

CARBON MONOXIDE

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ILLINOIS FIRE INSPECTORS ASSOCIATION

QUICK FACTS

Resulting Conditions / Effects on Humans

Carbon Monoxide level in ppm (parts per million)

- **50** - Permissible exposure limit (PEL) for eight hours (OSHA)
- **200** - Possible mild frontal headache in two to three hours
- **400** - Frontal headache and nausea after one to two hours; occipital headache (back of head) after two to three hours
- **800** - Headache, dizziness and nausea in forty-five minutes; collapse and possible death in two hours
- **1600** - Headache, dizziness, and nausea in twenty minutes; collapse and possible death in one hour
- **3200** - Headache and dizziness in five to ten minutes; unconsciousness and danger of death in thirty minutes
- **6400** - Headache and dizziness in one to two minutes; unconsciousness and danger of death in ten to fifteen minutes
- **12,800** - Immediate unconsciousness; danger of death in one to three minutes

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WHAT CODES?

- International Fire Code
- International Building Code
- NFPA 720 (Standard for the installation of carbon monoxide detection and warning)
- Illinois Carbon Monoxide Act (430 ILCS)
- NFPA 101 Life Safety Code

International Fire Code and International Building Code

- Chapter 9 Section 908.7 states:
 - Group **I**(Institutional) or **R**(Residential)
 - Located in a building containing a fuel burning appliance or in a building which has an attached garage shall be equipped with a single station carbon monoxide alarm.

EXCEPTIONS

- Sleeping units or dwelling unit located more than one story or below any story which contains a fuel burning appliance or attached garage.
- Sleeping units not connected by duct work or ventilation shafts to any room containing fuel burning appliances or attached garage.
- Building equipped with a common area carbon monoxide alarm system.

International Fire Code and International Building Code continued

- CHAPTER 11 of IFC is equivalent to 908.7(THIS IS FOR EXISTING BUILDINGS)

NFPA 720

- NFPA 720 tells you how to enforce the requirements of the IFC and IBC
 - Outside of each separate dwelling unit sleeping area in immediate vicinity of the bedrooms
 - On every occupiable level of a dwelling unit including basements

NFPA 101 LIFE SAFETY CODE

- Installed in newly constructed daycare occupancies, one and two family dwellings, lodging or rooming houses, hotels and dormitories and apartment buildings
- Also installed in certain non-sleeping location, including on ceilings in rooms containing permanently installed fuel burning appliances and centrally located within occupiable spaces served by the first supply air register from a fuel-burning HVAC system

ILLINOIS CARBON MONOXIDE ACT

- Every dwelling unit shall be equipped with at least one approved carbon monoxide alarm within fifteen feet of every room used for sleeping purposes.

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