PLAINTIFF'S EXHIBIT

GP-1110

BEST WALL GYPSUM COMPANY

GYPSUM WALLBOARD MANUAL — Section 5

Sub-Section 9

1965 EDITION

FIRESTOP

Application Details

A single layer of 5/8" Firestop over wood studs or steel studs, Underwriters' description does not say whether the board has to be applied horizontally or vertically. On wood studs, most of the fire tests with single layer of 5/8" Firestop have been made with the board applied horizontally. On the steel studs, there have been tests both vertically and horizontally in single layer.

For the rating, the single layer of 5/8" Firestop for one hour may be applied either horizontally or vertically over wood or metal studs for wall assemblies. Bestwall has proven by test and Underwriters' have so indicated in their Listings relative to Bestwall that it is not necessary to have the paper tape and cement over the joints whether the board has been applied vertically or horizontally.

Insofar as the two layer application is concerned, the very first successful 2 hour wall test with 5/8" fire rated gypsum wallboard was made by Bestwall with Firestop at the Ohio State University back in 1952. In this test, in an effort to anticipate arguments from Building Inspectors and others concerned with installation details, the board was applied with both layers vertically, and the joint in each layer directly one over the other. This is the very weakest way structurally and fire-wise that the assembly could be erected. This assembly developed two hour fire resistance. It should be your contention, which has been accepted by Building Officials wherever approval has been requested, that regardless of how two layers of 5/8" Firestop are applied over the framing, vertically, horizontally, the two layers in opposite directions, joints directly one over the other, or staggered, that the assembly will develop 2 hours provided sufficient fasteners are included (that is the number that had been used in the fire test).

In many of the non-load bearing partition assemblies, the boards were erected vertically because essentially, with the use of ribs and other details, this was the normal way to erect it. However, insofar as the double solid and solid partitions are concerned, the face layer on each side may be erected horizontally and the partition still develop the fire resistance.

The application of the face layer in any case depends on a consideration of the floor to ceiling height, amount of joints, location of drop ceilings, items to be attached to the wall, or other matters which would indicate a preference for vertical or horizontal application.

The matter of a firestop at mid-height in partitions also comes up for some discussion. By and large, all wood stud partition fire tests, whether they are with wallboard or lath and plaster, whether they have been sponsored by Bestwall, the Gypsum Association, or some of the other competitors have generally included a firestop at mid-height insofar as wood studs are concerned. The minimum height

for an official wall fire test is 9'. Most of the tests have been made on 10' high test panels. However, under the Building Codes in many parts of the Country a firestop is not required with stud spaces 8' or less in height. In a majority of cases, in erecting fire rated assemblies, no firestop is used in such locations. This is a technicality which is now up for clarification before building code groups such as the International Conference of Building Officials. Unofficially, these people have indicated they will not require the firestop in stud spaces 8' and less. In other words, they apply the same rule of firestopping to fire rated assemblies as to nonrated assemblies. If this becomes a problem in your area, remind your building officials that the Bestwall Gummer System "B" (the Industry semi-solid) partition did not have a firestop of any type nor did the double solid partitions which have been tested for 2 and 3 hours.

In all ceiling applications, the wallboard has been applied at right angles to the nailing member.

Underwriters' have officially indicated Bestwall does not have to have the joints finished with paper tape and cement in any assemblies they have tested in order to obtain fire resistive rating shown in their listing.