

## Remove Storage From Attic, Under-Floor and Concealed Spaces

Violation #10

### CODE SECTIONS

*International Fire Code 2012 Edition*

**315.3.4 Attic, under-floor and concealed spaces.** Attic, under-floor and concealed spaces used for storage of combustibile materials shall be protected on the storage side as required for 1-hour fire-resistance-rated construction. Openings shall be protected by assemblies that are self-closing and are of noncombustible construction or solid wood core not less than 1<sup>3</sup>/<sub>4</sub> inches (44.5 mm) in thickness. Storage shall not be placed on exposed joists.

**Exceptions:**

1. Areas protected by *approved automatic sprinkler systems*.
2. Group R-3 and Group U occupancies.

### EXPLANATION

No storage is allowed underneath a stairway unless one of two measures is taken to ensure the stairwell will not burn and collapse. The first is to completely enclose the underneath section of the stairway utilizing one-hour fire-resistive construction. A typical one-hour rated fire construction consists of a minimum of two sheets of 5/8 inch thick Type "X" sheetrock, separated by an air gap, and a forty-five minute fire rated door. The second means of protecting the stairway is to install an automatic fire sprinkler under the stairway.

No storage is allowed underneath stairways in an exit enclosure in any circumstance.

### RATIONALE

In the event of a fire, occupants must be able to proceed down the stairway to an exit. Without any combustibile storage under the stairway no fires should start, as there is nothing to burn. However, if combustibles are stored under the stairway a fire could start underneath a stairway causing the stairway to collapse thus destroying the means of escape. If however, by either enclosing the underneath of the stairway with one-hour fire-resistive construction or by installing automatic fire sprinklers, the fire should be held in check thus allowing sufficient time for the occupants to escape.

If the stairway is located inside an exit enclosure no storage what so ever is allowed under the stairs. The intent here is that the exit enclosure is constructed to maintain a smoke-free exiting environment for the occupants. If we allow storage under the stairs and a fire occurred in this storage, smoke could quickly envelope the enclosure thus creating a hazardous exit path.