

Licence to Breathe, artikla 5: Ventilation Strategies - International Review

"Some countries have their ventilation strategies more Covid-19 resilient than others."

Research

Ventilation strategies differ greatly from continent to continent and even from country to country. The adopted and used ventilation strategies are due to a geographical location, climate (temperature, humidity), solutions available on the market, and practices. Table 1 shows adopted ventilation strategies in the countries included in this review.

There are two main strategies for ventilation that are widely used:

1. Natural ventilation
2. Mechanical ventilation

A ventilation strategy adopted also depend on the use of the building. Commercial and office buildings have more often a mechanical ventilation with cooling whereas educational buildings are quite often equipped with natural ventilation. New building regulations are paying more attention to the ventilation, and thus making them safer to use.

Research challenges acknowledged during the project

Licence to Breathe - main findings

- Ventilation strategies applied in buildings depends on the type of the building as well as the geographical location. Some countries have already Covid-19 resilient ventilation systems in use but most of the countries are not equipped with ventilation strategies that can keep the end users safe. Ventilation solutions and strategies can increase or decrease the spreading

Licence to Breathe - research question

- What are the regulation and codes regarding ventilation strategies in different countries? What are the current ventilation strategies adopted, and in use in these countries?

More information

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| | Natural Ventilation | | | Mechanical Ventilation | | | | | | | Standards |
|----------------------------------|---|------------------|----|------------------------|-----------------|-----------------|-----------------|----------------------|-----------------|-----------------|--------------------|
| Continent/ Country | | Windows or other | | ? | Air Delivery | | | Recirculation of Air | Infiltration | | |
| | | Yes | No | | Supply | Exhaust | Blanced | | HEPA | MERV | |
| Europe | | | | | | | | | | | |
| UK | X | | | X | X ³⁾ | X ³⁾ | X ³⁾ | X ³⁾ | X | | local, CIBSE |
| Germany | X ³⁾ | | | X ³⁾ | | 4) | | 2) | X ³⁾ | | local |
| Spain | X ³⁾ | | | X | | 4) | | | X ³⁾ | | local |
| Nordic Countries (excl. Iceland) | X | | | X | | 4) | X | - | X | | local |
| | | | | | | | | | | | |
| Americas | | | | | | | | | | | |
| USA | X | | | X | X | X | X ³⁾ | X | | X ³⁾ | local, ICC, ASHRAE |
| Canada | X | | | X | X | X | X | X | | X ³⁾ | local, ASHRAE |
| Mexico | X | | | X | | | | | | | local. ICC, 1) |
| Brazil | X ³⁾ | | | X | | | | | 2) | 2) | local, ASHRAE |
| | | | | | | | | | | | |
| Asia | | | | | | | | | | | |
| Hong Kong | X | | | X | X | 4) | | X | X | X | local |
| China | X | | | X | | X | X | 2) | 2) | 2) | local |
| Singapore | X ³⁾ | | | X | X ³⁾ | 4) | | X ³⁾ | 2) | 2) | local |
| | | | | | | | | | | | |
| Africa, and Middle East | | | | | | | | | | | |
| South Africa | - | X | | X | - | - | | 2) | 2) | 2) | local |
| Saudi Arabia | X | X | | X | - | - | X | X | 2) | 2) | local, ICC |
| 1) | Majority of municipalities have no construction regulations | | | | | | | | | | |
| 2) | No mention | | | | | | | | | | |
| 3) | In use but not specified in regulations | | | | | | | | | | |
| 4) | Used in kitchens and bathrooms | | | | | | | | | | |

Table 1: Ventilation strategies adopted in reviewed countries

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