CITY OF NEW YORK
DEPARTMENT OF BUILDINGS

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use in accordance with the Report of Materials and Equipment Acceptance (MEA) Division.

Patricia J. Lancaster, F.A.I.A., Commissioner
MEA 212-04-M
Report of Material and Equipment Acceptance Division

Manufacturer - Isolatek International, 41 Furnace Street, Stanhope, New Jersey 07874.

Trade Name(s) - Cafco Sprayfilm WB-4.

Product - Intumescent coating for fire protection of structural steel for Class II Building.

Pertinent Code Section(s) - 27-323, 27-324, 27-133.

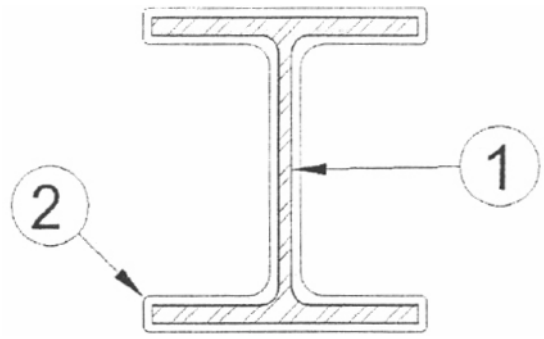
Prescribed Test(s) - RS 5-2 (ASTM E119).

Laboratory - Underwriters Laboratories Inc. of Canada, Underwriters Laboratories.

Test Report(s)-UL file CR2566 dated August 19, 1998, February 8, 1999, February 21, 2000, March 1, 2000, December 21, 2000, August 1,2002. UL File R16639, Project 01NK33902 dated August 9,2001, November 13 2002, December 19, 2002, March 27, 2003, UL file R3749 dated September 28, 2001, and October 26, 2002, and UL letter R16639 Project 03NK11063, dated November 19, 2003. UL letter Reference File R16639 and R16640 dated July 25, 2001.

Description - Structural Steel fire protection assemblies, as per sketch below utilizing Cafco Sprayfilm WB-4 intumescent fire protection material, applied to required thicknesses following the manufacturer's instructions to achieve the fire resistance rating listed on the following pages and in accordance with Underwriters Laboratories Inc. Design Nos. X649.

Design No. X649 Ratings!. 1-1/2. 2
and 3 Hr. (See Item 2)



I Steel Column — Wide flange stet'i columns **with** the minimum sizes shown in [he tables below. Columns shall be free of dirt, loose scale and oil. Columns shall be pnnied with a phenolic modified alkyd resin primer. *2.* Mastic and Inunnescenl Coating?' — Coating spray, brush or trowel applied diiectly from containers to desired thickness See cables below for appropriate final dry thickness and applicable **rating.**

Steel Size	W/D	1 HrMin Thickness, In.	1-1/2 Hr Min Thickness, In.+	3 Hr Min. Thickness, In.+	3 Hr Min. Thickness, In.++
W8	0.33	0.142	NR	NR	NR
W12	0.36	0.130	NR	NR	NR
W12	0.41	0.114	NR	NR	NR
W6	0.44	0.107	0.213	0.338	NR
W8	0.48	0.098	0.195	0.310	NR
W10	0.52	0.090	0.180	0.286	NR
W4	0.55	0.085	0.170	0.270	NR
W8	0.59	0.075	0.130	0 213	NR
W14	0.63	0.074	0.130	0.213	NR
W8	*0.68*	0.069	0.130	0.213	NR
W8	0.74	0.063	0.126	0.201	NR
W10	0.78	0.060	0.120	0.190	NR
W10	0.84	0.056	0.111	0.177	0.364
W10	0.89	0.053	0.105	0.167	0.344
W16	0.95	0.049	0.098	0.156	0.322
W8	1.00	0.047	0.094	0.149	0.306
W14	1.07	0.044	0.087	0.139	0.285
W10	1.14	0.041	0.082	0.130	0.268
W18	1.21	0.041	0.077	0.123	0.253
W10	1.28	0.041	0.073	0.116	0 239
W16	1.36	0.041	0.069	0.109	0225
W10	1.45	0.041	0.065	0.102	0.211
W14	1.54	0.041	0.061	0.096	0,199
W12	1.64	0.041	0.057	0.091	0.187

MR = No Rating

<-As an alternate to the above table, the required thickness of coating (in inches) lo be applied to all surfaces of wide ilange **Heel** columns, in ihe W/D **range** of 0.14 to 1.64 and for 1-1/2 and *1* hour rating periods only, **may** be determined from the following equation:

$$h = \frac{R-39}{545(W/D)}$$

Where h = Thickness of coating In the range of D.057 to 0.338 in.. R = Fire resistance period in minutes, for 90 or 120 minutes only, W = Weight of steel column in pounds per linear fool, D - Heated perimeter of steel column section In Inches. ++As an alternate tu the above table, the required thickness of coating (in inchosl to be applied to all surfaces of wide ilange steel columns, in the W/D range of *0.6A* to i.64 and for 3 hour rating period only, may be determined from the following equation.

$$h = \frac{R-75.7}{340.7(W/D)}$$

Where h = Thickness of coating in the range of 0.187 to 0.364 in., R = Fire resistance period in minutes, for 180 minutes only. W = Weight of steel column in pounds per linear foot. D = Heated perimeter of steel column section in inches. As an alternate to the above, the following table listing metric units may be used.

Steel Size	M/D	Hp/A	1 Hr Min. Thickness, mm.	1-1/2 Hr Min. Thickness, mm.+	2 Hr Min. Thickness, mm.+	3 Hr Min. Thickness, mm.++
W8 x 10	19.1	412	3.61	NR	NR	NR
W12 x 14	21.2	371	3.31	NR	NR	NR
W12 x16	24.0	327	2.91	NR	NR	NR
W6 x 12	25.9	303	2.71	5.40	8.58	NR
W8 x 15	28.1	280	2.48	4.95	7.86	NR
W10 x 22	30.4	258	2.29	4.57	7.26	NR
W4 x 13	32.4	242	2.17	4.32	6.86	NR
W8 x 24	34.6	227	1.91	3.30	5.42	NR
W14 x 34	37.1	213	1.89	3.30	5.42	NR
W8 x 28	40.0	197	1.75	3.30	5.42	NR
W8 x 26	43.6	181	1.61	3.21	4.10	NR
W10 x 29	45.4	172	1.53	3.05	4.84	NR
W10 x 49	49.1	159	1.42	2.83	4.49	9.25
W10 x 45	51.9	151	1.34	2.67	4.24	8.73

51.9

Steel Size	M/D	Hp/A	1 Hr Min. Thickness, mm.	1-1/2 Hr Min. Thickness, mm.+	2 Hr Min. Thickness, mm.+	3 Hr Min. Thickness, mm.++
W16 x 57	55.9	141	1.26	2.50	3.97	8.18
W8 x 48	58.6	134	1.19	2.38	3.77	7.77
W14 x 90	62.6	125	1.11	2.22	3.53	7.26
W10 x 68	66.9	118	1.05	2.08	3.31	6.82
W18 x 97	71.0	111	1.05	1.96	3.12	6.42
W10 x 77	75.2	105	1.05	1.86	2.95	6.07
W16 x 100	79.4	99	1.05	1.75	2.77	5.71
W10 x 88	84.9	93	1.05	1.64	2.60	5.36
W14 x 132	90.0	84	1.05	1.54	2.45	5.05
W12 x 120	96.2	82	1.05	1.45	2.30	4.74

NR • No Raiing

-As un alternaie to (he above table, ilie requirtcJ thickness uf coating (in mini to be applied tu all surfaces of witli; flange steel columns, in thL' M/D rantie of 25.9 to 96.2 and for 1-1/2 and 2 nour rating perioili only, may *Be* determined from the following eqiutiun;

$$h = \frac{R\text{-}36.3}{0.3741\ M/D)}$$

Where h ■ Thickness of coating :n liic range ol 1.45 to 8.58 mm. R ■ Fire resistance period In minutes, fur 90 or 1 JO minutes only. M - Weight of steel column in kilograms jier linear meter. D - Heated perimeter of steel column section in meiers "As an alternate IO the above table, the required thickness of coating (In nitnl to be jpplieii to .ill surfaces of wide flange steel columns, in the M/D range of 49.1 io 9S.2 and for 3 hour rating period only, may be determined from the following equation:

$$h = \frac{R\text{-}76.5}{O.2Z6CM/D)}$$

Where h ' Thickness of coating in [he range of 4.74 to 9.25 mm. R = Fire tesisiance period in minuies. for 180 minufes only. M = Weight of steel column in kilograms per linear meter. D = Heated perimeter of steel column section in meters.

1SOLATEK INTERNATIONAL --Type SpravFilm-WB 3. Investigated for Interior General Purpose Type SprayFilm-WB 4. Investigated for Interior Ccneral Purpose. Type SprayFilm-WB 4. Investigated for Exterior Use with top coat as described in Item *i.* 3. Top Coat — Type SpravFilm - TOPSEAL required for Exterior Use. applied at a minimum dry thickness of 14 mils [0.34 mm) over the intumescent material See Classification information in the Mastic Coating (CDVV7) category, Isolatek International, for mixing requirements. "Bearing the L'L Classification Mark

Recommendation - That the above described fire rated assemblies be accepted for Class II Buildings only, as having the fire resistance ratings given above, when members framing into the columns have at least the same fire resistance rating, provided the following requirements for application and protection of the sprayed fireproofing be adhered to:

1. Where used for protection of column(s) in fireproofing buildings each such column(s) shall bear an identifying tag installed at 7'-0" above the finished floor. Subject tag shall be of metal construction mechanically attached to such column(s) and shall state the following: "This beam has been fireproofed with MEA approved Cafco Sprayfilm finish and such finish shall not be removed" nor any subsequent coating shall applied other than Cafco Sprayfilm.

2. Surfaces to receive intumescent coating shall be cleaned prior to the application of the fireproofing.

3. The finished fireproofing shall be sprayed to a uniform thickness, which shall not be less than the minimum thickness specified.

4. The general contractor and the owner shall provide qualified personnel to supervise the application of the sprayed fire resistive material. They shall certify to the Department of Buildings that the finished fireproofing of the completed building is in full compliance with the acceptance requirements and drawings approved by the Department of Buildings.

5. The installation of the sprayed fire resistive materials shall be subject to the controlled inspection requirements of Section 27-132.

6. The use of this material shall be subject to all pertinent regulations of the Department of Air Resources and the Department of Health.

7. All installations shall comply with 118-68 GR, the New York City Building Code, the Fire Department Directives, the manufacturer's instructions and laboratory recommendations.

8. All shipments and deliveries of the materials comprising this assembly shall be accompanied by a certificate or label certifying that the materials shipped or delivered are equivalent to those tested and acceptable for use, as provided for in Section 27-131 of the Building Code.

Final Acceptance Sep/21/04

Examined by S Derbhadan