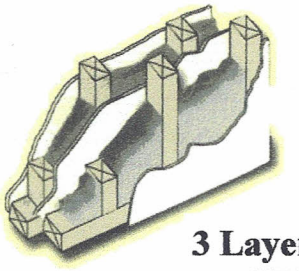
Fire Wall Design

1 Hour Firewall Design
Using Only 3 Layers 5/8 inch Type X Gypsum Wallboard
Design No. U360
Bearing Wall Rating 1 Hr.

Riverbank Acoustical Laboratories

STC Rating: 51



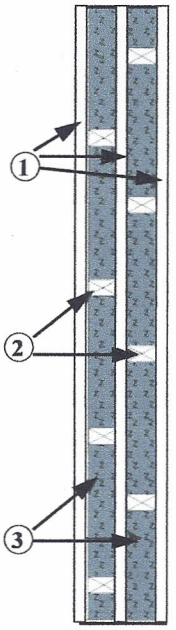
3 Layers

1. **Wallboard, Gypsum -** Any Classified 5/8 in. thick gypsum wallboard, 4 ft. 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 dry wall screw. One layer of wallboard was applied to each side of the wall assembly and one layer was 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 -** Thermolok InCide® 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.

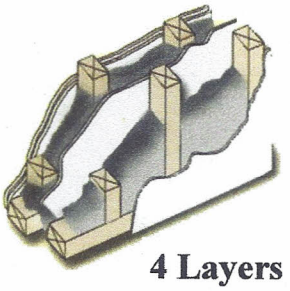
4. **Joints and Screw Heads -** Wallboard joints covered with tape and joint compound and screw heads covered with joint compound. UL Reference R-13173



1 Hour Firewall Design
Using Only 4 Layers 5/8 inch Type X Gypsum Wallboard
Design No. U360
Bearing Wall Rating 1 Hr.

Riverbank Acoustical Laboratories

STC Rating: 58



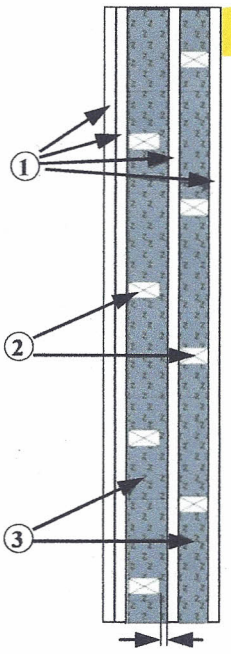
4 Layers

1. **Wallboard, Gypsum -** Any Classified 5/8 in. thick gypsum wallboard, 4 ft. 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 dry wall screw. Two layer 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 -** Thermolok InCide® 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



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."

As the fire wall test results demonstrate, the dense structure of cellulose and its fire retardants slow the spread of fire through a 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."