

## **FIRE-RESISTANCE DESIGN**

### **Assembly Usage Disclaimer**

#### **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

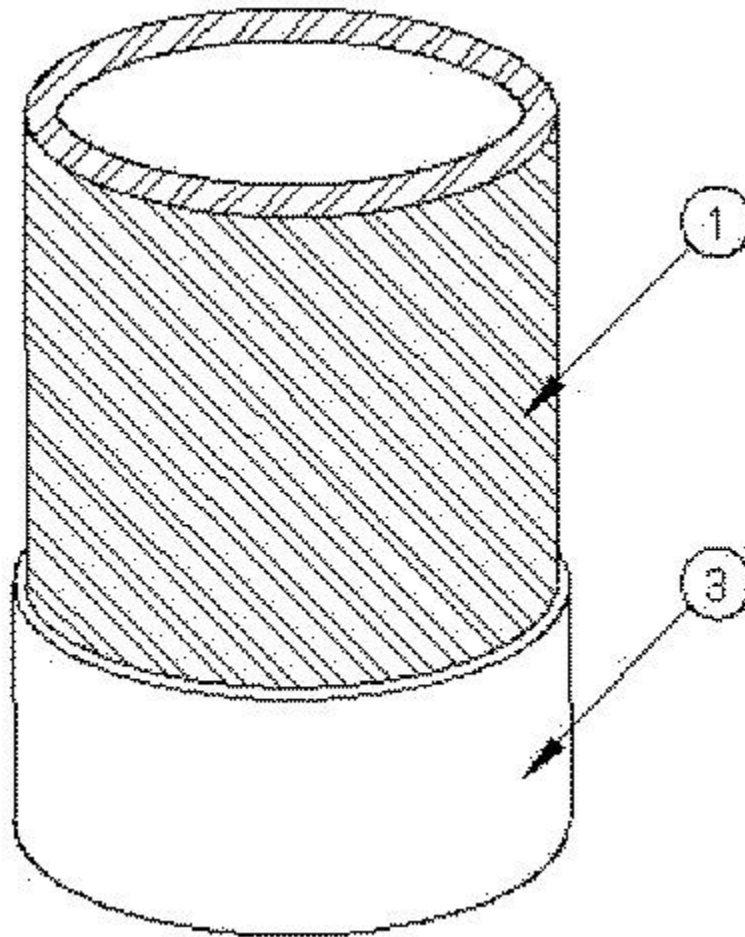
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances

### **Design No. X662**

December 11, 2013

**Ratings - 1, 1-1/2, 2, and 3 Hr. (See Item 3 and 4)**

**\* 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 Tube Column** — Hollow structural steel tube with the minimum sizes shown in the tables below. Columns shall be free of dirt, loose scale and oil.

2. **Primer Coating** — (Not Shown) Two Component Epoxy or Phenolic Modified Alkyd applied at 0.002 in. dry film thickness.

3. **Mastic & Intumescent Coating\*** — Coating spray or brush applied in accordance with the manufacturer's instructions at the minimum average dry thickness shown in the table below. The thickness shown does not include primer thickness.

Size	A/P	1 Hr. In.	1-1/2 Hr. In.	2 Hr. In.	3 Hr. In.
SP 8X0.25	0.24	0.073	0.226	0.353	NR
SP 10X0.25	0.24	0.073	0.226	0.353	NR
SP 12X0.25	0.25	0.069	0.212	0.348	NR
SP 14X0.25	0.25	0.069	0.212	0.348	NR
SP 5X0.258	0.25	0.069	0.212	0.348	NR
SP 16X0.25	0.25	0.069	0.212	0.348	NR
SP 18X0.25	0.25	0.069	0.212	0.348	NR
SP 20X0.25	0.25	0.069	0.212	0.348	NR
SP 6X0.28	0.27	0.062	0.183	0.305	NR

SP 14X0.312	0.31	0.053	0.151	0.258	NR
SP 16X0.312	0.31	0.053	0.151	0.258	NR
SP 8X0.322	0.31	0.053	0.151	0.258	NR
SP 4X0.337	0.31	0.053	0.151	0.258	NR
SP 5X0.375	0.35	0.047	0.126	0.221	NR
SP 10X0.365	0.35	0.047	0.126	0.221	NR
SP 12X0.375	0.36	0.046	0.123	0.217	NR
SP 14X0.375	0.36	0.046	0.123	0.217	NR
SP 16X0.375	0.37	0.045	0.119	0.211	NR
SP 18X0.375	0.37	0.045	0.119	0.211	NR
SP 20X0.375	0.37	0.045	0.119	0.211	NR
SP 8X0.406	0.39	0.043	0.111	0.199	NR
SP 12X0.406	0.39	0.043	0.111	0.199	NR
SP 6X0.432	0.40	0.041	0.106	0.191	NR
SP 14X0.438	0.42	0.040	0.102	0.183	NR
SP 16X0.438	0.43	0.039	0.101	0.182	NR
SP 18X0.438	0.43	0.039	0.101	0.182	NR
SP 8X0.5	0.47	0.037	0.092	0.168	0.319
SP 10X0.5	0.48	0.036	0.091	0.166	0.319
SP 12X0.5	0.48	0.036	0.091	0.166	0.319
SP 14X0.5	0.48	0.036	0.091	0.166	0.319
SP 16X0.5	0.48	0.036	0.091	0.166	0.319
SP 18X0.5	0.49	0.036	0.089	0.164	0.319
SP 20X0.5	0.49	0.036	0.089	0.164	0.319
SP 6X0.562	0.51	0.035	0.085	0.157	0.319
SP 12X0.562	0.54	0.034	0.082	0.152	0.319
SP 18X0.562	0.54	0.034	0.082	0.150	0.319
SP 8X0.594	0.55	0.033	0.080	0.149	0.319
SP 10X0.594	0.56	0.033	0.079	0.147	0.319
SP 14X0.594	0.57	0.033	0.078	0.146	0.319
SP 4X0.674	0.57	0.033	0.078	0.146	0.319

SP 20X0.625	0.61	0.031	0.075	0.140	0.319
SP 16X0.656	0.63	0.031	0.073	0.137	0.319
SP 6X0.719	0.64	0.030	0.072	0.136	0.319
SP 5X0.75	0.65	0.030	0.071	0.135	0.319
SP 12X0.688	0.65	0.030	0.071	0.134	0.319
SP 8X 0.719	0.66	0.030	0.071	0.134	0.319
SP 10X0.719	0.67	0.030	0.070	0.132	0.319
SP 14X0.75	0.71	0.029	0.067	0.128	0.319
SP 18X0.75	0.72	0.029	0.067	0.127	0.319
SP 20X0.75	0.72	0.029	0.067	0.127	0.319
SP 8X0.812	0.74	0.029	0.066	0.126	0.319
SP 6X0.864	0.75	0.028	0.065	0.125	0.319
SP 10X0.844	0.78	0.028	0.064	0.122	0.319
SP 20X0.812	0.78	0.028	0.064	0.122	0.319
SP 8X0.875	0.79	0.028	0.064	0.122	0.319
SP 12X0.844	0.79	0.028	0.064	0.122	0.319
SP 16X0.844	0.80	0.028	0.063	0.121	0.319
SP 18X0.938	0.89	0.026	0.060	0.115	0.319
SP 10X1.0	0.91	0.026	0.059	0.114	0.319
SP 12X1.0	0.92	0.026	0.059	0.114	0.319
SP 20X1.031	0.98	0.026	0.057	0.111	0.319
SP 14X 1.094	1.01	0.025	0.056	0.110	0.319
SP 16X1.219	1.13	0.024	0.054	0.106	0.319
SP 14X 1.25	1.14	0.024	0.054	0.105	0.319
SP 20X1.281	1.20	0.024	0.053	0.103	0.319
SP 14X1.406	1.26	0.024	0.052	0.102	0.319

**CARBOLINE CO** — TYPE THERMO-SORB, THERMO-SORB VOC. Investigated for Interior Conditioned Space and Interior General Purpose.

4. **Carbon Fiber Mesh** — (Option, Not Shown) For three hour rating. Nom 3/16 in. by 3/16 in. 3.50 oz/sq yd carbon fiber mesh to cover the entire surface. The depth at which the reinforcing mesh is placed shall be approximately 0.120 inches from the steel substrate.

5. **Top Coat** — (Not Shown) - No topcoat required for Interior Conditioned Space. Finishing topcoat for Interior General Purpose, Types Carboguard 893 SG or Santile 655 applied at 0.006 in. dry film thickness or Carbocrylic 3350 or Carbocoat 30R applied at 0.003 in. dry film thickness.

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Last Updated on 2013-12-11

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### 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.

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