

Adequate Ventilation for Copiers/Printers



An acceptable indoor environment contributes to productivity, comfort, and a sense of health and well-being. Xerox customers often ask about adequate ventilation for rooms that contain our equipment. This communication is intended to inform Xerox customers about the recommended air supply for duplicating/photocopy rooms.

Primary guidance in this area comes from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) in the form of ANSI/ASHRAE Standard 62.1-2013, "Ventilation for Acceptable Indoor Air Quality." Two independent methods of achieving adequate indoor air quality are provided in this standard.

Ventilation Rate Procedure

This is suitable for many conventional office settings. The minimum recommended exhaust rate for copy and printing rooms is 0.5 cfm/ft² (cubic feet per minute per square foot of floor space) or 2.5 liters per second, per square meter of floor space. This must be replaced with an equal volume of fresh, outside air or adequately filtered, recirculated air delivered with adequate mixing. For office buildings, a minimum of 10% outside air is generally mixed with recirculated air. This is a method of providing enough clean air to the space to be confident that emissions will be diluted to acceptable levels.

Indoor Air Quality Procedure

This procedure ensures acceptable indoor air quality by directly controlling known and specifiable air contaminants such as ozone*, solvents, and odors released from specific locations. It may result in overall ventilation rates that are more, or less, than those called for by the "Ventilation Rate Procedure." However, changes in space use, contaminants or operation may require re-evaluation of the ventilation design. This is a method of removing emissions near their source to ensure that acceptable levels are maintained in the workspace.

Ventilation kits are available for some Xerox printers and duplicators. These are exhaust ventilation systems that remove air directly from the machine to an exterior location. When a ventilation kit is installed, acceptable air quality associated with the usual emissions from the machine can be achieved through proper application of the "Indoor Air Quality Procedure."

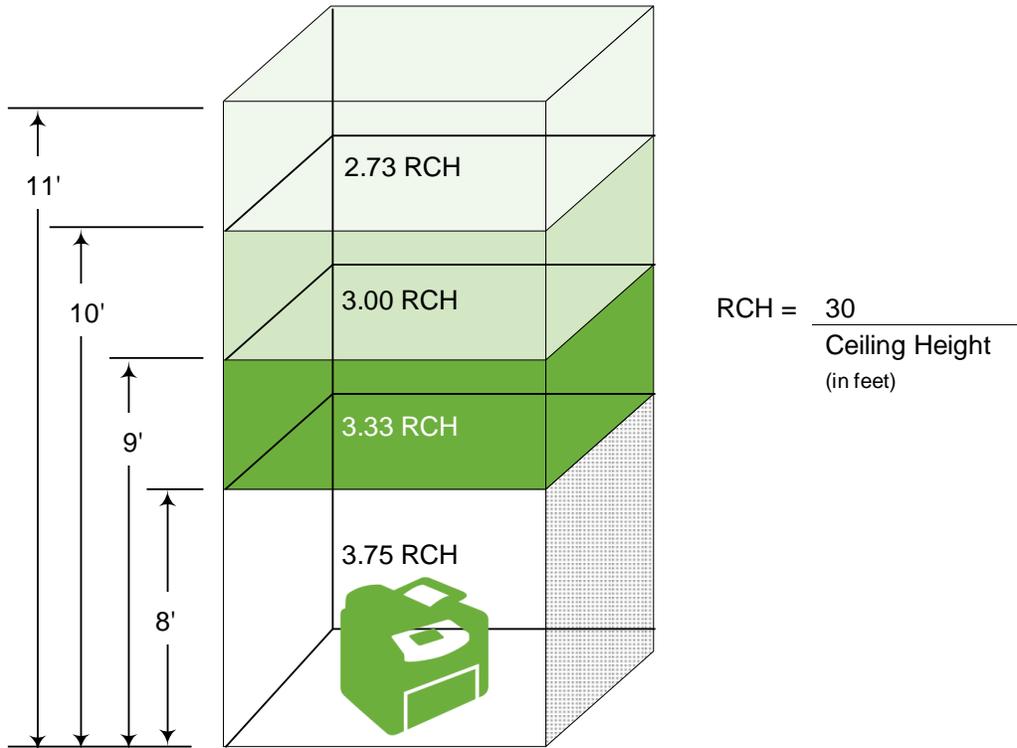
Room Air Changes per Hour

Some customers are more comfortable measuring ventilation in RCH, or "room air changes per hour." The ventilation rate specified in the Ventilation Rate Procedure can be expressed in RCH, but this depends on the room ceiling height as well as the floor area.

For a room having a floor-to-ceiling height of H feet, the recommended minimum ventilation rate of 0.5 cfm/ft² works out to (30 ÷ H) air changes per hour. The illustration on the next page shows the recommended hourly air changes for several typical room ceiling heights.

* For use with the "indoor Air Quality Procedure," the World Health Organization suggests that continuous ozone exposure to be maintained below 0.05 ppm (parts of ozone per million parts of air).

Room Air Changes per Hour (RCH) for Typical Room Heights



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