



## Your guide to fire alarms for residential building occupancies

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The NYC building code requires fire alarm systems for all J2 occupancies. J2 is defined as a residential building with 4 or dwelling units. They are divided into two categories, buildings above and below 300 ft. in height. The building code was changed in April of 2003 to include Phase 1 elevator recall but the basics have not changed.

\* You must have smoke detection in all electrical and mechanical rooms over 75 s/f. This includes electrical meter rooms, elevator machine rooms, rooms that contain HVAC equipment, and mechanical rooms that contain utility services such as sprinkler controls, fire & booster pumps.

\* Buildings built post April of 2003 or having elevator renovations must have smoke detection at the top of the elevator shaft. The smoke detectors at top of shaft as well those in the elevator machine room must initiate Phase 1 elevator recall which returns the car to ground level in the event of fire. Waterflow alarms must also be interconnected and initiate elevator recall.

\* The new J2 code also calls for the installation of waterflow switches and valves tamper switches on all trash chutes. It is mandatory to provide a sprinkler control panel with a Central Station connection.

\* Waterflow alarms for sprinkler systems are required whenever more than 36 heads are installed in a fire section or fire area.

\* Duct Smoke detection is required on the supply of any systems greater than 2000 CFM. The code makes specific references that these systems must initiate remote trouble and alarm conditions and that automatic sprinkler systems must shut down all HVAC units. The HVAC fans that have been automatically shutdown by virtue of the activation of the fire alarm shall be arranged not to automatically restart when the fire alarm control is reset. It is required that there is at least two manual means of restarting the fans. Beware of self contained, line voltage duct detectors; they are not acceptable under the NYC Building Code.

Buildings over 300 ft. are a completely different animal. Old code called for a "Strap Key" firefighter's communication system. Although there are many of these systems installed in NYC, they are confusing and antiquated. Fire department "Strap Key" stations are located on landings adjacent to standpipe hoses. The intent was that firefighters in high rise buildings could communicate with other firemen supplying water pressure to the standpipe system. Every turn of the key would produce a "morse code" through a series of bells located in the elevator shafts and pump room. These codes would call for pressure changes to the water supply. Pull stations were located on each floor to signal the Fire Command in the event a firefighter was in jeopardy. Unfortunately these systems are confusing to building tenants who think that activating a Pull Station would summon the Fire Department or initiate a building evacuation when they do not. In the interest of advancement, the new code calls for the installation of a "Fireline" communication system in the form of a telephone network between every standpipe control landing as well as the building lobby, fire pump room and

roof manifold. Existing systems that are in disrepair may be upgraded by removing the Manual Pull stations and replacing strap keys stations for "warden" type phones.

Of course there are still many enhancements to the building code that will take place when the NYC construction codes take place in 2008.

Steven Wasserman is the vice president and general manager of American Security Systems, Long Island City, N.Y.

New York Real Estate Journal - 17 Accord Park Drive #207, Norwell MA 02061 - (781) 878-4540