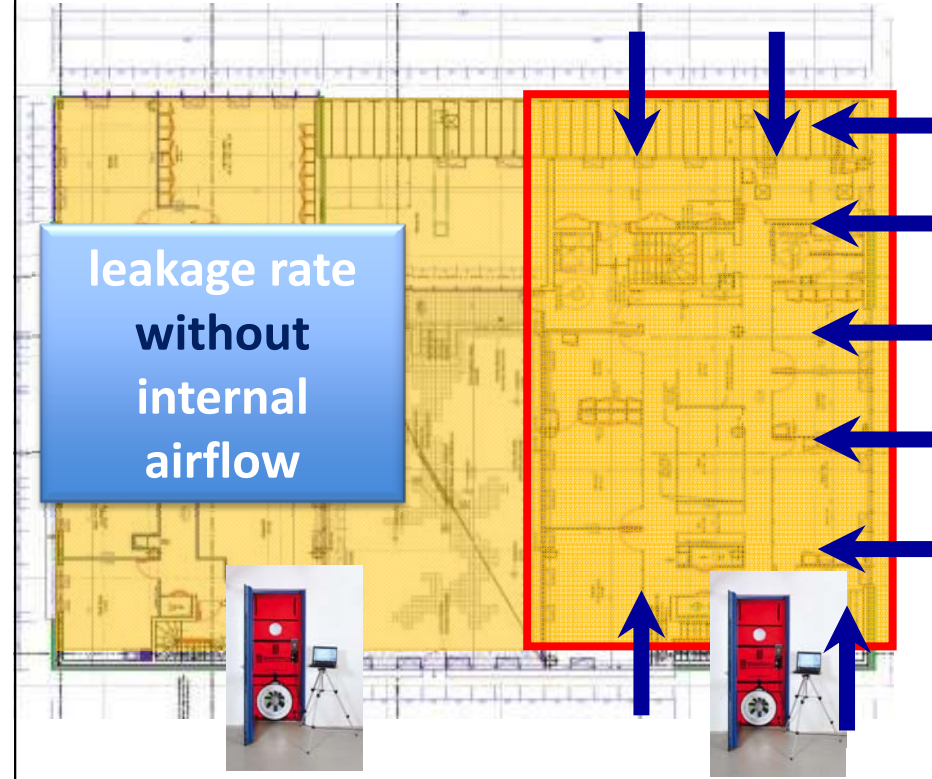
... without airflow to other building parts

Principle

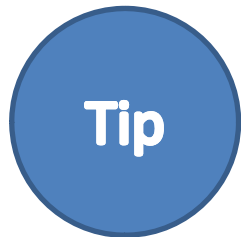
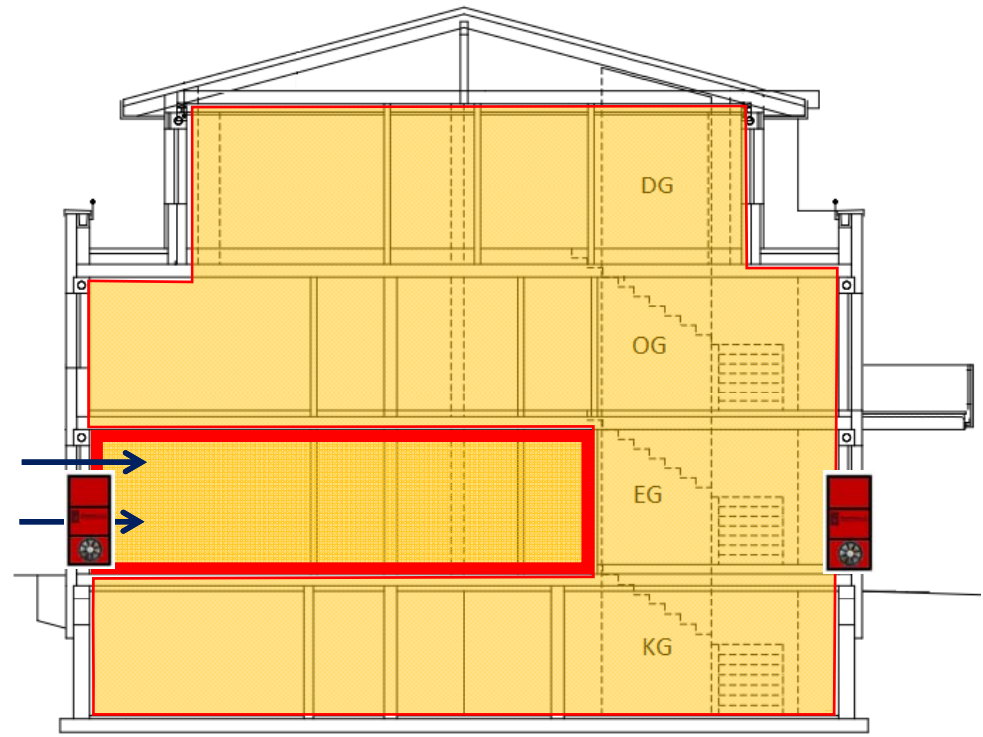
Airtightness Test



Airtightness Test with Guard-Zone

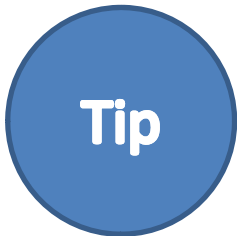
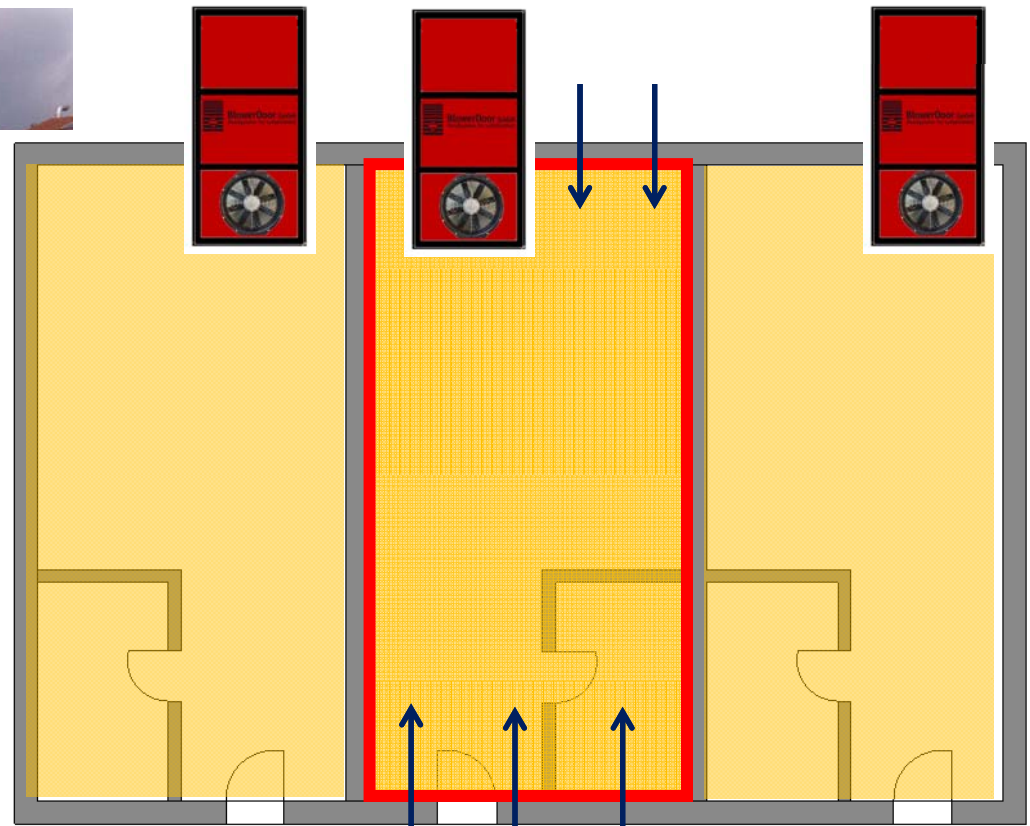


Guard-Zone Test of an Apartment



Create same building pressure in neighbour apartments

Guard-Zone Test of a detached House



Create same building pressure in neighbour houses

Guard-Zone Test of one floor of a big building



Tip

Create same building pressure in the floors next to tested floor

Literature and Links

- DipArch BArch(Hons) Angela Rohr, Dipl.-Phys. Andreas Kaschuba-Holtgrave et al: Individual unit and guard-zone air tightness tests of apartment buildings, 39th AIVC Conference, 2018
- Guarded blower door testing for multifamily or large non-residential buildings (<https://energyconservatory.com>)

