



**ADVANCED
FIBER TECHNOLOGY**

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Fire Stopping

Penetrations through fire-resistance-rated walls need to comply with Section 712 of the International Building Code. Tests conducted by Omega Point Laboratories demonstrated that cellulose insulation can be used as a fire stopping material.

The following is contained in the 2003 INTERNATIONAL BUILDING CODE (IBC) and 2004 SUPPLEMENTS. Contact your architect, engineer, or local code official concerning your specific project application.

SECTION 712: PENETRATIONS

712.1 Scope

The provisions of this section shall govern the materials and methods of construction used to protect through penetrations and membrane penetrations.

712.3 Fire resistance-rated walls

Penetrations into or through fire walls, fire barriers, smoke wall barriers, and fire partitions shall comply with this section.

712.3.1 Through penetrations

Through penetrations of fire-resistance-rated walls shall comply with Section 712.3.1.1 or 712.3.1.2 *Exception* - Where penetrating items are steel, ferrous or copper pipes or steel conduits, the annular space between the penetrating item and the fire-resistance-rated wall shall be permitted to be protected as follows:

- 1) Does not apply to cellulose insulation.
- 2) The material used to fill the annular space shall prevent the passage of flame and hot gases sufficient to ignite cotton waste when subjected to ASTM E119 time-temperature fire conditions under a minimum positive pressure differential of 0.10 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.

To demonstrate that cellulose insulation satisfies the criteria under paragraph 2) above, the Cellulose Insulation Manufacturers Association (CIMA) contracted with Omega Point Laboratories to conduct a test on a wood framed wall with a single layer of 5/8" drywall on the fire exposed side with four different pipe penetrations and insulated with cellulose insulation.

The fire-resistance-rating of the wall construction was 1-hour or 60 minutes. The fire endurance of the cellulose insulation was 64 minutes under ASTM Method E119-98 Fire Tests of Building Construction and Materials. The detailed test data is contained in Project Report 10694-105451 dated October 25, 1999.

Summary:

Cellulose insulation meets the criteria of the International Building Code as a penetration fire stop in 1-hour fire rated wall assemblies. Standard light density fiberglass batts or foam insulation do not meet this criteria.

* If you would like to review this test report, please contact us.