



SC80I Loading Tables

SC80I-H20
Material Specification
Specific Gravity: 1.38
Volume Solids: 68% ± 3%

Nullifire
Smart Protection

3-Sided Beams

Thickness (mm) Required for a Design Temperature of 620°C

Section Factor up to m ²	15 minutes	30 minutes	45 minutes	60 minutes	75 minutes	90 minutes	105 minutes	120 minutes	Section Factor up to m ²	15 minutes	30 minutes	45 minutes	60 minutes	75 minutes	90 minutes	105 minutes	120 minutes
90	0.454	0.454	0.454	0.454	0.745	1.078	1.416	1.743	230	0.454	0.454	0.566	0.975	1.319	1.661	2.275	3.019
95	0.454	0.454	0.454	0.454	0.765	1.099	1.432	1.784	235	0.454	0.454	0.582	0.994	1.340	1.682	2.327	3.101
100	0.454	0.454	0.454	0.469	0.786	1.119	1.448	1.826	240	0.454	0.454	0.598	1.014	1.360	1.728	2.379	3.182
105	0.454	0.454	0.454	0.488	0.806	1.140	1.464	1.867	245	0.454	0.454	0.615	1.033	1.381	1.774	2.431	3.264
110	0.454	0.454	0.454	0.508	0.827	1.161	1.480	1.909	250	0.454	0.454	0.631	1.053	1.401	1.821	2.483	3.346
115	0.454	0.454	0.454	0.527	0.847	1.182	1.496	1.950	255	0.454	0.454	0.647	1.072	1.422	1.867	2.535	3.428
120	0.454	0.454	0.454	0.547	0.868	1.203	1.512	1.992	260	0.454	0.454	0.663	1.092	1.442	1.914	2.587	3.510
125	0.454	0.454	0.454	0.566	0.888	1.224	1.528	2.033	265	0.454	0.454	0.680	1.111	1.463	1.961	2.639	3.592
130	0.454	0.454	0.454	0.586	0.909	1.244	1.544	2.074	270	0.454	0.454	0.696	1.131	1.483	2.007	2.690	3.674
135	0.454	0.454	0.454	0.605	0.929	1.265	1.561	2.116	275	0.454	0.454	0.712	1.150	1.504	2.054	2.742	3.755
140	0.454	0.454	0.454	0.625	0.950	1.286	1.577	2.157	280	0.454	0.454	0.729	1.170	1.524	2.100	2.804	3.837
145	0.454	0.454	0.454	0.644	0.970	1.307	1.593	2.199	285	0.454	0.454	0.745	1.189	1.545	2.147	2.906	3.919
150	0.454	0.454	0.454	0.663	0.991	1.328	1.609	2.240	290	0.454	0.454	0.761	1.209	1.565	2.194	3.009	-
155	0.454	0.454	0.454	0.683	1.012	1.348	1.625	2.281	295	0.454	0.454	0.777	1.228	1.586	2.240	3.111	-
160	0.454	0.454	0.454	0.702	1.032	1.369	1.641	2.323	300	0.454	0.454	0.794	1.248	1.607	2.287	3.213	-
165	0.454	0.454	0.454	0.722	1.053	1.390	1.657	2.364	305	0.454	0.454	0.810	1.267	1.627	2.333	3.315	-
170	0.454	0.454	0.454	0.741	1.073	1.411	1.673	2.406	310	0.454	0.454	0.826	1.287	1.648	2.380	3.418	-
175	0.454	0.454	0.454	0.761	1.094	1.432	1.705	2.447	315	0.454	0.454	0.842	1.306	1.668	2.427	3.520	-
180	0.454	0.454	0.454	0.780	1.114	1.453	1.757	2.489	320	0.454	0.454	0.859	1.326	1.698	2.473	3.622	-
185	0.454	0.454	0.454	0.800	1.135	1.473	1.808	2.530	325	0.454	0.460	0.875	1.345	1.747	2.520	3.724	-
190	0.454	0.454	0.454	0.819	1.155	1.494	1.860	2.571	330	0.454	0.470	0.891	1.364	1.796	2.566	3.827	-
195	0.454	0.454	0.454	0.839	1.176	1.515	1.912	2.613	335	0.454	0.480	0.908	1.384	1.845	2.613	3.929	-
200	0.454	0.454	0.468	0.858	1.196	1.536	1.964	2.654	340	0.454	0.490	0.924	1.403	1.893	2.660	-	-
205	0.454	0.454	0.484	0.878	1.217	1.557	2.016	2.696	345	0.454	0.500	0.940	1.423	1.942	2.706	-	-
210	0.454	0.454	0.501	0.897	1.237	1.577	2.068	2.737	350	0.454	0.510	0.956	1.442	1.991	2.753	-	-
215	0.454	0.454	0.517	0.917	1.258	1.598	2.120	2.778	355	0.454	0.520	0.973	1.462	2.040	2.830	-	-
220	0.454	0.454	0.533	0.936	1.278	1.619	2.172	2.855	360	0.454	0.530	0.989	1.481	2.089	2.969	-	-
225	0.454	0.454	0.549	0.956	1.299	1.640	2.223	2.937									

Table applies to beams with protection to three sides. Thickness is intumescent only.

PLEASE NOTE: The critical temperatures in this loading table are as defined for offices in accordance with BS5950-8:2003 as per Table 18 of the ASFP 5th Edition Yellow Book. The Yellow book also gives new critical temperatures to comply with several different building uses either to the Eurocodes for steel design or BS5950-8:2003. Alternative loadings tables to other critical temperatures are available from the Nullifire Technical Desk on request.

SC80I has been tested on cellular beams according to BS EN 13381-9 2015 and approved for 30-120 minutes. Please refer to Technical Services.



SC80I Loading Tables

SC80I-H20
Material Specification
Specific Gravity: 1.38
Volume Solids: 68% ± 3%

Nullifire
Smart Protection

4-Sided Columns

Thickness (mm) Required for a Design Temperature of 550°C

Section Factor up to m²	15 minutes	30 minutes	45 minutes	60 minutes	75 minutes	90 minutes	105 minutes	120 minutes	Section Factor up to m²	15 minutes	30 minutes	45 minutes	60 minutes	75 minutes	90 minutes	105 minutes	120 minutes
90	0.454	0.454	0.454	0.612	1.003	1.379	1.737	2.400	230	0.454	0.454	0.719	1.195	1.623	2.159	2.964	3.887
95	0.454	0.454	0.454	0.632	1.025	1.396	1.778	2.453	235	0.454	0.454	0.739	1.216	1.645	2.208	3.041	3.998
100	0.454	0.454	0.454	0.653	1.047	1.412	1.818	2.507	240	0.454	0.454	0.758	1.237	1.668	2.256	3.118	4.115
105	0.454	0.454	0.454	0.674	1.069	1.429	1.859	2.561	245	0.454	0.454	0.778	1.258	1.697	2.305	3.195	4.233
110	0.454	0.454	0.454	0.695	1.091	1.446	1.900	2.615	250	0.454	0.454	0.798	1.279	1.739	2.354	3.272	4.351
115	0.454	0.454	0.454	0.716	1.113	1.462	1.941	2.669	255	0.454	0.454	0.817	1.300	1.782	2.403	3.349	4.468
120	0.454	0.454	0.454	0.737	1.136	1.479	1.982	2.722	260	0.454	0.460	0.837	1.321	1.824	2.452	3.426	4.586
125	0.454	0.454	0.454	0.758	1.158	1.495	2.022	2.776	265	0.454	0.473	0.857	1.341	1.867	2.501	3.503	4.704
130	0.454	0.454	0.454	0.778	1.180	1.512	2.063	2.829	270	0.454	0.485	0.877	1.362	1.909	2.549	3.580	4.821
135	0.454	0.454	0.454	0.799	1.202	1.529	2.104	2.882	275	0.454	0.498	0.896	1.383	1.952	2.598	3.657	4.939
140	0.454	0.454	0.454	0.820	1.224	1.545	2.145	2.935	280	0.454	0.510	0.916	1.404	1.994	2.647	3.734	5.057
145	0.454	0.454	0.454	0.841	1.246	1.562	2.186	2.988	285	0.454	0.523	0.936	1.425	2.037	2.696	3.811	5.174
150	0.454	0.454	0.454	0.862	1.269	1.578	2.226	3.041	290	0.454	0.535	0.956	1.446	2.079	2.745	3.888	5.292
155	0.454	0.454	0.454	0.883	1.291	1.595	2.267	3.094	295	0.454	0.548	0.975	1.466	2.122	2.804	3.988	5.410
160	0.454	0.454	0.454	0.903	1.313	1.612	2.308	3.146	300	0.454	0.560	0.995	1.487	2.164	2.903	4.090	5.527
165	0.454	0.454	0.462	0.924	1.335	1.628	2.349	3.199	305	0.454	0.573	1.015	1.508	2.207	3.003	4.191	-
170	0.454	0.454	0.482	0.945	1.357	1.645	2.390	3.252	310	0.454	0.585	1.035	1.529	2.249	3.102	4.293	-
175	0.454	0.454	0.502	0.966	1.379	1.661	2.430	3.305	315	0.454	0.598	1.054	1.550	2.292	3.202	4.395	-
180	0.454	0.454	0.521	0.987	1.402	1.678	2.471	3.358	320	0.454	0.610	1.074	1.571	2.334	3.302	4.496	-
185	0.454	0.454	0.541	1.008	1.424	1.719	2.512	3.411	325	0.454	0.622	1.094	1.592	2.377	3.401	4.598	-
190	0.454	0.454	0.561	1.029	1.446	1.768	2.553	3.464	330	0.454	0.635	1.113	1.612	2.419	3.501	4.699	-
195	0.454	0.454	0.581	1.049	1.468	1.817	2.594	3.517	335	0.454	0.647	1.133	1.633	2.462	3.600	4.801	-
200	0.454	0.454	0.600	1.070	1.490	1.866	2.634	3.569	340	0.454	0.660	1.153	1.654	2.504	3.700	4.903	-
205	0.454	0.454	0.620	1.091	1.512	1.915	2.675	3.622	345	0.454	0.672	1.173	1.675	2.547	3.800	5.004	-
210	0.454	0.454	0.640	1.112	1.535	1.963	2.716	3.675	350	0.454	0.685	1.192	1.711	2.589	3.899	5.106	-
215	0.454	0.454	0.660	1.133	1.557	2.012	2.757	3.728	355	0.454	0.697	1.212	1.755	2.632	3.998	5.207	-
220	0.454	0.454	0.679	1.154	1.579	2.061	2.810	3.781	360	0.454	0.710	1.232	1.798	2.674	4.097	5.309	-
225	0.454	0.454	0.699	1.175	1.601	2.110	2.887	3.834									

Table applies to columns with protection to four sides. Thickness is intumescent only.

PLEASE NOTE: The critical temperatures in this loading table are as defined for offices in accordance with BS5950-8:2003 as per Table 18 of the ASFP 5th Edition Yellow Book. The Yellow book also gives new critical temperatures to comply with several different building uses either to the Eurocodes for steel design or BS5950-8:2003. Alternative loadings tables to other critical temperatures are available from the Nullifire Technical Desk on request.

SC80I has been tested on cellular beams according to BS EN 13381-9 2015 and approved for 30-120 minutes. Please refer to Technical Services.



SC80I Loading Tables

SC80I-H20
Material Specification
Specific Gravity: 1.38
Volume Solids: 68% ± 3%

Nullifire
Smart Protection

4-Sided Beams

Thickness (mm) Required for a Design Temperature of 550°C

Section Factor up to m ²	15 minutes	30 minutes	45 minutes	60 minutes	75 minutes	90 minutes	105 minutes	120 minutes	Section Factor up to m ²	15 minutes	30 minutes	45 minutes	60 minutes	75 minutes	90 minutes	105 minutes	120 minutes
90	0.454	0.454	0.454	0.612	1.003	1.379	1.737	2.400	230	0.454	0.454	0.719	1.195	1.623	2.159	2.964	3.887
95	0.454	0.454	0.454	0.632	1.025	1.396	1.778	2.453	235	0.454	0.454	0.739	1.216	1.645	2.208	3.041	-
100	0.454	0.454	0.454	0.653	1.047	1.412	1.818	2.507	240	0.454	0.454	0.758	1.237	1.668	2.256	3.118	-
105	0.454	0.454	0.454	0.674	1.069	1.429	1.859	2.561	245	0.454	0.454	0.778	1.258	1.697	2.305	3.195	-
110	0.454	0.454	0.454	0.695	1.091	1.446	1.900	2.615	250	0.454	0.454	0.798	1.279	1.739	2.354	3.272	-
115	0.454	0.454	0.454	0.716	1.113	1.462	1.941	2.669	255	0.454	0.454	0.817	1.300	1.782	2.403	3.349	-
120	0.454	0.454	0.454	0.737	1.136	1.479	1.982	2.722	260	0.454	0.460	0.837	1.321	1.824	2.452	3.426	-
125	0.454	0.454	0.454	0.758	1.158	1.495	2.022	2.776	265	0.454	0.473	0.857	1.341	1.867	2.501	3.503	-
130	0.454	0.454	0.454	0.778	1.180	1.512	2.063	2.829	270	0.454	0.485	0.877	1.362	1.909	2.549	3.580	-
135	0.454	0.454	0.454	0.799	1.202	1.529	2.104	2.882	275	0.454	0.498	0.896	1.383	1.952	2.598	3.657	-
140	0.454	0.454	0.454	0.820	1.224	1.545	2.145	2.935	280	0.454	0.510	0.916	1.404	1.994	2.647	3.734	-
145	0.454	0.454	0.454	0.841	1.246	1.562	2.186	2.988	285	0.454	0.523	0.936	1.425	2.037	2.696	3.811	-
150	0.454	0.454	0.454	0.862	1.269	1.578	2.226	3.041	290	0.454	0.535	0.956	1.446	2.079	2.745	3.888	-
155	0.454	0.454	0.454	0.883	1.291	1.595	2.267	3.094	295	0.454	0.548	0.975	1.466	2.122	2.804	3.988	-
160	0.454	0.454	0.454	0.903	1.313	1.612	2.308	3.146	300	0.454	0.560	0.995	1.487	2.164	2.903	-	-
165	0.454	0.454	0.462	0.924	1.335	1.628	2.349	3.199	305	0.454	0.573	1.015	1.508	2.207	3.003	-	-
170	0.454	0.454	0.482	0.945	1.357	1.645	2.390	3.252	310	0.454	0.585	1.035	1.529	2.249	3.102	-	-
175	0.454	0.454	0.502	0.966	1.379	1.661	2.430	3.305	315	0.454	0.598	1.054	1.550	2.292	3.202	-	-
180	0.454	0.454	0.521	0.987	1.402	1.678	2.471	3.358	320	0.454	0.610	1.074	1.571	2.334	3.302	-	-
185	0.454	0.454	0.541	1.008	1.424	1.719	2.512	3.411	325	0.454	0.622	1.094	1.592	2.377	3.401	-	-
190	0.454	0.454	0.561	1.029	1.446	1.768	2.553	3.464	330	0.454	0.635	1.113	1.612	2.419	3.501	-	-
195	0.454	0.454	0.581	1.049	1.468	1.817	2.594	3.517	335	0.454	0.647	1.133	1.633	2.462	3.600	-	-
200	0.454	0.454	0.600	1.070	1.490	1.866	2.634	3.569	340	0.454	0.660	1.153	1.654	2.504	3.700	-	-
205	0.454	0.454	0.620	1.091	1.512	1.915	2.675	3.622	345	0.454	0.672	1.173	1.675	2.547	3.800	-	-
210	0.454	0.454	0.640	1.112	1.535	1.963	2.716	3.675	350	0.454	0.685	1.192	1.711	2.589	3.899	-	-
215	0.454	0.454	0.660	1.133	1.557	2.012	2.757	3.728	355	0.454	0.697	1.212	1.755	2.632	-	-	-
220	0.454	0.454	0.679	1.154	1.579	2.061	2.810	3.781	360	0.454	0.710	1.232	1.798	2.674	-	-	-
225	0.454	0.454	0.699	1.175	1.601	2.110	2.887	3.834									

Table applies to beams with protection to four sides. Thickness is intumescent only.

PLEASE NOTE: The critical temperatures in this loading table are as defined for offices in accordance with BS5950-8:2003 as per Table 18 of the ASFP 5th Edition Yellow Book. The Yellow book also gives new critical temperatures to comply with several different building uses either to the Eurocodes for steel design or BS5950-8:2003. Alternative loadings tables to other critical temperatures are available from the Nullifire Technical Desk on request.

SC80I has been tested on cellular beams according to BS EN 13381-9 2015 and approved for 30-120 minutes. Please refer to Technical Services.



SC801 Loading Tables

SC801-H20
Material Specification
Specific Gravity: 1.38
Volume Solids: 68% ± 3%

Nullifire
Smart Protection

Hollow Columns

Thickness (mm) Required for a Design Temperature of 520°C

Section Factor up to m ²	15 minutes	30 minutes	45 minutes	60 minutes	75 minutes	90 minutes	105 minutes	120 minutes	Section Factor up to m ²	15 minutes	30 minutes	45 minutes	60 minutes	75 minutes	90 minutes	105 minutes	120 minutes
40	1.781	1.781	1.781	1.781	1.781	1.781	1.781	2.147	240	1.781	1.781	1.781	3.679	5.093	6.792	7.696	-
45	1.781	1.781	1.781	1.781	1.781	1.781	1.781	2.291	245	1.781	1.781	1.791	3.724	5.131	6.856	7.765	-
50	1.781	1.781	1.781	1.781	1.781	1.781	1.781	2.434	250	1.781	1.781	1.845	3.769	5.169	6.921	7.835	-
55	1.781	1.781	1.781	1.781	1.781	1.781	1.781	2.578	255	1.781	1.781	1.899	3.814	5.207	6.985	7.904	-
60	1.781	1.781	1.781	1.781	1.781	1.781	1.781	2.721	260	1.781	1.781	1.953	3.859	5.245	7.050	7.974	-
65	1.781	1.781	1.781	1.781	1.781	1.781	1.948	2.865	265	1.781	1.781	2.007	3.904	5.283	7.114	8.043	-
70	1.781	1.781	1.781	1.781	1.781	1.781	2.124	3.008	270	1.781	1.781	2.061	3.949	5.321	7.179	8.113	-
75	1.781	1.781	1.781	1.781	1.781	1.874	2.300	3.152	275	1.781	1.781	2.115	3.994	5.359	7.244	8.182	-
80	1.781	1.781	1.781	1.781	1.781	1.988	2.476	3.295	280	1.781	1.781	2.169	4.039	5.397	7.308	8.252	-
85	1.781	1.781	1.781	1.781	1.781	2.102	2.652	3.439	285	1.781	1.781	2.223	4.084	5.435	7.373	8.321	-
90	1.781	1.781	1.781	1.781	1.804	2.215	2.828	3.971	290	1.781	1.781	2.277	4.129	5.473	7.437	-	-
95	1.781	1.781	1.781	1.781	1.887	2.329	3.004	4.539	295	1.781	1.781	2.331	4.174	5.511	7.502	-	-
100	1.781	1.781	1.781	1.781	1.970	2.443	3.180	5.106	300	1.781	1.781	2.385	4.219	5.549	7.566	-	-
105	1.781	1.781	1.781	1.781	2.054	2.557	3.357	5.674	305	1.781	1.781	2.439	4.264	5.587	7.631	-	-
110	1.781	1.781	1.781	1.781	2.137	2.670	3.645	6.242	310	1.781	1.781	2.493	4.309	5.625	7.695	-	-
115	1.781	1.781	1.781	1.781	2.220	2.784	4.065	6.400	315	1.781	1.781	2.547	4.354	5.663	7.760	-	-
120	1.781	1.781	1.781	1.781	2.304	2.898	4.484	6.480	320	1.781	1.781	2.601	4.399	5.701	7.824	-	-
125	1.781	1.781	1.781	1.781	2.387	3.012	4.903	6.559	325	1.781	1.781	2.655	4.444	5.739	7.889	-	-
130	1.781	1.781	1.781	1.783	2.470	3.125	5.323	6.639	330	1.781	1.781	2.709	4.489	5.777	7.953	-	-
135	1.781	1.781	1.781	1.882	2.554	3.239	5.742	6.719	335	1.781	1.781	2.763	4.534	5.815	8.018	-	-
140	1.781	1.781	1.781	1.980	2.637	3.353	6.161	6.799	340	1.781	1.781	2.817	4.579	5.853	8.082	-	-
145	1.781	1.781	1.781	2.079	2.720	3.471	6.374	6.878	345	1.781	1.781	2.871	4.623	5.891	8.147	-	-
150	1.781	1.781	1.781	2.177	2.804	3.614	6.444	6.958	350	1.781	1.781	2.925	4.668	5.929	8.211	-	-
155	1.781	1.781	1.781	2.276	2.887	3.756	6.513	7.038	355	1.781	1.781	2.979	4.713	5.967	8.276	-	-
160	1.781	1.781	1.781	2.374	2.971	3.899	6.583	7.118	360	1.781	1.781	3.033	4.758	6.005	8.340	-	-
165	1.781	1.781	1.781	2.473	3.054	4.042	6.652	7.197	365	1.781	1.781	3.087	4.803	6.043	-	-	-
170	1.781	1.781	1.781	2.572	3.137	4.185	6.722	7.277	370	1.781	1.781	3.141	4.848	6.081	-	-	-
175	1.781	1.781	1.781	2.670	3.221	4.328	6.791	7.357	375	1.781	1.781	3.195	4.893	6.119	-	-	-
180	1.781	1.781	1.781	2.769	3.304	4.471	6.861	7.437	380	1.781	1.781	3.249	4.946	6.157	-	-	-
185	1.781	1.781	1.781	2.867	3.387	4.613	6.930	7.516	385	1.781	1.804	3.303	5.000	6.195	-	-	-
190	1.781	1.781	1.781	2.966	3.519	4.756	7.000	7.596	390	1.781	1.838	3.357	5.053	6.233	-	-	-
195	1.781	1.781	1.781	3.064	3.807	4.916	7.070	7.676	395	1.781	1.873	3.411	5.106	6.271	-	-	-
200	1.781	1.781	1.781	3.163	4.095	5.668	7.139	7.756	400	1.781	1.908	3.465	5.159	6.309	-	-	-
205	1.781	1.781	1.781	3.261	4.383	6.340	7.209	7.835	405	1.781	1.942	3.519	5.213	6.451	-	-	-
210	1.781	1.781	1.781	3.360	4.671	6.405	7.278	7.915	410	1.781	1.977	3.574	5.266	6.784	-	-	-
215	1.781	1.781	1.781	3.454	4.903	6.469	7.348	7.995	415	1.781	2.011	3.628	5.319	7.116	-	-	-
220	1.781	1.781	1.781	3.499	4.941	6.534	7.417	8.074	420	1.781	2.046	3.683	5.373	7.449	-	-	-
225	1.781	1.781	1.781	3.544	4.979	6.598	7.487	8.154	425	1.781	2.080	3.737	5.426	7.781	-	-	-
230	1.781	1.781	1.781	3.589	5.017	6.663	7.556	8.234	430	1.781	2.115	3.792	5.479	8.114	-	-	-
235	1.781	1.781	1.781	3.634	5.055	6.727	7.626	-	435	1.781	2.149	3.846	5.533	8.447	-	-	-

Table applies to columns with protection to four sides. Thickness is intumescent only.

PLEASE NOTE: The critical temperatures in this loading table are as defined for offices in accordance with BS5950-8:2003 as per Table 18 of the ASFP 5th Edition Yellow Book. The Yellow book also gives new critical temperatures to comply with several different building uses either to the Eurocodes for steel design or BS5950-8:2003. Alternative loadings tables to other critical temperatures are available from the Nullifire Technical Desk on request.

SC801 has been tested on cellular beams according to BS EN 13381-9 2015 and approved for 30-120 minutes. Please refer to Technical Services.