

SMALL SCALE ASTM E119  
FIRE RESISTANCE TESTING  
FOR  
FAIRMOUNT DISTRIBUTORS INC.  
ON 3-HOUR WALL PANEL  
TESTED: MARCH 29, 2005  
VTEC #100-2131-1  
REVISION 1.0: JUNE 30, 2005



# VTEC Laboratories Inc.

March 31, 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:** 3-Hour Wall Panel

The 36"x36.5"x5.5" 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 furring strips made of 10-mm dragon board were placed over the steel studs on the front and back. On one side a 36"x36.5"x9/16" thick piece of dragon board was placed over the furring strips. On the other side one layer in two sections of 9/16" thick dragon board were used. One piece was 36"x24" and the other was 36"x12.5". 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 3" thick mineral wool, 6# density. The side opposite the joint was exposed to the furnace.

**DISCLAIMER:** This test should be used to measure and describe the properties of materials, products or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazards or fire risks of materials, products or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment, which takes into account all of the factors, which are pertinent to an assessment of fire hazard of a particular end use.

**Notice:** VTEC Laboratories Inc. will not be liable for any loss or damage resulting from the use of the data in this report, in excess of the invoice. This report pertains to the sample tested only. Such report shall not be interpreted to be a warranty, either expressed or implied as to the suitability or fitness of said sample for such uses or applications, as the party contracting for the report may apply such sample.

**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.

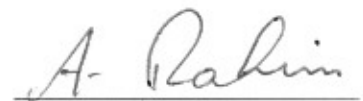
**RESULTS:**

The ambient temperature was 67°F.

At 18 minutes smoke began emitting from the sample. At 3 hours 8 minutes the average temperature on the unexposed side of the wall panel exceeded 317°F thus reaching an end point (317°F endpoint = [250°F + 67°F starting ambient]). At 3 hours 9 minutes the test was stopped and the furnace was shut off.

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

  
Neil Schultz  
Executive Director

  
Amirudin Rahim  
Technical Director

**REVISION 1.0:** Corrected "½" thick dragon board" to "9/16" thick dragon board".