



LEED® for New Construction (NCv2.2) Rating System Guide for MCAA Contractors

Indoor Environmental Quality - Prerequisite 2

MCAA Contractor Involvement - MODERATE

Required - Environmental Tobacco Smoke (ETS) Control

Intent

Minimize exposure of building occupants, indoor surfaces, and ventilation air distribution systems to Environmental Tobacco Smoke (ETS).

Requirements

OPTION 1

- Prohibit smoking in the building.
- Locate any exterior designated smoking areas at least 25 feet away from entries, outdoor air intakes and operable windows.

OPTION 2

- Prohibit smoking in the building except in designated smoking areas.
- Locate any exterior designated smoking areas at least 25 feet away from entries, outdoor air intakes and operable windows.
- Locate designated smoking rooms to effectively contain, capture and remove ETS from the building. At a minimum, the smoking room must be directly exhausted to the outdoors with no re-circulation of ETS-containing air to the non-smoking area of the building, and enclosed with impermeable deck-to-deck partitions. With the doors to the smoking room closed, operate exhaust sufficient to create a negative pressure with respect to the adjacent spaces of at least an average of 5 Pa (0.02 inches of water gauge) and with a minimum of 1 Pa (0.004 inches of water gauge).
- Performance of the smoking room differential air pressures shall be verified by conducting 15 minutes of measurement, with a minimum of one measurement every 10 seconds, of the differential pressure in the smoking room with respect to each adjacent area and in each adjacent vertical chase with the doors to the smoking room closed. The testing will be conducted with each space configured for worst case conditions of transport of air from the smoking rooms to adjacent spaces with the smoking rooms' doors closed to the adjacent spaces.

OPTION 3 (For residential buildings only)

- Prohibit smoking in all common areas of the building.
- Locate any exterior designated smoking areas at least 25 feet away from entries, outdoor air intakes and operable windows opening to common areas.
- Minimize uncontrolled pathways for ETS transfer between individual residential units by sealing penetrations in walls, ceilings and floors in the residential units, and by sealing vertical chases adjacent to the units.
- All doors in the residential units leading to common hallways shall be weather-stripped to minimize air leakage into the hallway.

- If the common hallways are pressurized with respect to the residential units then doors in the residential units leading to the common hallways need not be weather-stripped provided that the positive differential pressure is demonstrated as in Option 2 above, considering the residential unit as the smoking room. Acceptable sealing of residential units shall be demonstrated by a blower door test conducted in accordance with ANSI/ASTM-E779-03, Standard Test Method for Determining Air Leakage Rate By Fan Pressurization, AND use the progressive sampling methodology defined in Chapter 4 (Compliance Through Quality Construction) of the Residential Manual for Compliance with [California's 2001 Energy Efficiency Standards](#). Residential units must demonstrate less than 1.25 square inches leakage area per 100 square feet of enclosure area (i.e. sum of all wall, ceiling and floor areas).

Potential Technologies & Strategies

Prohibit smoking in commercial buildings or effectively control the ventilation air in smoking rooms. For residential buildings, prohibit smoking in common areas, design building envelope and systems to minimize ETS transfer among dwelling units.

How MCAA Contractors Can Impact This Credit

This credit is often achieved by prohibiting smoking in the buildings and providing smoking areas outside, 25 feet away from entries and air intakes. Work with the design team to make sure that air intakes are located away from designated smoking areas. Avoiding street level mechanical intake and placing all intakes on the roof helps toward this goal.

Option two provides for designated smoking areas within buildings, but with strict air control measures to not allow smoke to enter into occupied spaces. Typically, the buildings that would use this option would be airports, casinos and prisons. These designated smoking locations need to be built to meet the following requirements:

1. Air is directly exhausted to outdoors without recirculation
2. Deck to deck partitions
3. With doors closed, the exhaust must be sufficient enough to create a negative pressure of an average of 5 Pa and at least a minimum of 1 Pa

Size the exhaust equipment accordingly and work with the architect to make sure the room is built with no air leaks and incorrect partitions to disrupt the negative air pressure. For more information on standard test methodology for determining air leakage rate by fan pressurization, visit the [ASTM website](#) for standard ASTM-E779-03.

Option 3 can only be applied for residential buildings. In residential buildings, either all residential doors need to be weather-stripped or there must be positive air pressure in the hallways and common areas leading to residential units. The same pressure standards apply as option 2 with an average of 5 Pa and a minimum of 1 Pa.

Primary Responsible Parties

The owner is primarily responsible for making the policy decision to either ban smoking from the building, create outdoor smoking areas or install indoor smoking rooms. The mechanical engineer is responsible for design of exhaust and negative pressure systems for indoor designated smoking areas.