

FIRE RATING INFORMATION SHEET

FIRE RATING CLASSIFICATION

ASTM E-84: Standard test method for surface burning characteristics of building materials. This test is applicable to exposed surfaces for ceilings and walls. Flame spread and smoke density developed are reported.

FLAME SPREAD RATING

Flame spread is determined from the relative burning behavior of the material by observing the flame spread along the specimen. Asbestos cement board and red

oak flooring have been arbitrarily given 0 and 100 flame spread ratings, respectively.

SMOKE DEVELOPMENT RATINGS

Smoke development is determined by measuring the amount of smoke density during this test procedure. Asbestos cement and red oak flooring have been arbitrarily given 0 and 100 smoke development ratings, respectively. The International building codes (IBC) requires wall and ceiling finishes to fall within the following categories:

CLASS A (I)	CLASS B (II)	CLASS C (III)
Flame spread of 25 or less Smoke development of 450 or less Products: Structoglas Class A (FRFRJ) Structoglas Class A Ceiling (FX)	Flame spread between 26 and 75 Smoke development of 450 or less	Flame spread between 76 and 200 Smoke development of 450 or less Products: Structoglas Class C (FTSTF / FTSTJ) Structoglas Class C Smooth (FSQF) Structoglas Class C Ceiling (CGPF)

These ratings are for wall finishes which are to be installed over a substrate, such as gypsum board, not to be used in lieu of gypsum board. It is also recommended that Class A finishes be used in areas that will be used as a means of exit in case of a fire. In all cases, local codes should apply.

FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS

The numerical flame spread and smoke development ratings are not intended to reflect hazards presented by Crane Composites products or any other material under actual fire conditions. These ratings are determined by small-scale tests conducted by Underwriters Laboratories and other independent testing facilities using the American Society for Testing and Materials E-84 test standard (commonly referred to as the "Tunnel Test"). CRANE COMPOSITES PROVIDES THESE RATINGS FOR MATERIAL COMPARISON PURPOSES ONLY. Like other organic building materials (e.g. wood), panels made of fiberglass reinforced plastic will burn. When ignited, frp may produce dense smoke very rapidly. All smoke is toxic. Fire safety requires proper design of facilities and fire suppression systems, as well as precautions during construction and occupancy. Local codes, insurance requirements and any special needs of the product user will determine the correct fire-rated interior finish and fire suppression system necessary for a specific installation.

FACTORY MUTUAL APPROVAL

Factory Mutual Approved panels have been tested by Factory Mutual Research Corporation (FMRC) and approved for installation in building insured by FMRC

member insurance companies. The FMRC approval requires a series of tests including a full scale room and or corner test. Structoglas is not FMRC approved, however Factory Mutual Approved frp panel is available from Crane Composites, Inc. Call 1.800.435.0080 for more information.

HOURLY FIRE RATINGS

ASTM E-119 fire test for construction material systems is for assemblies or systems. In this test a complete wall (studs with gypsum board on both sides) is tested. Painted gypsum board is the most common wherein all joints have been taped and sealed. This meets the one-hour fire rating. By itself, frp does not meet this and must be used over a substrate.

Another part of the E-119 test pertains to the thermal barriers. This is relevant only when foam insulation is being used. Since most foams are quite flammable, the material covering the foam is to be a thermal barrier. If a fire does occur, the thermal barrier is required to keep the foam insulation from increasing in temperature for 15 minutes. No frp wall and ceiling panel meets this requirement. If the ASTM E-119 rating is required, a gypsum board, galvanized steel, or aluminum substrate has to be used between the frp and the foam.

TOXICITY

U.S. Testing Company tested Structoglas Class A (FRFR) for toxicity per the NYC Modified Pittsburgh Protocol and determined that Structoglas Class A (FRFR) smoke is no more toxic than smoke from red oak.