SMALL SCALE ASTM E119
FIRE RESISTANCE TESTING
FOR FAIRMOUNT DISTRIBUTORS INC.
ON 2-HOUR WALL PANEL WITH
6lb MINERAL WOOL
TESTED: APRIL 26, 2005
VTEC #100-2131-4
REVISION 1.0: JUNE 30, 2005

VTEC Laboratories Inc.

JUNE 30, 2005

Client: Fairmount Distributors Inc.
204-212 Fairmount Ave.
Jersey City, NJ 07306

Attn: Mr. Sam Borgia

Subject: Fire Resistance Testing According to Modified ASTM E119 Specifications.

SAMPLE DESCRIPTION: 2-HOUR 6lb Mineral Wall Panel

The 36"x36.5"x5.25" thick 3-Hour Wall Panel was fabricated by Fairmount Distributors Inc. and provided to VTEC Laboratories Inc. for ASTM E 119 fire endurance testing. The wall was made up of 5 pieces of 18 gage steel studs, 4 pieces forming a 36"x36" square frame and the fifth piece placed 24 inches from one side of the frame. Two-inch wide furling strips made of 10-mm dragon board were placed over the steel studs on the front and back. On one side a 36"x36.25"x7/16" thick piece of dragon board was placed over the furling strips. On the other side one layer in two sections of 7/16" thick dragon board were used. One piece was 36"x24" and the other was 36"x12.25". The joint was placed over the stud. The joint and the screws were covered using 3M 2ST Caulking compound. The cavity in the frame between the gypsum was filled with 6lb mineral wool. The side opposite the joint was exposed to the furnace.

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PROCEDURE:

The furnace used in this test measures 3ft x 3ft x 3ft. The outside construction is steel and the furnace is lined with a ceramic refractory insulation. The furnace dimensions inside the insulation are nominally 27" x 27" x 27". A single burner is centered vertically in the wall opposite the sample. This burner is rated for 1.5 million Btu/hr and is of the flat flame or non-impinging flame design. Furnace conditions are monitored by three Inconel-sheathed chromel-alumel thermocouples. These thermocouples are positioned 6" from the face of the sample.

The sample was oriented vertically in the front opening of the furnace. The unexposed surface temperature of the sample was monitored by six, 20-gauge type K, fiberglass sheathed thermocouples. An insulating pad was placed over each thermocouple on the unexposed side of the sample.

The fire test was run following the ASTM E119 time-temperature curve.

The endpoint for the ASTM E119 test occurs when either all the thermocouples on the sample reach an average of 250°F + ambient starting temperature, any individual thermocouple on the sample exceeds 325°F + ambient starting temperature, or when the sample experiences burn-through.

RESULTS:

The ambient temperature was 73°F.

At 4 minutes smoke began emitting from the sample. At 2 hours 1 minute thermocouple #3 on the unexposed side of the wall panel exceeded 398°F thus reaching an end point. At 2 hours 5 minutes the average temperature on the unexposed side of the wall panel exceeded 323°F thus reaching another end point. At 2 hours 5 minutes the test was stopped and the furnace was shut off.

The time-temperature data are contained on the following pages.

Rev 1.0

Neil Schultz
Executive Director

A. Rahim

Amirudin Rahim
Technical Director

REVISION 1.0: Corrected "3/8" thick dragon board to "7/16" thick dragon board".