

Firewalls

Fire Retardant Permanency

Fire Retardants used in cellulose insulation do not lose their effectiveness over time. Tests by scientists and technicians at Oak Ridge National Laboratory, Tennessee Technological University, Allied Signal Corp., US Borax Corp., Underwriters Laboratories, and United States Testing Company, found no sign of "disappearing fire retardants."

Most significantly, no increase in fires involving cellulose insulation has been reported, in spite of the fact that every year cellulose insulation installed in tens of millions of homes gets older and older.

In fact, all residential structures contain large amounts of wood. Cellulose insulation is the only wood-based building material that is always treated for fire retardancy. This makes cellulose insulation one of the safest materials used in home construction.

If a fire occurs, the dense structure of cellulose and its fire retardants slow its spread through the building by blocking flames and hot gases and restricting the availability of oxygen in insulated walls and ceilings. Scientists at the National Research Council Canada report that "cellulose in the wall cavity provided an increase in the fire resistance performance of 22% to 55%." **Fire roars right through conventional insulation.** The NRCC study showed that "the fire resistance of an assembly with glass fibre insulation was slightly lower than that of a non-insulated assembly."

Cost Saving Firewall Designs

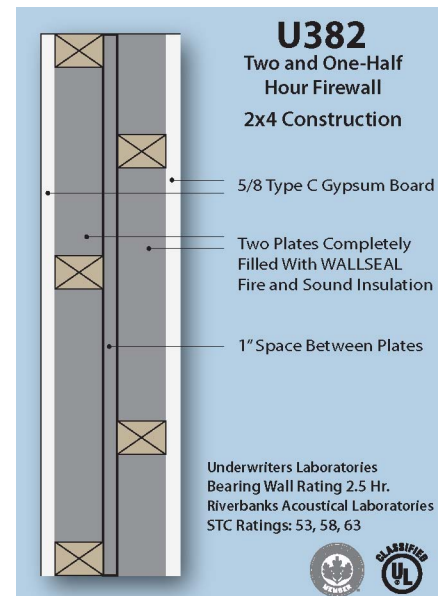
U382

Nu-Wool® Co., Inc. has over 50 firewall assemblies that are approved for use with Nu-Wool® Premium Cellulose Insulation, including three proprietary designs. UL design U382 is a revolutionary 2-hour or 3-hour load-bearing firewall that uses only two layers of type C gypsum wallboard and Nu-Wool WALLSEAL Fire and Sound Insulation. Most assemblies are four layers of type C board to get the same rating. Nu-Wool® Co., Inc. has developed WALLSEAL Fire and Sound Insulation specifically for use in the U382 firewall assembly. Green in color, WALLSEAL Fire and Sound Insulation has the same superior thermal and sound control properties of Nu-Wool WALLSEAL.

UL Design U360 is the only 2-hour, load-bearing firewall tested by UL that needs only three layers of 5/8" type X board resulting in savings of 25% on drywall labor and materials. Sound-absorbing UL design U369 has a high STC rating of 58 making it the design choice for sound control.

Cost Saving Two and One Half Hour Firewall

Using Only 2 Layers 5/8 in.
Type C Gypsum Wallboard
Design No. U382
Underwriters Laboratories
Bearing Wall Rating 2.5 Hr.
Riverbank Acoustical Laboratories
STC Rating: 53, 58, 63



STC tests were done on three configurations of the U382 assembly using:

- 1 layer of gypsum board per side: STC Rating 53
- 1 additional layer of gypsum board to one side: STC Rating 58
- 1 additional layer of gypsum board to each side: STC Rating 63

Cost Saving Two-Hour Firewall

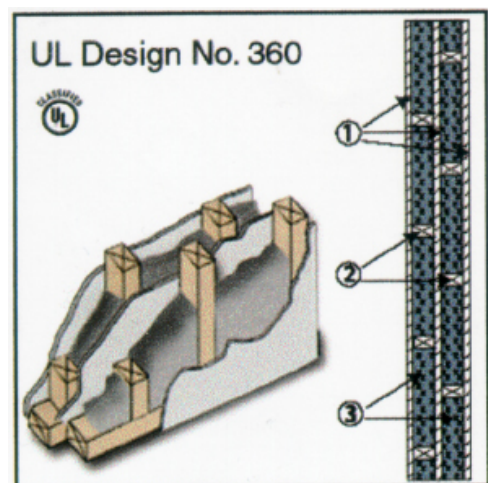
Using Only 3 Layers 5/8 in.
Type X Gypsum Wallboard
Design No. U360
Underwriters Laboratories
Bearing Wall Rating 2 Hr.
Riverbank Acoustical Laboratories
STC Rating: 51

1. Wallboard, Gypsum - any classified 5/8 in. thick gypsum wallboard, 4ft. wide, paper surfaced, with beveled, square, or tapered edges, applied vertically. Wallboard fastened 6 in. o.c. at joints and edges and 12 in. o.c. in the field with No. 6 by 1-5/8 in. long bugle head drywall screws. One layer of wallboard is applied to each side of the wall assembly and one layer is applied in the middle - 3 layers total.

2. Wood Studs - nominal 2 by 4-in. no. 2 grade spruce, pine, fir, spaced 16 in. on center.

3. Spray-Applied Material - Nu-Wool®* classified spray-applied insulation material. Applied to completely fill the cavities between the wood studs of both sides of wall to a nominal depth of 3-1/2 in.

4. Joints and Screw Heads - wallboard joints covered with tape and joint compound and screw heads covered with joint compound.



*UL Reference R-13173

Sound Absorbing Two-Hour Firewall

Using 4 layers of 5/8 in.

Type X Gypsum Wallboard

Design No. U369

Underwriters Laboratories

Bearing Wall Rating 2 Hr.

Riverbank Acoustical Laboratories

STC Rating: 58

1. Wallboard, Gypsum - any classified 5/8 in. thick gypsum wallboard, 4ft. wide, paper surfaced, with beveled, square, or tapered edges, applied vertically. Wallboard fastened 6 in. o.c. at joints and edges and 12 in. o.c. in the field with No. 6 by 1-5/8 in. long bugle head drywall screws. Two layers of wallboard are to be attached to the wood studs on one side of the wall. The face and base layer joints of the wallboard are to be staggered. A 5/8 in. air space is to be placed in between those studs and the inner layer of wallboard which is to be attached to the studs of the other side of the wall. A fourth layer of wallboard is to be attached on the opposite side of those studs.

2. Wood Studs - nominal 2 by 4-in. no. 2 grade spruce, pine, fir, spaced 16 in. on center.

3. Spray-Applied Material - Nu-Wool®* classified spray-applied insulation material. Applied to completely fill the cavities between the wood studs of both sides of wall to a nominal depth of 3-1/2 in.

4. Joints and Screw Heads - wallboard joints covered with tape and joint compound and screw heads covered with joint compound.

*UL Reference R-13173

A complete listing of all additional UL approved firewall designs that Nu-Wool® WALLSEAL® has been approved for are available at www.nuwool.com.

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