

CHANGE TYPE: Modification

CHANGE SUMMARY: The strength of audible fire alarm notification devices now must now meet a minimum sound-pressure level.

2012 CODE: 907.5.2.1.1 Average Sound Pressure. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupiable space within the building. ~~The minimum sound pressure levels shall be 75 dBA in occupancies in Groups R and I-1; 90 dBA in mechanical equipment rooms; and 60 dBA in other occupancies.~~

CHANGE SIGNIFICANCE: Section 907.5.2.1.1 was revised in the 2012 IFC. It prescribes that the sound-pressure level (SPL) for notification appliances shall be a minimum of 15 decibels measured in the A-scale (dBA) above the ambient SPL or 5 dBA above the maximum SPL in every space that can be occupied in a building. These SPLs are based on a minimum 1-minute measurement period. SPLs for Group R and I-1 occupancies, mechanical rooms, and other occupancies are no longer stipulated.

The reason for the change is that the SPLs specified in Section 907.5.2.1.1 were not consistent with the notification appliance SPL requirements in NFPA 72. NFPA 72 requirements for the audible notification appliances are based on whether the devices emit alert or evacuation tones, voice messages, or audible notifications for exit markings. The provisions in Section 907.5.2.1.1 would apply to all notification appliances designed to operate in either public or private mode. In sleeping areas the SPL is

907.6.2.1.1 continues

907.5.2.1.1

Average Sound Pressure



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Audible and visual notification appliance

907.6.2.1.1 continued

specified in 907.5.2.1.1; however, for smoke alarms, Section 907.2.11.2 and the 2012 IRC now require a minimum 75-dBA SPL at the pillow. In sleeping rooms, NFPA 72 also requires the notification appliance to generate a square wave or provide equivalent awakening ability and to operate at a frequency of 520 Hz ± 10%.

NFPA 72 Table A.18.4.3 contains recommended average SPLs for selected occupancies. Table 907.5.2.1.1-A summarizes these values and the required SPL at 15 dBA above the average sound level:

TABLE 907.5.2.1.1-A Required Sound-Pressure Levels by Occupancy or Use

Occupancy or Use	Estimated Average SPL (dBA)	Required SPL (dBA) per Section 907.5.2.1.1
Group A	55	70
Group B	55	70
Group E	45	60
Group F	80	95
Group M	40	55
Group R	35	50
Group S	30	45
Mechanical rooms	85	100