

—For owners and tenants of commercial facilities—

Recommended ventilation method for resolving "poorly ventilated closed spaces"

The position document of the Expert Meeting on the Novel Coronavirus Disease Control (announced on March 9 and March 19, 2020) indicates three common conditions in relation to locations where outbreaks were confirmed. Based on this document, the MHLW's Novel Coronavirus Response Headquarters has formulated a **recommended ventilation method for large-scale commercial facilities to resolve "poorly ventilated closed spaces," which is one of the risk factors for COVID-19.** The MHLW summarized this recommendation by conducting thorough reviews of the relevant literature, standards developed by international organizations, and domestic legislation standards while consulting experts.

Position document of the Expert Meeting (excerpt)

Avoid situations associated with a high-risk of cluster (mass) outbreaks

- ① **Increase ventilation: Operate and check ventilation systems** appropriately to avoid creating **poorly ventilated closed spaces. Maintain periodic outdoor air ventilation.**
- ② **Reduce the density of crowds:** Create an environment that avoids large gatherings. Apply a lower maximum capacity of users than usual, and devise traffic lines by setting a time lag during entering and exiting of users.
- ③ **Avoid close-range conversations, loud speaking and chanting:** Create an environment that encourages people to avoid shouting (such as vocal cheering). Maintain the sanitization of shared objects thoroughly.

Recommended ventilation method

If a building complies with the air environment adjustment standards established by the Law for Environmental Health in Buildings, it will meet the **required volume flow rate (30 m³/hour per person)** and **will not be classified as a "poorly ventilated closed space."** Given this, the MHLW recommends that owners and tenants of commercial facilities conduct one of the following measures.

Note that **"poorly ventilated closed spaces" is only one of the risk factors for COVID-19** and that **the literature does not indicate** that satisfying the required volume flow rate alone will **reliably prevent infection.**

(1) Conducting mechanical ventilation (air conditioning systems and mechanical ventilation systems)

- ❑ The owners and tenants of specific buildings as designated under the Law for Environmental Health in Buildings shall **comply with the air environment adjustment standards** established by the Law. If these standards are not satisfied, the owners and tenants shall **appropriately maintain the ventilation systems by cleaning and repairing them.**
- ❑ The owners and tenants of commercial facilities that are not designated as specific buildings should confirm that the ventilation systems can maintain **the required volume flow rate (30 m³/hour per person) based on the concept of the Law.** If the capacity of the ventilation system is not sufficient, the owners and tenants may maintain the required rate by **reducing the number of users in a room.**

Standards for the air environment when using air conditioning equipment based on the Law for Environmental Health in Buildings

Item	Standard
A. Dust content in the air	$\leq 0.15 \text{ mg/m}^3$
B. CO Content	≤ 10 parts per million (= 10 ppm or lower) * Exception: If the outside air already contains ≥ 10 ppm, ≤ 20 ppm.
C. CO ₂ content	$\leq 1,000$ parts per million (= 1,000 ppm or lower)
D. Temperature	1. 17°C to 28°C 2. If the room temperature is lowered to a temperature below that of the outside air, the difference should not be significant.
E. Relative humidity	40% to 70%
F. Airflow	$\leq 0.5 \text{ m/s}$
G. Formaldehyde content	$\leq 0.1 \text{ mg/m}^3$ (≤ 0.08 ppm)

* If you use mechanical ventilation equipment, you must comply with items A, B, C, F, and G in the above table.

(2) Open window method

- ❑ **Set the air exchange rate* to twice an hour or more (or fully open the windows for several minutes once every thirty minutes or less).**

* The rate at which indoor air is exchanged with ambient air.

- ❑ **If there are multiple windows, keep opening the windows on two sides of the room to create an airflow. If there is only one window, open a door as well.**

Tips on ventilating

(1) Specific buildings

- ❑ **The owners and tenants of commercial facilities that are designed as specific buildings*¹ shall maintain and manage the relevant buildings according to the air environment adjustment standards established by the Law.**
- ❑ **If these standards are not satisfied*², the owners and tenants of the buildings shall take appropriate corrective measures and maintain the buildings so that they meet the standards while respecting the opinion of a building environment sanitation control engineer.**

*¹ Under the Law for Environmental Health in Buildings, the term "specific building" refers to a building with a total floor area of $\geq 3,000 \text{ m}^2$ that is used for the following purposes by large numbers of people: entertainment facility, department store, assembly hall, amusement hall, or shop.

*² In recent years, specific buildings that do not meet the standards for CO₂ content have been widely reported. Given this, the owners and tenants shall perform appropriate maintenance, such as checking the ventilation system accordingly.

(2) Non-specific buildings

- ❑ **The owners and tenants of commercial facilities that are not designated as specific buildings should maintain and manage the relevant buildings in accordance with the air environment adjustment standards established by the Law.**
- ❑ **Given the situation, the owners and tenants should identify the volume air flow rate of mechanical ventilation systems by confirming it with the systems' designers or experts and should determine the maximum number of users to maintain the required volume flow rate per person in the room.**