SPRAY-APPLIED FIRE RESISTIVE MATERIALS (CHPX)

GENERAL
This category covers spray-applied fire resistive materials (SFRMs) which typically consist of one or more binders, aggregates and fibers. The materials are either mixed with water to form a slurry and conveyed through a hose to a nozzle where compressed air is typically used to disperse the material into a spray pattern, or are conveyed by low pressure air through a hose to a nozzle where the material is mixed with atomized water and sprayed. The mixing and application instructions are printed on each bag of SFRMs.

Surfaces on which the SFRMs are applied are to be free of dirt, oil and loose scale. The minimum thickness and density information specified in the design text must be followed to obtain the specified rating. The test method used to investigate the SFRMs is specified in the design text.

Regulations governing the application and use of the SFRMs have been promulgated by various governmental agencies. Authorities Having Jurisdiction should be consulted to determine local requirements.

Unless specified in the design text as being suitable for exterior use applications, SFRMs evaluated under UL 263, “Fire Tests of Building Construction and Materials” and UL 2079, “Tests for Fire Resistance of Building Joint Systems” are intended for interior use applications only.

For SFRMs investigated in accordance with UL 1709, “Rapid Rise Fire Tests of Protection Materials for Structural Steel,” the SFRMs are investigated for exposure to the following standardized environments: aging, high humidity, salt spray, carbon dioxide and sulfur dioxide air mixture and wet-freeze-dry cycling. SFRMs Classified in accordance with UL 1709 can be used in optional environments when indicated in the individual Classifications.

In addition to investigations in accordance with UL 1709, where indicated in the individual Classifications, SFRMs have been tested in accordance with the Fire Test for Protection Materials, dated 1996, published by the Health and Safety Executive of the United Kingdom. These SFRMs have demonstrated an ability to limit the time for the identified structural shape to reach 900°F during a jet-fire exposure for the specified time duration.

To investigate the influence of the environments, the system including the SFRMs is applied to either steel plates or structural steel shapes and a selected number of samples are subjected to the environments. After the environmental exposures, samples are subjected to the fire exposure defined in either UL 263 or UL 1709 depending upon the scope of the investigation. The ability of the system to retain its fire resistive properties is determined on the basis of a comparative analysis of the fire test data obtained from (1) fire tests on exposed samples and (2) fire tests on samples that were not exposed to the simulated environments.

For Surface Burning Characteristics, see UL’s Building Materials Directory.

ADDITIONAL INFORMATION
For additional information, see Fire Resistance Ratings (BXRH).

REQUIREMENTS
The basic standards used to investigate products in this category are UL 263, “Fire Tests of Building Construction and Materials” and UL 1709, “Rapid Rise Fire Tests of Protection Materials for Structural Steel.” ON PRODUCT

The Classification Mark of Underwriters Laboratories Inc. on the product is the only method provided by UL to identify products manufactured under its Certification and Follow-Up Service. The Classification Mark for these products includes the UL symbol, the word “CLASSIFIED” above the UL symbol (as illustrated in the Introduction of this Directory), and the following information as appropriate:

For SFRMs investigated in accordance with UL 263 or UL 2079, the Classification Mark reads:

SPRAY-APPLIED FIRE RESISTIVE MATERIAL
FIRE RESISTANCE CLASSIFICATION
DESIGN NOS.
SEE UL FIRE RESISTANCE DIRECTORY

or

SPRAY-APPLIED FIRE RESISTIVE MATERIAL
FIRE RESISTANCE CLASSIFICATION
SEE UL FIRE RESISTANCE DIRECTORY

For SFRMs investigated in accordance with UL 1709, the Classification Mark reads:

SPRAY-APPLIED FIRE RESISTIVE MATERIAL
RAPID TEMPERATURE RISE FIRE EXPOSURE
FIRE RESISTANCE CLASSIFICATION
DESIGN NOS.
SEE UL FIRE RESISTANCE DIRECTORY

or

SPRAY-APPLIED FIRE RESISTIVE MATERIAL
RAPID TEMPERATURE RISE FIRE EXPOSURE
SEE UL FIRE RESISTANCE DIRECTORY
The minimum average density of Type P shall be 17.5 pcf. The Types listed below are intended for interior use applications only. ON PRODUCT CLASSIFICATION OR MARKING See UL Fire Resistance Directory for illustrations of designs and fire resistance ratings.


SPRAY-APPLIED FIRE RESISTIVE MATERIALS CERTIFIED FOR CANADA (CHPX7)

Spray-Applied Fire Resistive Materials (SFRM) include two general types of products previously classified as Cementitious Mixtures and Sprayed Fiber Materials. In the Fire Resistance Directory, the cementitious mixtures are grouped in the 700 series designs and the sprayed fiber materials are grouped in the 800 series designs. The 600 series and the 900 series designs are used to identify those assemblies that include both the cementitious mixtures and the sprayed fiber type products in an assembly. The Cementitious Mixtures typically consist of one or more binders, aggregates and fibers which are mixed with water to form a slurry and conveyed through a hose to a nozzle where compressed air is typically used to disperse the material into a spray pattern. The sprayed Fiber Materials typically consist of one or more binders, fibers and aggregates which are conveyed by low pressure air through a hose to a nozzle where compressed air is typically used to disperse the material into a spray pattern. The Spray Endurance Tests of Building Construction and Materials, CAN/ULC-S101M. The standard methods used to investigate products in this category is the Standard Methods of Fire Endurance Tests of Building Construction and Materials, CAN/ULC-S101M. Under the CAN/ULC-S101M Standard are intended for interior use applications only. ON PRODUCT CLASSIFICATION OR MARKING See UL Directory of Products Certified for Canada and Fire Resistance Directory.

The Classification Marking of Underwriters Laboratories Inc. (shown below) on each bag is the only method provided by Underwriters Laboratories Inc. to identify SFRMs produced under its Classification and Follow-Up Service. The Classification Marking includes the UL Mark for Canada symbol together with the word “CLASSIFIED” as illustrated in the Introduction of this Directory and the following statement:

CLASSIFIED SPRAY-APPLIED FIRE RESISTIVE MATERIAL FIRE RESISTANCE CLASSIFICATION DESIGN NOS.

SEE UL DIRECTORY OF PRODUCTS CERTIFIED FOR CANADA AND FIRE RESISTANCE DIRECTORY OR UNDERWRITERS LABORATORIES INC.® CLASSIFIED SPRAY-APPLIED FIRE RESISTIVE MATERIAL FIRE RESISTANCE CLASSIFICATION SEE UL DIRECTORY OF PRODUCTS CERTIFIED FOR CANADA AND FIRE RESISTANCE DIRECTORY