

**Southwest Fireproofing Type 5 GP, 5 MD, 7 GP and 7 HD**

**Design No. S740 - Beam Only Design for Roofs**

Unrestrained Beam Rating				Restrained Beam Rating*					
1 Hr	1.5 Hr	2 Hr	3 Hr	Member	W/D	1 Hr	1.5 Hr	2 Hr	3 Hr
0.490	0.840	1.260	1.960	W4x13	0.65	0.490	0.700	1.050	1.680
0.490	0.840	1.260	1.960	W5x16	0.65	0.490	0.700	1.050	1.680
0.450	0.772	1.158	1.801	W5x19	0.76	0.450	0.643	0.965	1.544
0.619	1.061	1.591	2.475	W6x9	0.39	0.619	0.884	1.326	2.121
0.552	0.946	1.419	2.207	W6x12	0.51	0.552	0.788	1.182	1.892
0.486	0.833	1.250	1.944	W6x16	0.66	0.486	0.694	1.042	1.667
0.482	0.827	1.240	1.929	W6x20	0.67	0.482	0.689	1.033	1.654
0.431	0.739	1.109	1.725	W6x26	0.82	0.431	0.616	0.924	1.479
0.631	1.082	1.624	2.526	W8x10	0.37	0.631	0.902	1.353	2.165
0.572	0.981	1.472	2.290	W8x13	0.47	0.572	0.818	1.227	1.963
0.537	0.921	1.382	2.149	W8x15	0.54	0.537	0.768	1.151	1.842
0.524	0.897	1.346	2.094	W8x18	0.57	0.524	0.748	1.122	1.795
0.486	0.833	1.250	1.944	W8x21	0.66	0.486	0.694	1.042	1.667
0.475	0.814	1.221	1.899	W8x24	0.69	0.475	0.678	1.017	1.628
0.438	0.750	1.125	1.750	W8x28	0.80	0.438	0.625	0.938	1.500
0.441	0.755	1.133	1.763	W8x31	0.79	0.441	0.629	0.944	1.511
0.414	0.709	1.064	1.655	W8x35	0.88	0.414	0.591	0.887	1.419
0.383	0.656	0.984	1.531	W8x40	1.00	0.383	0.547	0.820	1.313
0.375	0.590	0.885	1.376	W8x48	1.18	0.375	0.492	0.737	1.180
0.375	0.522	0.784	1.219	W8x58	1.41	0.375	0.435	0.653	1.045
0.375	0.475	0.713	1.109	W8x67	1.61	0.375	0.396	0.594	0.950
0.625	1.071	1.607	2.500	W10x12	0.38	0.625	0.893	1.339	2.143
0.567	0.972	1.458	2.269	W10x15	0.48	0.567	0.810	1.215	1.944
0.537	0.921	1.382	2.149	W10x17	0.54	0.537	0.768	1.151	1.842
0.515	0.882	1.324	2.059	W10x19	0.59	0.515	0.735	1.103	1.765
0.515	0.882	1.324	2.059	W10x22	0.59	0.515	0.735	1.103	1.765
0.475	0.814	1.221	1.899	W10x26	0.69	0.475	0.678	1.017	1.628
0.441	0.755	1.133	1.763	W10x30	0.79	0.441	0.629	0.944	1.511
0.447	0.766	1.150	1.788	W10x33	0.77	0.447	0.639	0.958	1.533
0.408	0.700	1.050	1.633	W10x39	0.90	0.408	0.583	0.875	1.400
0.376	0.644	0.966	1.503	W10x46	1.03	0.376	0.537	0.805	1.288
0.385	0.660	0.991	1.541	W10x49	0.99	0.385	0.550	0.825	1.321
0.375	0.621	0.932	1.450	W10x54	1.09	0.375	0.518	0.777	1.243
0.375	0.583	0.875	1.361	W10x60	1.20	0.375	0.486	0.729	1.167
0.375	0.536	0.804	1.250	W10x68	1.36	0.375	0.446	0.670	1.071
0.375	0.495	0.743	1.156	W10x77	1.52	0.375	0.413	0.619	0.991
0.375	0.453	0.679	1.056	W10x88	1.72	0.375	0.377	0.566	0.905
0.375	0.415	0.623	0.968	W10x100	1.93	0.375	0.375	0.519	0.830
0.375	0.383	0.575	0.894	W10x112	2.14	0.375	0.375	0.479	0.766
0.613	1.050	1.575	2.450	W12x14	0.40	0.613	0.875	1.313	2.100
0.583	1.000	1.500	2.333	W12x16	0.45	0.583	0.833	1.250	2.000
0.542	0.929	1.394	2.168	W12x19	0.53	0.542	0.774	1.162	1.858
0.506	0.868	1.302	2.025	W12x22	0.61	0.506	0.723	1.085	1.736
0.510	0.875	1.313	2.042	W12x26	0.60	0.510	0.729	1.094	1.750
0.475	0.814	1.221	1.899	W12x30	0.69	0.475	0.678	1.017	1.628

**Southwest Fireproofing Type 5 GP, 5 MD, 7 GP and 7 HD**  
**Design No. S740 - Beam Only Design for Roofs**

Unrestrained Beam Rating				Restrained Beam Rating*					
1 Hr	1.5 Hr	2 Hr	3 Hr	Member	W/D	1 Hr	1.5 Hr	2 Hr	3 Hr
0.441	0.755	1.133	1.763	W12x35	0.79	0.441	0.629	0.944	1.511
0.422	0.724	1.086	1.690	W12x40	0.85	0.422	0.603	0.905	1.448
0.395	0.677	1.016	1.581	W12x45	0.95	0.395	0.565	0.847	1.355
0.375	0.640	0.960	1.494	W12x50	1.04	0.375	0.534	0.800	1.280
0.385	0.660	0.991	1.541	W12x53	0.99	0.385	0.550	0.825	1.321
0.375	0.640	0.960	1.494	W12x54	1.04	0.375	0.534	0.800	1.280
0.375	0.625	0.938	1.458	W12x58	1.08	0.375	0.521	0.781	1.250
0.375	0.621	0.932	1.450	W12x65	1.09	0.375	0.518	0.777	1.243
0.375	0.583	0.875	1.361	W12x72	1.20	0.375	0.486	0.729	1.167
0.375	0.547	0.820	1.276	W12x79	1.32	0.375	0.456	0.684	1.094
0.375	0.515	0.772	1.201	W12x87	1.44	0.375	0.429	0.643	1.029
0.375	0.484	0.726	1.129	W12x96	1.57	0.375	0.403	0.605	0.968
0.375	0.451	0.676	1.052	W12x106	1.73	0.375	0.376	0.563	0.901
0.375	0.413	0.620	0.965	W12x120	1.94	0.375	0.375	0.517	0.827
0.375	0.379	0.569	0.884	W12x136	2.17	0.375	0.375	0.474	0.758
0.375	0.375	0.525	0.817	W12x152	2.40	0.375	0.375	0.438	0.700
0.375	0.375	0.483	0.752	W12x170	2.66	0.375	0.375	0.403	0.644
0.375	0.375	0.446	0.694	W12x190	2.93	0.375	0.375	0.375	0.595
0.375	0.375	0.413	0.643	W12x210	3.21	0.375	0.375	0.375	0.551
0.375	0.375	0.387	0.602	W12x230	3.47	0.375	0.375	0.375	0.516
0.375	0.375	0.375	0.562	W12x262	3.76	0.375	0.375	0.375	0.482
0.375	0.375	0.375	0.521	W12x279	4.10	0.375	0.375	0.375	0.447
0.375	0.375	0.375	0.489	W12x305	4.41	0.375	0.375	0.375	0.419
0.375	0.375	0.375	0.455	W12x336	4.78	0.375	0.375	0.375	0.390
0.547	0.938	1.406	2.188	W14x22	0.52	0.547	0.781	1.172	1.875
0.506	0.868	1.302	2.025	W14x26	0.61	0.506	0.723	1.085	1.736
0.498	0.854	1.280	1.992	W14x30	0.63	0.498	0.711	1.067	1.707
0.468	0.802	1.202	1.870	W14x34	0.71	0.468	0.668	1.002	1.603
0.441	0.755	1.133	1.763	W14x38	0.79	0.441	0.629	0.944	1.511
0.422	0.724	1.086	1.690	W14x43	0.85	0.422	0.603	0.905	1.448
0.398	0.682	1.023	1.591	W14x48	0.94	0.398	0.568	0.852	1.364
0.376	0.644	0.966	1.503	W14x53	1.03	0.376	0.537	0.805	1.288
0.375	0.629	0.943	1.467	W14x61	1.07	0.375	0.524	0.786	1.257
0.375	0.587	0.880	1.369	W14x68	1.19	0.375	0.489	0.733	1.173
0.375	0.559	0.838	1.303	W14x74	1.28	0.375	0.465	0.698	1.117
0.375	0.522	0.784	1.219	W14x82	1.41	0.375	0.435	0.653	1.045
0.375	0.561	0.842	1.310	W14x90	1.27	0.375	0.468	0.702	1.123
0.375	0.528	0.791	1.231	W14x99	1.39	0.375	0.440	0.660	1.055
0.375	0.493	0.739	1.150	W14x109	1.53	0.375	0.411	0.616	0.986
0.375	0.463	0.694	1.079	W14x120	1.67	0.375	0.385	0.578	0.925
0.375	0.432	0.648	1.008	W14x132	1.83	0.375	0.375	0.540	0.864
0.375	0.413	0.620	0.965	W14x145	1.94	0.375	0.375	0.517	0.827
0.375	0.387	0.581	0.904	W14x159	2.11	0.375	0.375	0.484	0.775
0.375	0.375	0.553	0.860	W14x176	2.25	0.375	0.375	0.461	0.737
0.375	0.375	0.539	0.839	W14x193	2.32	0.375	0.375	0.449	0.719

**Southwest Fireproofing Type 5 GP, 5 MD, 7 GP and 7 HD**  
**Design No. S740 - Beam Only Design for Roofs**

Unrestrained Beam Rating				Restrained Beam Rating*					
1 Hr	1.5 Hr	2 Hr	3 Hr	Member	W/D	1 Hr	1.5 Hr	2 Hr	3 Hr
0.375	0.375	0.472	0.734	W14x211	2.74	0.375	0.375	0.393	0.629
0.375	0.375	0.438	0.681	W14x233	3.00	0.375	0.375	0.375	0.583
0.375	0.375	0.407	0.633	W14x257	3.27	0.375	0.375	0.375	0.543
0.375	0.375	0.378	0.588	W14x283	3.57	0.375	0.375	0.375	0.504
0.375	0.375	0.375	0.547	W14x311	3.88	0.375	0.375	0.375	0.469
0.375	0.375	0.375	0.509	W14x342	4.21	0.375	0.375	0.375	0.437
0.375	0.375	0.375	0.479	W14x370	4.51	0.375	0.375	0.375	0.411
0.375	0.375	0.375	0.454	W14x398	4.80	0.375	0.375	0.375	0.389
0.375	0.375	0.375	0.431	W14x426	5.09	0.375	0.375	0.375	0.375
0.375	0.375	0.375	0.410	W14x455	5.38	0.375	0.375	0.375	0.375
0.375	0.375	0.375	0.382	W14x500	5.82	0.375	0.375	0.375	0.375
0.375	0.375	0.375	0.375	W14x550	6.30	0.375	0.375	0.375	0.375
0.375	0.375	0.375	0.375	W14x605	6.80	0.375	0.375	0.375	0.375
0.533	0.913	1.370	2.130	W16x26	0.55	0.533	0.761	1.141	1.826
0.490	0.840	1.260	1.960	W16x31	0.65	0.490	0.700	1.050	1.680
0.475	0.814	1.221	1.899	W16x36	0.69	0.475	0.678	1.017	1.628
0.450	0.772	1.158	1.801	W16x40	0.76	0.450	0.643	0.965	1.544
0.422	0.724	1.086	1.690	W16x45	0.85	0.422	0.603	0.905	1.448
0.398	0.682	1.023	1.591	W16x50	0.94	0.398	0.568	0.852	1.364
0.375	0.629	0.943	1.467	W16x67	1.07	0.375	0.524	0.786	1.257
0.375	0.629	0.943	1.467	W16x77	1.07	0.375	0.524	0.786	1.257
0.375	0.577	0.865	1.346	W16x89	1.22	0.375	0.481	0.721	1.154
0.375	0.486	0.729	1.134	W16x100	1.56	0.375	0.405	0.608	0.972
0.486	0.833	1.250	1.944	W18x35	0.66	0.486	0.694	1.042	1.667
0.450	0.772	1.158	1.801	W18x40	0.76	0.450	0.643	0.965	1.544
0.420	0.719	1.079	1.678	W18x46	0.86	0.420	0.599	0.899	1.438
0.417	0.714	1.071	1.667	W18x50	0.87	0.417	0.595	0.893	1.429
0.395	0.677	1.016	1.581	W18x55	0.95	0.395	0.565	0.847	1.355
0.376	0.644	0.966	1.503	W18x60	1.03	0.376	0.537	0.805	1.288
0.375	0.614	0.921	1.433	W18x65	1.11	0.375	0.512	0.768	1.228
0.375	0.580	0.870	1.354	W18x71	1.21	0.375	0.483	0.725	1.160
0.375	0.614	0.921	1.433	W18x76	1.11	0.375	0.512	0.768	1.228
0.375	0.571	0.856	1.332	W18x88	1.24	0.375	0.476	0.713	1.141
0.375	0.528	0.791	1.231	W18x97	1.39	0.375	0.440	0.660	1.055
0.375	0.495	0.743	1.156	W18x106	1.52	0.375	0.413	0.619	0.991
0.375	0.461	0.691	1.075	W18x119	1.68	0.375	0.384	0.576	0.921
0.461	0.789	1.184	1.842	W21x44	0.73	0.461	0.658	0.987	1.579
0.428	0.734	1.101	1.713	W21x50	0.83	0.428	0.612	0.918	1.469
0.400	0.686	1.029	1.601	W21x57	0.93	0.400	0.572	0.858	1.373
0.398	0.682	1.023	1.591	W21x62	0.94	0.398	0.568	0.852	1.364
0.376	0.644	0.966	1.503	W21x68	1.03	0.376	0.537	0.805	1.288
0.375	0.571	0.856	1.332	W21x83	1.24	0.375	0.476	0.713	1.141
0.375	0.530	0.795	1.237	W21x93	1.38	0.375	0.442	0.663	1.061
0.375	0.556	0.833	1.296	W21x101	1.29	0.375	0.463	0.694	1.111
0.375	0.522	0.784	1.219	W21x111	1.41	0.375	0.435	0.653	1.045

**Southwest Fireproofing Type 5 GP, 5 MD, 7 GP and 7 HD**  
**Design No. S740 - Beam Only Design for Roofs**

Unrestrained Beam Rating				Restrained Beam Rating*					
1 Hr	1.5 Hr	2 Hr	3 Hr	Member	W/D	1 Hr	1.5 Hr	2 Hr	3 Hr
0.375	0.491	0.736	1.145	W21x122	1.54	0.375	0.409	0.613	0.981
0.375	0.465	0.697	1.084	W21x132	1.66	0.375	0.387	0.581	0.929
0.375	0.432	0.648	1.008	W21x147	1.83	0.375	0.375	0.540	0.864
0.431	0.739	1.109	1.725	W24x55	0.82	0.431	0.616	0.924	1.479
0.403	0.691	1.036	1.612	W24x62	0.92	0.403	0.576	0.863	1.382
0.400	0.686	1.029	1.601	W24x68	0.93	0.400	0.572	0.858	1.373
0.378	0.648	0.972	1.512	W24x76	1.02	0.378	0.540	0.810	1.296
0.375	0.607	0.910	1.416	W24x84	1.13	0.375	0.506	0.759	1.214
0.375	0.565	0.847	1.317	W24x94	1.26	0.375	0.470	0.706	1.129
0.375	0.577	0.865	1.346	W24x104	1.22	0.375	0.481	0.721	1.154
0.375	0.536	0.804	1.250	W24x117	1.36	0.375	0.446	0.670	1.071
0.375	0.495	0.743	1.156	W24x131	1.52	0.375	0.413	0.619	0.991
0.375	0.461	0.691	1.075	W24x146	1.68	0.375	0.384	0.576	0.921
0.375	0.429	0.643	1.000	W24x162	1.85	0.375	0.375	0.536	0.857
0.378	0.648	0.972	1.512	W27x84	1.02	0.378	0.540	0.810	1.296
0.375	0.607	0.910	1.416	W27x94	1.13	0.375	0.506	0.759	1.214
0.375	0.574	0.861	1.339	W27x102	1.23	0.375	0.478	0.717	1.148
0.375	0.536	0.804	1.250	W27x114	1.36	0.375	0.446	0.670	1.071
0.375	0.493	0.739	1.150	W27x146	1.53	0.375	0.411	0.616	0.986
0.375	0.461	0.691	1.075	W27x161	1.68	0.375	0.384	0.576	0.921
0.375	0.429	0.643	1.000	W27x178	1.85	0.375	0.375	0.536	0.857
0.375	0.618	0.926	1.441	W30x99	1.10	0.375	0.515	0.772	1.235
0.375	0.583	0.875	1.361	W30x108	1.20	0.375	0.486	0.729	1.167
0.375	0.559	0.838	1.303	W30x116	1.28	0.375	0.465	0.698	1.117
0.375	0.533	0.799	1.244	W30x124	1.37	0.375	0.444	0.666	1.066
0.375	0.510	0.765	1.189	W30x132	1.46	0.375	0.425	0.637	1.019
0.375	0.465	0.697	1.084	W30x173	1.66	0.375	0.387	0.581	0.929
0.375	0.434	0.651	1.012	W30x191	1.82	0.375	0.375	0.542	0.868
0.375	0.404	0.606	0.942	W30x211	2.00	0.375	0.375	0.505	0.808
0.375	0.587	0.880	1.369	W33x118	1.19	0.375	0.489	0.733	1.173
0.375	0.550	0.825	1.283	W33x130	1.31	0.375	0.458	0.687	1.099
0.375	0.522	0.784	1.219	W33x141	1.41	0.375	0.435	0.653	1.045
0.375	0.498	0.746	1.161	W33x152	1.51	0.375	0.415	0.622	0.995
0.375	0.441	0.662	1.029	W33x201	1.78	0.375	0.375	0.551	0.882

These beam protection thicknesses have been calculated for the convenience of users, in accordance with "6. Adjustment of Thickness of Spray-applied Fire Resistive Materials for Restrained and Unrestrained Beams", as detailed in the UL FireResistance Directory - Volume 1, 2007, page 9. While we have taken care to be as accurate as possible, we will not be held responsible for errors or omissions. If any discrepancy is found between these tables and the UL Design information, the UL Design information shall govern.

\* When used to adjust the material thickness for a **Restrained** beam the use of this procedure is limited to steel sections classified as **compact** in accordance with the *Specification for the Design of Structural Steel Buildings* by the American Institute of Steel Construction. Refer to the UL Fire Resistance Directory.