

July 18, 2007

TITLE: Thermal Transmission Testing of Pyrocrete 239 by the ASTM E119 Fire Time/Temperature Curve

REFERENCE: L535-60, L643-5, L643-6, L643-7

DOCUMENT ACCESS NO.: 09642

PURPOSE: To determine the thermal transmission of Pyrocrete 239 when applied at various thicknesses and exposed to the ASTM E119 fire time/temperature curve.

CONCLUSIONS: The following thicknesses of Pyrocrete 239 will reach 250°F above ambient at:

30 minutes 1 inch
1 hour 1-9/16 inches
1½ hours 2 inches
2 hours 2-5/16 inches
2½ hours 2-5/8 inches
3 hours 2-15/16 inches

PROCEDURE:

I. Systems

- A. Galvanized steel panels 26½" x 26½" x 1/16".
- B. Pyrocrete 239 @ 1 inch, 2 inches, 3 inches.

II. Application

- A. Solvent wipe the panels to clean and degrease them.
- B. Spray apply 239 to one side at the indicated thicknesses and trowel smooth.
- C. Cure 11 months at 70-80°F and 40-80% relative humidity.

III Fire Testing

- A. Expose the specimen to the ASTM E119 fire time/temperature

Endpoints

Thickness	Time to 250°F + ambient average (minutes)
1	31
2	90
3	191