

Oregon Interpretive Ruling No. 01-2

DUCTS/AIR TRANSFER OPENINGS AT FIRE-RESISTIVE HORIZONTAL ASSEMBLIES

REQUESTED BY: Building Codes Structures Board

REQUEST FOR RULING:

1. What are the appropriate code provisions governing the installation of ducts and air transfer openings through fire-resistive horizontal assemblies?
2. Is there an appropriate standard which should be considered as providing an acceptable alternate method?

APPLICABLE CODE SECTIONS:

Section 702 of the 1998 Oregon Structural Specialty Code (OSSC)
Section 710 of the 1998 Oregon Structural Specialty Code (Through penetrations)
Section 711 of the 1998 Oregon Structural Specialty Code (Shaft enclosures)
Section 601.1 of the 1999 Oregon Mechanical Specialty Code (OSMC)
Section 801.2 of the 1999 Oregon Mechanical Specialty Code

BACKGROUND:

A divergence of opinion exists as to whether or not duct and air transfer openings through fire-resistive horizontal assemblies should be regulated under Section 710.2 of the OSSC or the provisions of OSSC Section 711. As such, it is necessary to provide interpretation of the appropriate sections to assist in the uniform and consistent application of the code statewide.

FINDINGS:

1. Section 710 of the 1998 OSSC regulates *penetrations* through fire-resistive horizontal assemblies.
2. Section 711 of the 1998 OSSC regulates *openings* through successive floors (see exceptions).
3. OSSC 71 0.2.1 states that "Through penetrations of fire-resistive horizontal assemblies shall be enclosed in fire-resistive shaft enclosures in accordance with Section 711.1 or shall comply with Section 710.2.2 or 710.2.3." The first exception exempts *penetrating* items such as steel, fen-ous or copper electrical conduits, plumbing vents or sprinkler piping as well as other non-combustible conduits, pipes and tubes where the annular space around the penetration is protected by approved materials.
4. The Oregon Mechanical Specialty Code (OSMC) differentiates between "ducts" and "vents" in that ducts are generally intended to carry environmental air and exhaust (OSMC 601.1) whereas vents are intended to discharge products of combustion (OSMC 801.2).
5. The OSSC 702 definition of "penetrations" specifically excludes "ducts". Accordingly, where duct and air transfer items extend through fire-resistive horizontal assemblies, they are considered *openings* and are regulated under OSSC 711 for shafts.
6. Duct and air transfer openings installed in assemblies complying with UBC Standard 7-5 will not allow fire to spread to successive floors for the prescribed period. This is consistent with the underlying intent of the shaft requirements in section OSSC 711.

CONCLUSIONS:

1. Duct and air transfer openings, including dryer and bathroom exhaust, are considered openings and are regulated under OSSC 711 for shafts.
2. Through floor duct and air transfer openings installed per listed assemblies complying with UBC Standard 7-5, are determined to be an acceptable alternate method to the shaft provisions of OSSC 711 contingent upon the following: For the purposes of this Interpretive Ruling, additional openings into the duct beyond the tested assembly are specifically precluded. For example, a bathroom fan duct installed in a tested assembly shall not be allowed to pick up additional fans on successive floors. In using UBC Standard 7-5, such systems shall have an F and T rating of not less than one hour but not less than the required rating of the floor penetrated.

The Building Codes Structures Board accepts the recommendations of the Structural Code Committee and the findings listed.

(signed May 1, 2002)

Theodore F. Argo III, Chairman
Building Codes Structures Board

The recommendations and finding of the Building Codes Structures Board are accepted and the interpretation is adopted for uniform statewide application and use.

(signed May 2, 2002)

Joseph A. Brewer III, Administrator
Building Codes Division