



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 1: Circular Solid Bar
Fire Resistance Period: 15 Minutes

Thickness (mm) Required for a Design Temperature of

Bar Diameter (mm)	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
15	4.771	3.927	3.449	2.638	2.226	1.871	1.766	1.696	1.687	1.416	1.387	0.851	0.670	0.477	0.477	0.477
20	3.714	2.889	2.438	1.691	1.246	0.871	0.771	0.706	0.697	0.477	0.477	0.477	0.477	0.477	0.477	0.477
25	2.899	2.047	1.641	0.915	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
30	2.246	1.581	1.254	0.652	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
35	1.804	1.257	0.982	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
40	1.485	1.019	0.780	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
45	1.243	0.836	0.625	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
50	1.054	0.692	0.501	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
55	0.902	0.576	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
60	0.778	0.479	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
65	0.674	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
70	0.585	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
75	0.541	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
80	0.501	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
85	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
90	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
95	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
100	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
105	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
110	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
115	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
120	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
125	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
130	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
135	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 2: Circular Solid Bar
Fire Resistance Period: 30 Minutes

Thickness (mm) Required for a Design Temperature of

Bar Diameter (mm)	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
15	-	-	-	-	5.375	4.746	4.589	4.513	4.504	4.251	4.224	3.679	3.449	3.012	2.388	1.646
20	-	-	-	4.666	3.728	2.936	2.809	2.739	2.730	2.495	2.470	2.021	1.859	1.560	1.060	0.477
25	-	5.431	4.804	3.280	2.474	1.929	1.809	1.742	1.734	1.514	1.492	1.114	0.980	0.757	0.477	0.477
30	5.546	4.439	3.788	2.555	1.932	1.466	1.367	1.312	1.304	1.120	1.102	0.790	0.675	0.485	0.477	0.477
35	4.741	3.641	2.999	2.096	1.550	1.146	1.062	1.014	1.008	0.849	0.834	0.563	0.477	0.477	0.477	0.477
40	4.066	2.995	2.537	1.751	1.265	0.911	0.838	0.796	0.791	0.651	0.638	0.477	0.477	0.477	0.477	0.477
45	3.493	2.582	2.180	1.483	1.045	0.731	0.667	0.630	0.625	0.501	0.488	0.477	0.477	0.477	0.477	0.477
50	3.006	2.255	1.897	1.267	0.870	0.590	0.533	0.499	0.494	0.477	0.477	0.477	0.477	0.477	0.477	0.477
55	2.662	1.990	1.666	1.091	0.727	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
60	2.381	1.771	1.475	0.944	0.608	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
65	2.145	1.587	1.314	0.819	0.508	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
70	1.945	1.430	1.176	0.713	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
75	1.842	1.361	1.120	0.669	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
80	1.748	1.297	1.067	0.626	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
85	1.661	1.235	1.015	0.584	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
90	1.581	1.178	0.966	0.542	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
95	1.507	1.123	0.918	0.500	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
100	1.438	1.071	0.872	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
105	1.374	1.021	0.827	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
110	1.314	0.974	0.784	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
115	1.258	0.929	0.743	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
120	1.206	0.886	0.703	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
125	1.157	0.845	0.664	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
130	1.110	0.806	0.627	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
135	1.066	0.768	0.590	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 3: Circular Solid Bar
Fire Resistance Period: 45 Minutes

Thickness (mm) Required for a Design Temperature of

Bar Diameter (mm)	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.463	4.503
20	-	-	-	-	-	-	-	-	-	5.641	5.605	4.856	4.557	3.921	2.975	2.253
25	-	-	-	-	5.562	4.426	4.149	4.008	3.991	3.475	3.419	2.726	2.560	2.276	1.825	1.175
30	-	-	-	5.277	4.049	2.985	2.848	2.774	2.765	2.531	2.509	2.116	1.977	1.743	1.361	0.811
35	-	-	5.700	4.155	2.984	2.432	2.314	2.251	2.242	2.039	2.021	1.690	1.568	1.366	1.030	0.536
40	-	5.497	4.793	3.277	2.515	2.026	1.923	1.867	1.860	1.681	1.665	1.375	1.265	1.086	0.782	0.477
45	-	4.743	4.044	2.756	2.153	1.715	1.624	1.574	1.568	1.408	1.393	1.133	1.032	0.869	0.588	0.477
50	5.344	4.102	3.415	2.414	1.865	1.470	1.388	1.343	1.337	1.193	1.179	0.941	0.847	0.696	0.477	0.477
55	4.762	3.552	2.932	2.134	1.630	1.271	1.197	1.156	1.151	1.019	1.006	0.785	0.697	0.556	0.477	0.477
60	4.252	3.074	2.633	1.900	1.435	1.107	1.040	1.002	0.997	0.876	0.864	0.656	0.572	0.477	0.477	0.477
65	3.801	2.775	2.381	1.702	1.270	0.969	0.908	0.873	0.868	0.755	0.744	0.547	0.477	0.477	0.477	0.477
70	3.399	2.530	2.165	1.533	1.130	0.851	0.795	0.762	0.758	0.653	0.643	0.477	0.477	0.477	0.477	0.477
75	3.182	2.430	2.090	1.485	1.091	0.814	0.757	0.724	0.719	0.611	0.600	0.477	0.477	0.477	0.477	0.477
80	2.995	2.336	2.018	1.437	1.052	0.777	0.719	0.684	0.679	0.567	0.555	0.477	0.477	0.477	0.477	0.477
85	2.858	2.246	1.949	1.391	1.013	0.738	0.679	0.643	0.639	0.522	0.509	0.477	0.477	0.477	0.477	0.477
90	2.733	2.162	1.882	1.344	0.973	0.698	0.638	0.601	0.596	0.477	0.477	0.477	0.477	0.477	0.477	0.477
95	2.616	2.081	1.817	1.298	0.933	0.657	0.596	0.558	0.553	0.477	0.477	0.477	0.477	0.477	0.477	0.477
100	2.508	2.005	1.755	1.253	0.893	0.616	0.553	0.514	0.508	0.477	0.477	0.477	0.477	0.477	0.477	0.477
105	2.407	1.933	1.695	1.208	0.852	0.573	0.509	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
110	2.313	1.864	1.637	1.163	0.811	0.530	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
115	2.224	1.798	1.582	1.119	0.770	0.485	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
120	2.142	1.735	1.527	1.076	0.728	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
125	2.064	1.675	1.475	1.033	0.686	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
130	1.991	1.618	1.425	0.990	0.643	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
135	1.922	1.563	1.376	0.948	0.600	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477

Above figures are applicable to horizontal and vertical bars.

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SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 4: Circular Solid Bar
Fire Resistance Period: 60 Minutes

Thickness (mm) Required for a Design Temperature of

Bar Diameter (mm)	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.400
25	-	-	-	-	-	-	-	-	-	-	-	-	-	4.948	3.730	2.520
30	-	-	-	-	-	-	5.544	5.419	5.405	4.941	4.893	3.962	3.608	3.001	2.574	1.966
35	-	-	-	-	5.492	4.349	4.079	3.942	3.925	3.448	3.402	2.817	2.676	2.440	2.069	1.549
40	-	-	-	5.623	4.347	3.240	3.007	2.938	2.929	2.710	2.692	2.354	2.229	2.023	1.691	1.224
45	-	-	-	4.688	3.446	2.698	2.581	2.519	2.511	2.314	2.298	1.999	1.885	1.700	1.397	0.963
50	-	-	5.474	3.919	2.860	2.350	2.244	2.188	2.180	2.003	1.988	1.717	1.612	1.443	1.161	0.750
55	-	5.535	4.786	3.276	2.533	2.067	1.971	1.920	1.914	1.751	1.737	1.488	1.391	1.233	0.969	0.571
60	-	4.927	4.193	2.857	2.262	1.834	1.747	1.700	1.693	1.544	1.531	1.299	1.207	1.059	0.808	0.477
65	5.739	4.394	3.677	2.585	2.033	1.638	1.558	1.514	1.508	1.370	1.358	1.139	1.052	0.911	0.672	0.477
70	5.231	3.922	3.224	2.353	1.837	1.471	1.397	1.356	1.351	1.222	1.210	1.003	0.919	0.786	0.556	0.477
75	4.953	3.728	3.075	2.301	1.801	1.441	1.367	1.326	1.320	1.190	1.178	0.962	0.874	0.733	0.491	0.477
80	4.693	3.543	2.969	2.249	1.765	1.410	1.336	1.295	1.289	1.156	1.144	0.918	0.827	0.679	0.477	0.477
85	4.449	3.368	2.882	2.197	1.729	1.379	1.305	1.263	1.257	1.122	1.109	0.873	0.777	0.622	0.477	0.477
90	4.221	3.202	2.798	2.146	1.692	1.347	1.272	1.230	1.224	1.086	1.072	0.826	0.726	0.562	0.477	0.477
95	4.006	3.043	2.717	2.096	1.655	1.314	1.239	1.196	1.190	1.049	1.035	0.777	0.672	0.498	0.477	0.477
100	3.803	2.940	2.639	2.047	1.618	1.280	1.205	1.161	1.155	1.010	0.995	0.726	0.615	0.477	0.477	0.477
105	3.612	2.844	2.563	1.997	1.581	1.246	1.170	1.125	1.119	0.970	0.954	0.672	0.556	0.477	0.477	0.477
110	3.431	2.753	2.490	1.949	1.543	1.210	1.134	1.088	1.082	0.928	0.912	0.616	0.494	0.477	0.477	0.477
115	3.260	2.667	2.420	1.901	1.505	1.174	1.097	1.050	1.044	0.884	0.868	0.557	0.477	0.477	0.477	0.477
120	3.098	2.584	2.352	1.853	1.466	1.137	1.059	1.010	1.004	0.839	0.821	0.495	0.477	0.477	0.477	0.477
125	2.972	2.505	2.286	1.806	1.427	1.099	1.019	0.969	0.963	0.791	0.773	0.477	0.477	0.477	0.477	0.477
130	2.872	2.430	2.223	1.759	1.388	1.060	0.979	0.927	0.920	0.742	0.723	0.477	0.477	0.477	0.477	0.477
135	2.778	2.357	2.161	1.713	1.348	1.019	0.937	0.884	0.877	0.690	0.670	0.477	0.477	0.477	0.477	0.477

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 5: Circular Solid Bar
Fire Resistance Period: 75 Minutes

Thickness (mm) Required for a Design Temperature of

Bar Diameter (mm)	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.799	3.339
35	-	-	-	-	-	-	-	-	-	-	-	5.035	4.713	4.065	3.190	2.562
40	-	-	-	-	-	5.409	5.134	5.003	4.987	4.533	4.488	3.678	3.379	2.960	2.600	2.126
45	-	-	-	-	5.452	4.306	4.041	3.906	3.889	3.433	3.393	2.865	2.738	2.531	2.205	1.776
50	-	-	-	-	4.531	3.421	3.166	3.033	3.024	2.813	2.797	2.494	2.378	2.189	1.889	1.489
55	-	-	-	5.045	3.772	2.864	2.745	2.684	2.676	2.484	2.469	2.192	2.084	1.910	1.630	1.249
60	-	-	-	4.366	3.135	2.561	2.453	2.397	2.389	2.212	2.198	1.942	1.841	1.679	1.414	1.046
65	-	-	5.336	3.782	2.795	2.307	2.208	2.155	2.148	1.984	1.971	1.732	1.636	1.483	1.232	0.872
70	-	5.559	4.782	3.275	2.544	2.090	1.998	1.950	1.943	1.790	1.778	1.552	1.461	1.316	1.075	0.721
75	-	5.321	4.594	3.173	2.511	2.067	1.976	1.928	1.921	1.768	1.755	1.522	1.427	1.276	1.024	0.647
80	-	5.096	4.415	3.077	2.478	2.044	1.954	1.906	1.899	1.745	1.732	1.490	1.392	1.234	0.970	0.568
85	-	4.881	4.244	3.004	2.445	2.020	1.931	1.882	1.876	1.721	1.708	1.457	1.355	1.191	0.913	0.484
90	-	4.678	4.082	2.949	2.411	1.995	1.907	1.859	1.852	1.697	1.683	1.423	1.317	1.145	0.853	0.477
95	5.566	4.484	3.927	2.894	2.378	1.970	1.882	1.834	1.828	1.671	1.657	1.387	1.277	1.096	0.789	0.477
100	5.318	4.299	3.779	2.840	2.344	1.944	1.857	1.809	1.802	1.645	1.630	1.350	1.235	1.046	0.722	0.477
105	5.084	4.122	3.637	2.787	2.309	1.918	1.831	1.783	1.776	1.617	1.602	1.311	1.191	0.992	0.650	0.477
110	4.863	3.954	3.502	2.734	2.274	1.891	1.805	1.756	1.750	1.588	1.572	1.270	1.144	0.936	0.573	0.477
115	4.654	3.793	3.372	2.682	2.239	1.863	1.777	1.728	1.722	1.558	1.542	1.227	1.095	0.876	0.492	0.477
120	4.456	3.639	3.248	2.630	2.204	1.835	1.749	1.699	1.693	1.527	1.510	1.182	1.044	0.813	0.477	0.477
125	4.267	3.491	3.128	2.579	2.169	1.805	1.720	1.670	1.664	1.495	1.477	1.134	0.990	0.746	0.477	0.477
130	4.088	3.349	3.020	2.528	2.133	1.775	1.690	1.639	1.633	1.461	1.442	1.084	0.933	0.675	0.477	0.477
135	3.918	3.213	2.946	2.478	2.096	1.745	1.659	1.608	1.602	1.425	1.406	1.031	0.872	0.599	0.477	0.477

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 6: Circular Solid Bar
Fire Resistance Period: 90 Minutes

Thickness (mm) Required for a Design Temperature of

Bar Diameter (mm)	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.364	4.448
40	-	-	-	-	-	-	-	-	-	-	-	5.784	5.471	4.805	3.954	3.027
45	-	-	-	-	-	-	-	-	-	5.366	5.320	4.507	4.216	3.684	3.013	2.588
50	-	-	-	-	-	5.160	4.889	4.755	4.739	4.294	4.253	3.526	3.260	2.935	2.616	2.228
55	-	-	-	-	5.426	4.278	4.016	3.883	3.866	3.424	3.388	2.896	2.778	2.587	2.291	1.927
60	-	-	-	-	4.656	3.542	3.289	3.158	3.140	2.880	2.865	2.585	2.475	2.299	2.021	1.672
65	-	-	-	5.302	4.000	2.976	2.857	2.797	2.789	2.598	2.584	2.324	2.220	2.055	1.791	1.454
70	-	-	-	4.695	3.436	2.710	2.600	2.544	2.536	2.359	2.345	2.101	2.003	1.846	1.595	1.264
75	-	-	-	4.557	3.370	2.694	2.586	2.530	2.523	2.347	2.333	2.082	1.980	1.819	1.557	1.208
80	-	-	-	4.425	3.308	2.678	2.571	2.516	2.509	2.334	2.320	2.062	1.957	1.790	1.518	1.148
85	-	-	5.690	4.300	3.249	2.661	2.556	2.502	2.495	2.321	2.307	2.042	1.933	1.760	1.476	1.083
90	-	-	5.493	4.181	3.192	2.644	2.541	2.487	2.480	2.308	2.293	2.020	1.908	1.728	1.432	1.015
95	-	-	5.306	4.068	3.139	2.626	2.525	2.472	2.465	2.294	2.279	1.997	1.882	1.695	1.385	0.941
100	-	5.705	5.127	3.959	3.088	2.609	2.509	2.456	2.450	2.280	2.264	1.974	1.854	1.659	1.335	0.861
105	-	5.497	4.956	3.856	3.040	2.590	2.492	2.440	2.434	2.265	2.249	1.949	1.825	1.622	1.282	0.776
110	-	5.297	4.792	3.757	3.006	2.571	2.475	2.424	2.417	2.249	2.233	1.923	1.795	1.583	1.226	0.683
115	-	5.107	4.635	3.663	2.974	2.552	2.458	2.406	2.400	2.233	2.216	1.896	1.763	1.542	1.166	0.582
120	-	4.924	4.485	3.572	2.942	2.532	2.439	2.389	2.383	2.216	2.199	1.868	1.729	1.498	1.102	0.477
125	5.592	4.750	4.340	3.485	2.910	2.512	2.421	2.370	2.365	2.198	2.180	1.838	1.694	1.452	1.034	0.477
130	5.380	4.582	4.202	3.402	2.877	2.491	2.401	2.352	2.346	2.180	2.161	1.806	1.656	1.403	0.960	0.477
135	5.178	4.421	4.069	3.322	2.844	2.470	2.381	2.332	2.327	2.160	2.142	1.773	1.616	1.351	0.881	0.477

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 7: Circular Solid Bar
Fire Resistance Period: 105 Minutes

Thickness (mm) Required for a Design Temperature of

Bar Diameter (mm)	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.712	4.993
45	-	-	-	-	-	-	-	-	-	-	-	-	-	5.334	4.473	3.743
50	-	-	-	-	-	-	-	-	-	-	-	5.144	4.852	4.287	3.576	2.967
55	-	-	-	-	-	-	5.583	5.448	5.433	4.992	4.949	4.199	3.930	3.472	2.953	2.605
60	-	-	-	-	-	4.993	4.725	4.591	4.575	4.137	4.099	3.431	3.187	2.919	2.627	2.299
65	-	-	-	-	5.408	4.258	3.999	3.867	3.850	3.418	3.384	2.917	2.805	2.627	2.351	2.036
70	-	-	-	-	4.746	3.628	3.377	3.248	3.230	2.927	2.913	2.650	2.544	2.377	2.115	1.807
75	-	-	-	-	4.644	3.586	3.350	3.228	3.211	2.925	2.911	2.642	2.534	2.361	2.091	1.768
80	-	-	-	5.773	4.549	3.547	3.324	3.209	3.194	2.923	2.909	2.634	2.523	2.346	2.065	1.727
85	-	-	-	5.615	4.458	3.510	3.300	3.191	3.177	2.921	2.906	2.626	2.511	2.329	2.039	1.682
90	-	-	-	5.464	4.371	3.475	3.277	3.175	3.162	2.919	2.904	2.617	2.499	2.311	2.010	1.634
95	-	-	-	5.320	4.289	3.442	3.255	3.159	3.147	2.917	2.901	2.607	2.487	2.293	1.980	1.583
100	-	-	-	5.183	4.211	3.411	3.235	3.145	3.134	2.914	2.899	2.598	2.474	2.273	1.949	1.528
105	-	-	-	5.052	4.136	3.381	3.216	3.131	3.121	2.912	2.896	2.588	2.460	2.253	1.915	1.469
110	-	-	-	4.927	4.065	3.353	3.197	3.117	3.108	2.910	2.893	2.577	2.446	2.231	1.879	1.405
115	-	-	-	4.808	3.997	3.326	3.180	3.105	3.096	2.907	2.890	2.566	2.430	2.208	1.841	1.335
120	-	-	5.722	4.693	3.932	3.301	3.163	3.093	3.085	2.904	2.887	2.554	2.414	2.184	1.800	1.259
125	-	-	5.552	4.583	3.869	3.276	3.147	3.082	3.075	2.902	2.884	2.542	2.397	2.159	1.756	1.176
130	-	-	5.390	4.477	3.810	3.253	3.132	3.071	3.065	2.899	2.881	2.529	2.380	2.131	1.709	1.085
135	-	5.630	5.234	4.376	3.752	3.231	3.118	3.060	3.055	2.896	2.877	2.515	2.361	2.102	1.659	0.984

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 8: Circular Solid Bar
Fire Resistance Period: 120 Minutes

Thickness (mm) Required for a Design Temperature of

Bar Diameter (mm)	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.317
50	-	-	-	-	-	-	-	-	-	-	-	-	-	5.732	4.848	4.224
55	-	-	-	-	-	-	-	-	-	-	-	5.648	5.352	4.757	4.014	3.445
60	-	-	-	-	-	-	-	-	-	5.571	5.525	4.744	4.472	3.976	3.361	2.925
65	-	-	-	-	-	5.599	5.325	5.189	5.174	4.737	4.696	3.996	3.746	3.336	2.911	2.617
70	-	-	-	-	-	4.874	4.608	4.474	4.458	4.027	3.990	3.366	3.137	2.907	2.634	2.351
75	-	-	-	-	-	4.794	4.542	4.415	4.400	3.994	3.960	3.360	3.135	2.904	2.624	2.329
80	-	-	-	-	5.789	4.719	4.480	4.360	4.346	3.964	3.932	3.353	3.134	2.901	2.613	2.306
85	-	-	-	-	5.667	4.648	4.422	4.308	4.295	3.936	3.906	3.347	3.132	2.898	2.601	2.281
90	-	-	-	-	5.550	4.582	4.367	4.259	4.247	3.909	3.881	3.341	3.130	2.894	2.589	2.254
95	-	-	-	-	5.439	4.519	4.315	4.213	4.202	3.884	3.857	3.335	3.129	2.891	2.576	2.226
100	-	-	-	-	5.333	4.459	4.266	4.169	4.159	3.860	3.835	3.329	3.127	2.887	2.562	2.195
105	-	-	-	-	5.233	4.402	4.219	4.128	4.119	3.838	3.814	3.324	3.126	2.883	2.548	2.162
110	-	-	-	-	5.137	4.348	4.175	4.089	4.080	3.817	3.794	3.319	3.124	2.879	2.532	2.126
115	-	-	-	-	5.045	4.297	4.133	4.052	4.044	3.797	3.775	3.314	3.123	2.875	2.515	2.088
120	-	-	-	-	4.957	4.248	4.093	4.016	4.009	3.777	3.757	3.309	3.122	2.870	2.498	2.045
125	-	-	-	5.681	4.873	4.202	4.055	3.983	3.976	3.759	3.740	3.304	3.120	2.865	2.479	1.999
130	-	-	-	5.553	4.792	4.158	4.019	3.951	3.945	3.742	3.723	3.299	3.119	2.860	2.458	1.948
135	-	-	-	5.430	4.715	4.115	3.985	3.920	3.915	3.725	3.708	3.295	3.118	2.854	2.436	1.892

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 9: Rectangular Solid Bar
Fire Resistance Period: 15 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
30	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
35	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
40	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
45	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
50	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
55	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
60	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
65	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
70	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
75	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
80	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
85	0.557	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
90	0.697	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
95	0.860	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
100	1.049	0.625	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
105	1.134	0.697	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
110	1.223	0.773	0.546	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
115	1.317	0.852	0.617	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
120	1.416	0.936	0.693	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
125	1.520	1.025	0.773	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
130	1.631	1.118	0.857	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
135	1.748	1.218	0.947	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
140	1.872	1.323	1.041	0.507	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
145	2.005	1.434	1.142	0.593	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
150	2.146	1.553	1.249	0.682	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
155	2.296	1.680	1.364	0.778	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
160	2.457	1.816	1.486	0.878	0.503	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
165	2.511	1.857	1.521	0.902	0.518	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
170	2.568	1.900	1.558	0.927	0.534	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
175	2.628	1.946	1.597	0.954	0.550	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 9: Rectangular Solid Bar
Fire Resistance Period: 15 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
180	2.692	1.994	1.638	0.982	0.567	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
185	2.759	2.045	1.681	1.011	0.586	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
190	2.831	2.099	1.726	1.042	0.605	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
195	2.907	2.156	1.774	1.075	0.626	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
200	2.988	2.217	1.825	1.110	0.648	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
205	3.068	2.281	1.880	1.147	0.672	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
210	3.138	2.350	1.937	1.186	0.697	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
215	3.213	2.423	1.998	1.228	0.724	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
220	3.296	2.501	2.064	1.273	0.754	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
225	3.386	2.585	2.134	1.321	0.785	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
230	3.485	2.675	2.209	1.372	0.819	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
235	3.594	2.773	2.290	1.428	0.856	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
240	3.716	2.878	2.377	1.487	0.896	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
245	3.851	2.992	2.471	1.552	0.940	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
250	4.004	3.108	2.573	1.621	0.989	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
255	4.176	3.229	2.684	1.697	1.042	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
260	4.373	3.366	2.805	1.781	1.101	0.513	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
265	4.599	3.522	2.938	1.872	1.167	0.546	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
270	4.862	3.699	3.085	1.972	1.240	0.584	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
275	5.172	3.904	3.248	2.084	1.324	0.628	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 10: Rectangular Solid Bar
Fire Resistance Period: 30 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
30	0.810	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
35	0.899	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
40	0.996	0.565	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
45	1.101	0.670	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
50	1.215	0.783	0.502	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
55	1.340	0.903	0.626	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
60	1.478	1.032	0.755	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
65	1.630	1.171	0.892	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
70	1.800	1.320	1.036	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
75	1.989	1.482	1.189	0.583	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
80	2.201	1.657	1.351	0.736	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
85	2.442	1.848	1.522	0.892	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
90	2.717	2.057	1.705	1.052	0.573	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
95	3.035	2.286	1.899	1.214	0.731	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
100	3.309	2.539	2.107	1.380	0.886	0.522	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
105	3.414	2.659	2.214	1.469	0.967	0.597	0.525	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
110	3.525	2.785	2.327	1.563	1.052	0.675	0.601	0.552	0.546	0.490	0.490	0.490	0.490	0.490	0.490	0.490
115	3.640	2.917	2.446	1.661	1.141	0.756	0.681	0.632	0.625	0.490	0.490	0.490	0.490	0.490	0.490	0.490
120	3.762	3.055	2.571	1.763	1.234	0.842	0.765	0.715	0.708	0.554	0.539	0.490	0.490	0.490	0.490	0.490
125	3.891	3.176	2.703	1.871	1.332	0.931	0.852	0.802	0.795	0.638	0.623	0.490	0.490	0.490	0.490	0.490
130	4.026	3.302	2.843	1.984	1.434	1.025	0.943	0.893	0.886	0.726	0.711	0.490	0.490	0.490	0.490	0.490
135	4.170	3.434	2.991	2.102	1.541	1.123	1.039	0.988	0.981	0.819	0.803	0.522	0.490	0.490	0.490	0.490
140	4.321	3.573	3.135	2.227	1.654	1.226	1.140	1.088	1.081	0.916	0.900	0.613	0.504	0.490	0.490	0.490
145	4.482	3.720	3.278	2.359	1.773	1.334	1.246	1.194	1.187	1.018	1.001	0.710	0.600	0.490	0.490	0.490
150	4.652	3.875	3.430	2.498	1.898	1.449	1.357	1.304	1.297	1.125	1.107	0.811	0.700	0.536	0.490	0.490
155	4.833	4.038	3.590	2.645	2.030	1.569	1.475	1.421	1.414	1.237	1.219	0.917	0.806	0.639	0.490	0.490
160	5.026	4.211	3.759	2.800	2.170	1.696	1.598	1.544	1.537	1.356	1.338	1.029	0.917	0.747	0.490	0.490
165	5.136	4.302	3.841	2.871	2.229	1.744	1.644	1.588	1.581	1.396	1.377	1.059	0.943	0.766	0.490	0.490
170	5.253	4.398	3.928	2.946	2.292	1.795	1.692	1.635	1.627	1.438	1.418	1.090	0.970	0.786	0.490	0.490
175	5.377	4.500	4.020	3.025	2.358	1.849	1.744	1.685	1.677	1.482	1.462	1.124	0.999	0.808	0.494	0.490

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 10: Rectangular Solid Bar
Fire Resistance Period: 30 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
180	5.509	4.608	4.118	3.109	2.427	1.906	1.798	1.738	1.730	1.529	1.509	1.160	1.031	0.831	0.502	0.490
185	5.650	4.723	4.222	3.198	2.501	1.967	1.856	1.794	1.786	1.580	1.559	1.198	1.064	0.856	0.511	0.490
190	5.801	4.846	4.333	3.292	2.580	2.032	1.918	1.854	1.846	1.634	1.613	1.240	1.101	0.883	0.520	0.490
195	-	4.977	4.451	3.393	2.663	2.101	1.984	1.919	1.910	1.692	1.670	1.285	1.140	0.913	0.531	0.490
200	-	5.118	4.577	3.500	2.752	2.175	2.055	1.988	1.979	1.755	1.732	1.333	1.182	0.945	0.542	0.490
205	-	5.269	4.712	3.615	2.847	2.255	2.131	2.062	2.053	1.822	1.799	1.386	1.229	0.979	0.555	0.490
210	-	5.432	4.857	3.738	2.949	2.341	2.213	2.142	2.132	1.895	1.872	1.443	1.279	1.017	0.568	0.490
215	-	5.607	5.013	3.870	3.060	2.433	2.302	2.229	2.219	1.975	1.950	1.506	1.335	1.059	0.584	0.490
220	-	5.798	5.182	4.013	3.195	2.533	2.398	2.323	2.312	2.061	2.036	1.575	1.396	1.106	0.601	0.490
225	-	-	5.365	4.167	3.341	2.642	2.503	2.425	2.414	2.155	2.130	1.650	1.463	1.157	0.620	0.490
230	-	-	5.564	4.334	3.497	2.761	2.617	2.537	2.526	2.259	2.233	1.735	1.538	1.215	0.641	0.490
235	-	-	5.780	4.516	3.666	2.890	2.742	2.659	2.648	2.374	2.346	1.828	1.622	1.280	0.666	0.490
240	-	-	-	4.714	3.849	3.032	2.880	2.795	2.783	2.500	2.473	1.934	1.717	1.353	0.694	0.490
245	-	-	-	4.932	4.047	3.221	3.032	2.944	2.933	2.642	2.613	2.052	1.824	1.437	0.727	0.490
250	-	-	-	5.171	4.263	3.429	3.235	3.126	3.111	2.800	2.771	2.188	1.947	1.534	0.765	0.490
255	-	-	-	5.437	4.500	3.657	3.460	3.351	3.336	2.980	2.950	2.343	2.090	1.647	0.811	0.490
260	-	-	-	5.732	4.760	3.905	3.706	3.597	3.582	3.214	3.177	2.524	2.256	1.780	0.867	0.490
265	-	-	-	-	5.047	4.179	3.976	3.867	3.852	3.488	3.453	2.736	2.453	1.940	0.936	0.490
270	-	-	-	-	5.366	4.481	4.273	4.163	4.149	3.791	3.757	2.989	2.691	2.136	1.023	0.490
275	-	-	-	-	5.721	4.816	4.602	4.492	4.477	4.126	4.093	3.319	2.983	2.381	1.138	0.490

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 11: Rectangular Solid Bar
Fire Resistance Period: 45 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
30	1.899	1.488	1.217	0.571	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
35	2.032	1.615	1.345	0.712	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
40	2.175	1.750	1.480	0.855	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
45	2.331	1.894	1.621	1.001	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
50	2.502	2.048	1.769	1.149	0.564	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
55	2.688	2.213	1.925	1.300	0.729	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
60	2.893	2.389	2.089	1.454	0.893	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
65	3.129	2.579	2.262	1.611	1.054	0.502	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
70	3.394	2.784	2.445	1.772	1.213	0.683	0.564	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
75	3.662	3.005	2.638	1.935	1.370	0.856	0.744	0.667	0.657	0.490	0.490	0.490	0.490	0.490	0.490	0.490
80	3.932	3.248	2.843	2.101	1.525	1.022	0.914	0.842	0.833	0.607	0.585	0.490	0.490	0.490	0.490	0.490
85	4.204	3.491	3.061	2.271	1.678	1.180	1.077	1.009	1.000	0.787	0.767	0.490	0.490	0.490	0.490	0.490
90	4.478	3.732	3.285	2.444	1.830	1.333	1.232	1.167	1.159	0.956	0.937	0.566	0.490	0.490	0.490	0.490
95	4.754	3.972	3.505	2.621	1.979	1.479	1.379	1.317	1.309	1.114	1.096	0.747	0.607	0.490	0.490	0.490
100	5.032	4.211	3.723	2.801	2.127	1.620	1.521	1.460	1.452	1.263	1.246	0.913	0.782	0.585	0.490	0.490
105	5.179	4.346	3.854	2.922	2.236	1.718	1.617	1.556	1.548	1.355	1.337	1.000	0.867	0.668	0.490	0.490
110	5.333	4.487	3.992	3.049	2.349	1.821	1.717	1.655	1.647	1.451	1.433	1.090	0.957	0.755	0.490	0.490
115	5.495	4.634	4.135	3.180	2.467	1.928	1.821	1.759	1.751	1.551	1.533	1.184	1.050	0.846	0.505	0.490
120	5.665	4.789	4.285	3.319	2.591	2.040	1.931	1.868	1.859	1.656	1.637	1.283	1.147	0.940	0.597	0.490
125	-	4.951	4.443	3.464	2.721	2.157	2.045	1.981	1.972	1.765	1.745	1.385	1.248	1.038	0.692	0.490
130	-	5.120	4.608	3.616	2.857	2.280	2.165	2.100	2.091	1.880	1.859	1.493	1.354	1.141	0.791	0.490
135	-	5.299	4.781	3.776	3.000	2.409	2.290	2.225	2.216	2.000	1.979	1.605	1.465	1.248	0.895	0.490
140	-	5.487	4.963	3.945	3.164	2.545	2.422	2.355	2.346	2.126	2.104	1.723	1.581	1.361	1.004	0.510
145	-	5.685	5.155	4.123	3.346	2.687	2.561	2.493	2.483	2.258	2.235	1.846	1.703	1.478	1.118	0.621
150	-	-	5.357	4.310	3.541	2.837	2.707	2.637	2.628	2.397	2.374	1.976	1.831	1.602	1.238	0.739
155	-	-	5.570	4.508	3.751	2.995	2.860	2.790	2.780	2.543	2.519	2.112	1.965	1.732	1.364	0.864
160	-	-	5.796	4.718	3.976	3.202	3.022	2.950	2.940	2.697	2.672	2.256	2.107	1.868	1.496	0.998
165	-	-	-	4.841	4.097	3.321	3.132	3.035	3.025	2.777	2.752	2.324	2.171	1.924	1.538	1.020
170	-	-	-	4.971	4.224	3.447	3.258	3.157	3.142	2.861	2.836	2.397	2.239	1.984	1.584	1.044
175	-	-	-	5.109	4.358	3.580	3.391	3.290	3.276	2.951	2.925	2.475	2.313	2.049	1.633	1.070

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

Nullifire
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Table 11: Rectangular Solid Bar
Fire Resistance Period: 45 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
180	-	-	-	5.254	4.499	3.719	3.531	3.430	3.416	3.047	3.020	2.559	2.391	2.118	1.686	1.098
185	-	-	-	5.408	4.648	3.867	3.678	3.578	3.564	3.198	3.158	2.649	2.476	2.193	1.743	1.129
190	-	-	-	5.572	4.807	4.022	3.833	3.734	3.720	3.357	3.318	2.745	2.567	2.273	1.805	1.163
195	-	-	-	5.747	4.974	4.187	3.998	3.899	3.885	3.525	3.487	2.849	2.665	2.361	1.873	1.200
200	-	-	-	-	5.152	4.362	4.172	4.074	4.060	3.703	3.666	2.962	2.772	2.455	1.947	1.241
205	-	-	-	-	5.341	4.547	4.357	4.259	4.246	3.893	3.857	3.104	2.888	2.559	2.028	1.286
210	-	-	-	-	5.543	4.745	4.553	4.456	4.443	4.094	4.059	3.309	3.015	2.672	2.118	1.337
215	-	-	-	-	5.759	4.955	4.762	4.666	4.653	4.308	4.274	3.527	3.212	2.797	2.218	1.394
220	-	-	-	-	-	5.180	4.986	4.890	4.878	4.536	4.503	3.759	3.443	2.935	2.328	1.459
225	-	-	-	-	-	5.422	5.225	5.130	5.117	4.781	4.749	4.008	3.690	3.108	2.453	1.534
230	-	-	-	-	-	5.680	5.481	5.386	5.374	5.043	5.012	4.274	3.954	3.358	2.593	1.620
235	-	-	-	-	-	-	5.757	5.662	5.650	5.325	5.295	4.561	4.238	3.626	2.753	1.720
240	-	-	-	-	-	-	-	-	-	5.628	5.599	4.869	4.544	3.914	2.937	1.838
245	-	-	-	-	-	-	-	-	-	-	-	5.201	4.873	4.225	3.179	1.981
250	-	-	-	-	-	-	-	-	-	-	-	5.562	5.230	4.561	3.477	2.155
255	-	-	-	-	-	-	-	-	-	-	-	-	5.617	4.926	3.799	2.373
260	-	-	-	-	-	-	-	-	-	-	-	-	-	5.323	4.147	2.655
265	-	-	-	-	-	-	-	-	-	-	-	-	-	5.757	4.524	3.031
270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.935	3.369
275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.383	3.725

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 12: Rectangular Solid Bar
Fire Resistance Period: 60 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
30	2.988	2.602	2.368	1.814	1.237	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
35	3.216	2.764	2.523	1.966	1.402	0.690	0.499	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490	0.490
40	3.476	2.936	2.686	2.120	1.565	0.893	0.718	0.591	0.574	0.490	0.490	0.490	0.490	0.490	0.490	0.490
45	3.738	3.143	2.856	2.278	1.726	1.087	0.925	0.809	0.794	0.490	0.490	0.490	0.490	0.490	0.490	0.490
50	4.002	3.392	3.036	2.438	1.885	1.271	1.119	1.014	1.000	0.647	0.607	0.490	0.490	0.490	0.490	0.490
55	4.268	3.639	3.268	2.601	2.042	1.446	1.303	1.206	1.193	0.870	0.835	0.490	0.490	0.490	0.490	0.490
60	4.536	3.885	3.500	2.768	2.197	1.614	1.477	1.386	1.374	1.075	1.044	0.490	0.490	0.490	0.490	0.490
65	4.806	4.129	3.728	2.937	2.350	1.773	1.641	1.556	1.545	1.265	1.236	0.652	0.490	0.490	0.490	0.490
70	5.078	4.372	3.953	3.120	2.501	1.926	1.798	1.717	1.706	1.441	1.414	0.875	0.647	0.490	0.490	0.490
75	5.352	4.613	4.175	3.318	2.650	2.072	1.946	1.869	1.858	1.604	1.580	1.077	0.867	0.532	0.490	0.490
80	5.628	4.852	4.394	3.509	2.797	2.212	2.087	2.012	2.002	1.757	1.733	1.259	1.065	0.755	0.490	0.490
85	-	5.090	4.610	3.695	2.943	2.346	2.222	2.149	2.139	1.899	1.876	1.425	1.244	0.954	0.490	0.490
90	-	5.326	4.823	3.875	3.091	2.475	2.350	2.278	2.268	2.032	2.010	1.577	1.405	1.133	0.677	0.490
95	-	5.561	5.033	4.049	3.247	2.599	2.473	2.401	2.391	2.157	2.136	1.716	1.552	1.295	0.866	0.490
100	-	5.795	5.240	4.219	3.396	2.717	2.590	2.518	2.508	2.275	2.253	1.845	1.687	1.442	1.035	0.490
105	-	-	5.405	4.371	3.546	2.839	2.709	2.636	2.625	2.388	2.366	1.950	1.791	1.543	1.131	0.561
110	-	-	5.576	4.530	3.703	2.966	2.832	2.758	2.748	2.506	2.483	2.060	1.899	1.647	1.232	0.654
115	-	-	5.756	4.696	3.870	3.108	2.962	2.886	2.876	2.629	2.606	2.175	2.012	1.756	1.336	0.751
120	-	-	-	4.871	4.046	3.274	3.107	3.020	3.010	2.758	2.734	2.295	2.130	1.870	1.445	0.854
125	-	-	-	5.054	4.233	3.452	3.280	3.187	3.174	2.893	2.868	2.420	2.254	1.988	1.559	0.962
130	-	-	-	5.246	4.432	3.643	3.467	3.372	3.360	3.033	3.008	2.551	2.382	2.112	1.678	1.076
135	-	-	-	5.448	4.643	3.849	3.669	3.574	3.561	3.225	3.191	2.688	2.517	2.242	1.802	1.197
140	-	-	-	5.661	4.868	4.071	3.889	3.793	3.781	3.440	3.406	2.832	2.658	2.377	1.932	1.325
145	-	-	-	-	5.108	4.313	4.128	4.033	4.020	3.677	3.642	2.983	2.806	2.519	2.068	1.460
150	-	-	-	-	5.365	4.575	4.389	4.295	4.283	3.938	3.903	3.198	2.961	2.668	2.211	1.604
155	-	-	-	-	5.641	4.862	4.677	4.584	4.572	4.228	4.194	3.477	3.180	2.824	2.361	1.758
160	-	-	-	-	-	5.176	4.993	4.904	4.892	4.553	4.519	3.787	3.484	2.989	2.519	1.921
165	-	-	-	-	-	5.345	5.162	5.073	5.062	4.725	4.693	3.964	3.660	3.110	2.597	1.979
170	-	-	-	-	-	5.523	5.339	5.251	5.240	4.907	4.875	4.149	3.845	3.286	2.681	2.041
175	-	-	-	-	-	5.709	5.526	5.438	5.427	5.098	5.067	4.344	4.039	3.470	2.772	2.109

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 12: Rectangular Solid Bar
Fire Resistance Period: 60 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
180	-	-	-	-	-	-	5.722	5.635	5.625	5.299	5.269	4.549	4.243	3.665	2.870	2.182
185	-	-	-	-	-	-	-	-	-	5.511	5.482	4.765	4.459	3.869	2.976	2.263
190	-	-	-	-	-	-	-	-	-	5.735	5.707	4.993	4.686	4.085	3.121	2.351
195	-	-	-	-	-	-	-	-	-	-	-	5.235	4.926	4.313	3.331	2.447
200	-	-	-	-	-	-	-	-	-	-	-	5.490	5.180	4.554	3.552	2.554
205	-	-	-	-	-	-	-	-	-	-	-	5.761	5.449	4.810	3.786	2.673
210	-	-	-	-	-	-	-	-	-	-	-	-	5.735	5.082	4.033	2.806
215	-	-	-	-	-	-	-	-	-	-	-	-	-	5.370	4.295	2.955
220	-	-	-	-	-	-	-	-	-	-	-	-	-	5.678	4.573	3.159
225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.868	3.421
230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.183	3.697
235	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.519	3.987
240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.293
245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.616
250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.957
255	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.318
260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.701
265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 13: Rectangular Solid Bar
Fire Resistance Period: 75 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
30	4.591	4.044	3.734	3.060	2.593	1.985	1.816	1.701	1.686	1.268	1.220	0.490	0.490	0.490	0.490	0.490
35	4.856	4.292	3.971	3.287	2.750	2.160	2.001	1.896	1.882	1.505	1.463	0.490	0.490	0.490	0.490	0.490
40	5.122	4.539	4.205	3.507	2.904	2.326	2.175	2.077	2.065	1.719	1.682	0.803	0.490	0.490	0.490	0.490
45	5.390	4.785	4.435	3.718	3.059	2.484	2.338	2.247	2.235	1.914	1.880	1.095	0.720	0.490	0.490	0.490
50	5.660	5.028	4.662	3.922	3.254	2.634	2.493	2.406	2.395	2.092	2.062	1.348	1.018	0.490	0.490	0.490
55	-	5.270	4.885	4.120	3.438	2.778	2.638	2.555	2.544	2.256	2.227	1.570	1.275	0.753	0.490	0.490
60	-	5.511	5.105	4.310	3.613	2.914	2.776	2.696	2.685	2.406	2.379	1.766	1.498	1.024	0.490	0.490
65	-	5.750	5.322	4.495	3.779	3.045	2.907	2.828	2.817	2.546	2.520	1.941	1.693	1.259	0.503	0.490
70	-	-	5.536	4.674	3.937	3.196	3.031	2.953	2.942	2.675	2.650	2.097	1.866	1.464	0.772	0.490
75	-	-	5.747	4.847	4.088	3.338	3.167	3.075	3.062	2.795	2.770	2.238	2.020	1.645	1.005	0.490
80	-	-	-	5.014	4.231	3.470	3.297	3.206	3.194	2.907	2.882	2.366	2.158	1.805	1.208	0.490
85	-	-	-	5.177	4.369	3.594	3.420	3.329	3.317	3.011	2.986	2.482	2.283	1.948	1.387	0.623
90	-	-	-	5.334	4.500	3.710	3.535	3.444	3.432	3.121	3.091	2.589	2.396	2.077	1.547	0.817
95	-	-	-	5.487	4.625	3.819	3.644	3.553	3.541	3.229	3.199	2.686	2.498	2.193	1.689	0.985
100	-	-	-	5.636	4.745	3.922	3.748	3.655	3.643	3.330	3.300	2.776	2.592	2.299	1.817	1.132
105	-	-	-	5.819	4.931	4.098	3.919	3.825	3.813	3.495	3.465	2.901	2.715	2.417	1.929	1.237
110	-	-	-	-	5.126	4.285	4.103	4.008	3.996	3.673	3.642	3.031	2.842	2.539	2.046	1.347
115	-	-	-	-	5.333	4.485	4.299	4.203	4.191	3.864	3.832	3.214	2.975	2.667	2.167	1.462
120	-	-	-	-	5.552	4.699	4.509	4.413	4.401	4.070	4.038	3.419	3.151	2.800	2.294	1.583
125	-	-	-	-	5.784	4.928	4.736	4.640	4.628	4.293	4.261	3.640	3.380	2.939	2.426	1.711
130	-	-	-	-	-	5.174	4.980	4.884	4.873	4.536	4.504	3.879	3.625	3.110	2.564	1.846
135	-	-	-	-	-	5.440	5.244	5.149	5.138	4.800	4.769	4.139	3.889	3.373	2.708	1.989
140	-	-	-	-	-	5.727	5.531	5.438	5.427	5.090	5.059	4.423	4.174	3.652	2.860	2.140
145	-	-	-	-	-	-	-	5.753	5.742	5.409	5.379	4.734	4.482	3.948	3.018	2.300
150	-	-	-	-	-	-	-	-	-	5.761	5.732	5.076	4.815	4.262	3.308	2.470
155	-	-	-	-	-	-	-	-	-	-	-	5.454	5.178	4.597	3.634	2.651
160	-	-	-	-	-	-	-	-	-	-	-	-	5.575	4.954	3.970	2.845
165	-	-	-	-	-	-	-	-	-	-	-	-	5.802	5.170	4.171	2.938
170	-	-	-	-	-	-	-	-	-	-	-	-	-	5.396	4.381	3.039
175	-	-	-	-	-	-	-	-	-	-	-	-	-	5.635	4.601	3.238

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

Nullifire
Smart Protection

Table 13: Rectangular Solid Bar
Fire Resistance Period: 75 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.831	3.454
185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.074	3.679
190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.329	3.914
195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.597	4.159
200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.414
205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.681
210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.961
215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.254
220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.560
225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
235	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
255	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

Nullifire
Smart Protection

Table 14: Rectangular Solid Bar
Fire Resistance Period: 90 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
30	-	5.702	5.413	4.843	4.323	3.673	3.453	3.364	3.353	3.012	2.988	2.157	1.709	0.747	0.490	0.490
35	-	-	5.637	5.038	4.498	3.846	3.620	3.536	3.525	3.197	3.167	2.385	1.998	1.174	0.490	0.490
40	-	-	-	5.226	4.663	4.003	3.774	3.693	3.683	3.370	3.342	2.579	2.236	1.514	0.490	0.490
45	-	-	-	5.407	4.818	4.147	3.916	3.837	3.827	3.524	3.497	2.746	2.435	1.791	0.573	0.490
50	-	-	-	5.582	4.965	4.278	4.047	3.969	3.959	3.662	3.636	2.890	2.605	2.021	0.944	0.490
55	-	-	-	5.752	5.105	4.400	4.169	4.091	4.081	3.787	3.761	3.017	2.750	2.214	1.246	0.490
60	-	-	-	-	5.237	4.512	4.283	4.204	4.193	3.900	3.874	3.161	2.877	2.380	1.498	0.490
65	-	-	-	-	5.363	4.616	4.389	4.308	4.298	4.003	3.976	3.299	2.988	2.523	1.711	0.589
70	-	-	-	-	5.483	4.712	4.489	4.406	4.395	4.097	4.070	3.420	3.104	2.648	1.893	0.864
75	-	-	-	-	5.597	4.802	4.582	4.496	4.486	4.183	4.156	3.529	3.235	2.758	2.050	1.088
80	-	-	-	-	5.705	4.886	4.669	4.581	4.571	4.262	4.235	3.626	3.351	2.855	2.187	1.276
85	-	-	-	-	5.809	4.965	4.751	4.661	4.650	4.336	4.307	3.714	3.456	2.942	2.309	1.435
90	-	-	-	-	-	5.038	4.829	4.736	4.724	4.404	4.375	3.794	3.551	3.021	2.416	1.571
95	-	-	-	-	-	5.108	4.902	4.806	4.794	4.467	4.437	3.867	3.637	3.121	2.512	1.689
100	-	-	-	-	-	5.173	4.971	4.872	4.860	4.526	4.495	3.934	3.716	3.229	2.599	1.792
105	-	-	-	-	-	5.388	5.183	5.083	5.072	4.734	4.703	4.142	3.934	3.457	2.727	1.913
110	-	-	-	-	-	5.617	5.409	5.309	5.298	4.957	4.926	4.365	4.167	3.696	2.859	2.039
115	-	-	-	-	-	-	5.652	5.552	5.541	5.197	5.166	4.605	4.414	3.947	2.998	2.172
120	-	-	-	-	-	-	-	5.812	5.801	5.456	5.426	4.863	4.678	4.211	3.238	2.313
125	-	-	-	-	-	-	-	-	-	5.737	5.707	5.142	4.960	4.490	3.538	2.460
130	-	-	-	-	-	-	-	-	-	-	-	5.444	5.263	4.785	3.845	2.616
135	-	-	-	-	-	-	-	-	-	-	-	5.772	5.588	5.096	4.161	2.780
140	-	-	-	-	-	-	-	-	-	-	-	-	-	5.426	4.486	2.955
145	-	-	-	-	-	-	-	-	-	-	-	-	-	5.775	4.820	3.295
150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.164	3.749
155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.517	4.147
160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.499
165	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.727
170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.964
175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.210

Above figures are applicable to horizontal and vertical bars.

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SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 14: Rectangular Solid Bar
Fire Resistance Period: 90 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.466
185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.733
190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
235	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
255	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 15: Rectangular Solid Bar
Fire Resistance Period: 105 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
30	-	-	-	-	-	5.788	5.422	5.402	5.398	5.290	5.289	4.808	4.462	3.224	1.350	0.490
35	-	-	-	-	-	-	5.507	5.480	5.476	5.345	5.341	4.868	4.560	3.482	1.770	0.490
40	-	-	-	-	-	-	5.585	5.552	5.547	5.394	5.387	4.918	4.641	3.687	2.084	0.490
45	-	-	-	-	-	-	5.658	5.617	5.612	5.438	5.428	4.959	4.708	3.853	2.326	0.501
50	-	-	-	-	-	-	5.724	5.678	5.672	5.477	5.465	4.995	4.765	3.990	2.519	0.972
55	-	-	-	-	-	-	5.787	5.733	5.727	5.512	5.497	5.026	4.814	4.105	2.677	1.309
60	-	-	-	-	-	-	-	5.785	5.777	5.544	5.527	5.053	4.856	4.204	2.808	1.562
65	-	-	-	-	-	-	-	-	5.824	5.573	5.554	5.076	4.893	4.289	2.918	1.760
70	-	-	-	-	-	-	-	-	-	5.600	5.579	5.097	4.926	4.363	3.013	1.918
75	-	-	-	-	-	-	-	-	-	5.624	5.601	5.116	4.955	4.428	3.147	2.047
80	-	-	-	-	-	-	-	-	-	5.647	5.622	5.133	4.981	4.486	3.296	2.155
85	-	-	-	-	-	-	-	-	-	5.668	5.641	5.148	5.004	4.538	3.427	2.246
90	-	-	-	-	-	-	-	-	-	5.687	5.659	5.162	5.025	4.584	3.543	2.325
95	-	-	-	-	-	-	-	-	-	5.705	5.675	5.174	5.044	4.626	3.646	2.393
100	-	-	-	-	-	-	-	-	-	5.721	5.691	5.186	5.062	4.664	3.739	2.452
105	-	-	-	-	-	-	-	-	-	-	-	5.437	5.321	4.927	4.030	2.589
110	-	-	-	-	-	-	-	-	-	-	-	5.706	5.597	5.202	4.327	2.732
115	-	-	-	-	-	-	-	-	-	-	-	-	-	5.493	4.633	2.883
120	-	-	-	-	-	-	-	-	-	-	-	-	-	5.798	4.947	3.042
125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.269	3.726
130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.600	4.305
135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.789
140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.199
145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.551
150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
165	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 15: Rectangular Solid Bar
Fire Resistance Period: 105 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
235	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
255	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

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Table 16: Rectangular Solid Bar
Fire Resistance Period: 120 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.143	1.502
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.191	2.108
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.225	2.414
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.251	2.599
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.272	2.723
55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.289	2.812
60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.303	2.878
65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.314	2.930
70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.324	2.972
75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.332	3.006
80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.340	3.034
85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.346	3.152
90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.352	3.350
95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.357	3.516
100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.362	3.658
105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.673	4.722
110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.486
115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
165	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Above figures are applicable to horizontal and vertical bars.

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.



SC902 Loading Tables

EN13381-10 – Protection of Solid Bars

Nullifire
Smart Protection

Table 16: Rectangular Solid Bar
Fire Resistance Period: 120 Minutes

Thickness (mm) Required for a Design Temperature of

Section Factor up to m ⁻¹	300°C	330°C	350°C	400°C	450°C	500°C	512°C	520°C	521°C	547°C	550°C	600°C	620°C	650°C	700°C	750°C
	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)	DFT (mm)
180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
235	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
255	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Above figures are applicable to horizontal and vertical bars.

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.