

BXUV.Y615 - Fire-resistance Ratings - ANSI/UL 263

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

Fire-resistance Ratings - ANSI/UL 263

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

[See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances](#)

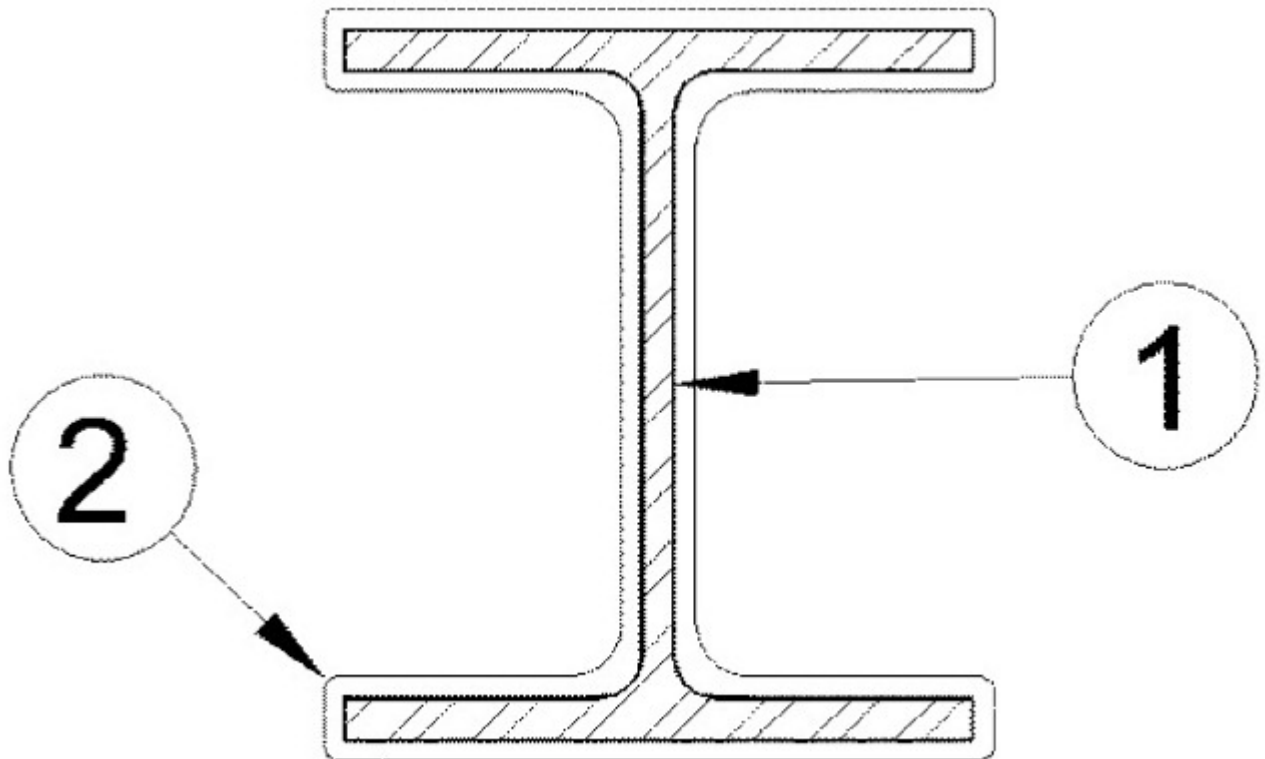
[See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances](#)

Design No. Y615

September 2, 2021

Ratings - 1, 1-1/2, 2, and 3 Hr. (See Item 2)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Steel Column** — Wide flange steel columns with the minimum sizes shown in the tables below. Columns shall be free of dirt, loose scale and oil. Columns shall be primed with a metal alkyd or epoxy primer at a nominal thickness of 1 mil.

2. **Intumescent Fire-resistant Materials*** — Coating spray or brush applied directly from containers to desired thickness. See tables below for appropriate final dry thickness and applicable rating.

Steel Size	W/D	1 Hr Min Thickness, in.	1-1/2 Hr Min Thickness, in.	2 Hr Min Thickness, in.	3 Hr Min Thickness, in.
W6x12	0.44	0.093	N/A	N/A	N/A
W8x15	0.48	0.085	N/A	N/A	N/A
W10x22	0.52	0.078	N/A	N/A	N/A
W4x13	0.55	0.074	N/A	N/A	N/A
W8x24	0.59	0.069	N/A	N/A	N/A
W14x34	0.63	0.065	N/A	N/A	N/A
W8x31	0.66	0.062	0.126	0.191	N/A
W10x30	0.70	0.058	0.119	0.180	N/A
W8x35	0.74	0.055	0.113	0.170	N/A
W10x39	0.78	0.052	0.107	0.161	N/A
W10x49	0.84	0.049	0.099	0.150	0.307
W10x45	0.89	0.046	0.094	0.141	0.289
W16x57	0.95	0.043	0.088	0.132	0.271
W8x48	1.00	0.041	0.083	0.126	0.258

W14x90	1.07	0.038	0.078	0.118	0.241
W10x68	1.14	0.036	0.073	0.110	0.226
W18x97	1.21	0.034	0.069	0.104	0.213
W10x77	1.28	0.032	0.065	0.098	0.201
W16x100	1.36	0.030	0.061	0.093	0.189
W10x88	1.45	0.028	0.057	0.087	0.178
W14x132	1.54	0.026	0.054	0.082	0.167
W12x120	1.64	0.025	0.051	0.077	0.157
W14x159	1.77	0.023	0.047	0.071	0.146
W14x176	1.95	0.021	0.043	0.065	0.132
W14x193	2.12	0.021	0.039	0.059	0.122
W14x211	2.30	0.021	0.036	0.055	0.112
W14x233	2.52	0.021	0.033	0.050	0.102
W14x257	2.75	0.021	0.030	0.046	0.094
W14x283	3.00	0.021	0.028	0.042	0.086
W14x500	4.91	0.021	0.028	0.042	0.086
W14x730	6.68	0.021	0.028	0.042	0.086

N/A = Not Available

As an alternate to the above table, the required thickness of coating (in inches) to be applied to all surfaces of wide flange steel columns may be determined from the equations listed below. The equations may only be used for the indicated hourly rating and for the corresponding listed ranges of thickness and W/D.

Hourly Ratng	Thickness Equation, in.	Thickness Range, in.	W/D Ratio Range
1	$T = 0.0408/(W/D)$	0.021 to 0.093	0.44 to 3.00
1-1/2	$T = 0.0833/(W/D)$	0.028 to 0.126	0.66 to 3.00
2	$T = 0.1258/(W/D)$	0.042 to 0.191	0.66 to 3.00
3	$T = 0.2576/(W/D)$	0.086 to 0.307	0.84 to 3.00

Where T = Thickness of coating in inches, W = Weight of steel column in pounds per linear foot, and D = Heated perimeter of steel column section in inches.

The following table lists the thicknesses in metric units.

Steel Size	M/D	1 Hr Min Thickness, mm.	1-1/2 Hr Min Thickness, mm.	2 Hr Min Thickness, mm.	3 Hr Min Thickness, mm.
W6x12	25.9	2.35	N/A	N/A	N/A

W8x15	28.1	2.17	N/A	N/A	N/A
W10x22	30.4	2.00	N/A	N/A	N/A
W4x13	32.4	1.88	N/A	N/A	N/A
W8x24	34.6	1.76	N/A	N/A	N/A
W14x34	37.1	1.64	N/A	N/A	N/A
W8x31	38.7	1.57	3.20	4.83	N/A
W10x30	41.0	1.49	3.02	4.56	N/A
W8x35	43.6	1.40	2.84	4.29	N/A
W10x39	45.4	1.34	2.73	4.12	N/A
W10x49	49.1	1.24	2.52	3.81	7.79
W10x45	51.9	1.17	2.39	3.60	7.37
W16x57	55.9	1.09	2.22	3.34	6.84
W8x48	58.6	1.04	2.11	3.19	6.53
W14x90	62.6	0.97	1.98	2.99	6.11
W10x68	66.9	0.91	1.85	2.79	5.72
W18x97	71.0	0.86	1.75	2.63	5.39
W10x77	75.2	0.81	1.65	2.49	5.09
W16x100	79.4	0.77	1.56	2.35	4.82
W10x88	84.9	0.72	1.46	2.20	4.51
W14x132	90.0	0.68	1.38	2.08	4.25
W12x120	96.2	0.63	1.29	1.94	3.98
W14x159	103.9	0.59	1.19	1.80	3.68
W14x176	114.4	0.53	1.08	1.63	3.34
W14x193	124.4	0.53	1.00	1.50	3.07
W14x211	135.0	0.53	0.92	1.38	2.83
W14x233	147.9	0.53	0.84	1.26	2.59
W14x257	161.4	0.53	0.77	1.16	2.37
W14x283	176.0	0.53	0.70	1.06	2.17
W14x500	288.0	0.53	0.70	1.06	2.17
W14x730	391.0	0.53	0.70	1.06	2.17

N/A = Not Available

As an alternate to the above table, the required thickness of coating (in millimeters) to be applied to all surfaces of wide flange steel columns may be determined from the equations listed below. The equations may only be used for the indicated hourly rating and for the corresponding listed ranges of thickness and M/D.

Hourly Rating	Thickness Equation, mm.	Thickness Range, mm.	M/D Ratio Range
1	$T = 60.9/(M/D)$	0.53 to 2.35	25.9 to 176.0
1-1/2	$T = 123.9/(M/D)$	0.71 to 3.20	38.7 to 176.0
2	$T = 186.9/(M/D)$	1.07 to 4.83	38.7 to 176.0
3	$T = 382.5/(M/D)$	2.18 to 7.79	49.1 to 176.0

Where T = Thickness of coating in millimeters, M = Weight of steel column in kilograms per linear meter, and D = Heated perimeter of steel column section in meters.

GREENTECH ASIA PACIFIC SDN BDH — Type WB 5, Investigated for Interior Conditioned Space and Interior General Purpose, Investigated for Exterior Use with top coat as described in Item 3.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type WB 5, Investigated for Interior Conditioned Space and Interior General Purpose, Investigated for Exterior Use with top coat as described in Item 3

ISOLATEK INTERNATIONAL — Type SprayFilm WB 5 or Type WB 5, Investigated for Interior Conditioned Space and Interior General Purpose, Investigated for Exterior Use with top coat as described in Item 3.

NEWKEM PRODUCTS CORP — Type WB 5, Investigated for Interior Conditioned Space and Interior General Purpose, Investigated for Exterior Use with top coat as described in Item 3.

3. **Top Coat** — (Not Shown) — Type TNEMEC 740 required for Exterior Use with Type SprayFilm WB5, applied at a minimum dry thickness of 7 mils over the intumescent material. See Classification information in the Mastic and Intumescent Coating (CDWZ) category, Isolatek International, for mixing requirements.

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