



CERTIFICATE OF APPROVAL

No CF 5303

This is to certify that, in accordance with
 TS00 General Requirements for Certification of Fire Protection Products
 The undermentioned products of

CONTEGO INTERNATIONAL INC.

**1013 Arthur Street, P.O. Box 49, Rochester, IN 46975,
 United States of America
 Tel: 1-317-966-2189**

Have been assessed against the requirements of the Technical Schedule(s)
 denoted below and are approved for use subject to the conditions
 appended hereto:

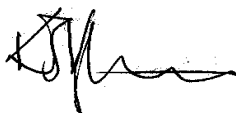
CERTIFIED PRODUCT

CON-RFB (HS)

TECHNICAL SCHEDULE

**TS 15 INTUMESCENT
 COATINGS FOR STEELWORK**

Signed and sealed for and on behalf of CERTIFIRE



Sir Ken Knight
 Chairman
WCL Impartiality Committee



Paul Duggan
 Certification Manager
Warrington Certification Ltd



Issued: 9th February 2015
 Revised: 18th March 2016
 Valid to: 8th February 2020

CERTIFICATE No CF 5303

CONTEGO INTERNATIONAL INC.

CON-RFB (HS)

1. This approval relates to the use of CON-RFB (HS) (also known under brand name CONTEGO Passive Fire Barrier Latex Intumescent) for the fire protection of steel 'I' and 'H' shaped beam and column sections. The precise scope is given in Tables 1 to 14 which show the total dry film thickness of CON-RFB (HS) (excluding primer) required to provide fire resistance periods in accordance with BS476: Part 21: 1987 of 30 minutes up to 120 minutes for differing sections, section factors and design temperatures.
2. This certification is designed to demonstrate compliance of the product or system specifically with Approved Document B (England and Wales), Section 2 of the Technical Standards (Scotland), Technical Booklet E (N. Ireland). If compliance is required to other regulatory or guidance documents there may be additional considerations or conflict to be taken into account.
3. The products are approved on the basis of:
 - i) Initial type testing.
 - ii) A design appraisal against TS15.
 - iii) Certification of quality management system to ISO 9001: 2015.
 - iv) Inspection and surveillance of factory production control
 - v) Audit testing
4. The data referring to three-sided fire exposure of beams relate to beams supporting concrete floor slabs. Separate consideration is required where this is not the case.
5. The data shown is applicable to steel sections blast cleaned to ISO 8501-1 SA2.5 or equivalent and primed with a suitable and compatible primer. Specifications of surface preparations and primers are available from the Contego International whose responsibility is to ensure that CON-RFB (HS) is compatible for use in respect of both ambient and fire conditions. The total dry film thickness of primer should not exceed that tested.
6. Specific data given in the tables applies to horizontal, vertical, flexural and compression members supporting loads up to the maximum design loads specified in BS449: Part 2.
7. The approval relates to on-going production. Product and/or its immediate packaging is identified with the manufacturers' name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number and application where appropriate.
8. The data shown in the tables is based on assessments which comply with the criteria for acceptability now incorporated within the CERTIFIRE scheme.

CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 1: I/H-Beam Sections 30 Minutes										
Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of									
	350°C	400°C	450°C	500°C	550°C	600°C	620°C	650°C	700°C	750°C
30	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
35	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
40	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
45	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
50	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
55	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
60	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
65	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
70	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
75	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
80	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
85	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
90	0.567	0.372	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
95	0.588	0.382	0.276	0.275	0.275	0.275	0.275	0.275	0.275	0.275
100	0.608	0.392	0.286	0.275	0.275	0.275	0.275	0.275	0.275	0.275
105	0.628	0.402	0.296	0.275	0.275	0.275	0.275	0.275	0.275	0.275
110	0.646	0.412	0.306	0.275	0.275	0.275	0.275	0.275	0.275	0.275
115	0.664	0.422	0.316	0.275	0.275	0.275	0.275	0.275	0.275	0.275
120	0.682	0.432	0.326	0.275	0.275	0.275	0.275	0.275	0.275	0.275
125	0.699	0.442	0.336	0.275	0.275	0.275	0.275	0.275	0.275	0.275
130	0.717	0.452	0.346	0.278	0.275	0.275	0.275	0.275	0.275	0.275
135	0.735	0.462	0.356	0.287	0.275	0.275	0.275	0.275	0.275	0.275
140	0.753	0.472	0.366	0.296	0.275	0.275	0.275	0.275	0.275	0.275
145	0.771	0.482	0.376	0.305	0.275	0.275	0.275	0.275	0.275	0.275
150	0.789	0.492	0.386	0.314	0.275	0.275	0.275	0.275	0.275	0.275
155	0.807	0.502	0.396	0.323	0.275	0.275	0.275	0.275	0.275	0.275
160	0.825	0.512	0.406	0.332	0.275	0.275	0.275	0.275	0.275	0.275
165	0.843	0.522	0.416	0.341	0.275	0.275	0.275	0.275	0.275	0.275
170	0.861	0.532	0.426	0.350	0.275	0.275	0.275	0.275	0.275	0.275
175	0.878	0.542	0.436	0.359	0.276	0.275	0.275	0.275	0.275	0.275
180	0.896	0.552	0.446	0.368	0.284	0.275	0.275	0.275	0.275	0.275
185	0.914	0.563	0.456	0.377	0.293	0.275	0.275	0.275	0.275	0.275
190	0.932	0.573	0.466	0.386	0.301	0.275	0.275	0.275	0.275	0.275
195	0.950	0.583	0.476	0.395	0.310	0.275	0.275	0.275	0.275	0.275
200	0.968	0.593	0.486	0.404	0.318	0.275	0.275	0.275	0.275	0.275
205	0.986	0.603	0.496	0.413	0.327	0.275	0.275	0.275	0.275	0.275
210	1.004	0.613	0.506	0.422	0.335	0.275	0.275	0.275	0.275	0.275
215	1.022	0.624	0.516	0.431	0.344	0.275	0.275	0.275	0.275	0.275
220	1.040	0.634	0.526	0.440	0.352	0.277	0.275	0.275	0.275	0.275
225	1.057	0.644	0.536	0.449	0.360	0.284	0.275	0.275	0.275	0.275
230	1.075	0.654	0.546	0.458	0.369	0.292	0.275	0.275	0.275	0.275
235	1.093	0.664	0.556	0.467	0.377	0.300	0.275	0.275	0.275	0.275
240	1.111	0.674	0.566	0.476	0.386	0.307	0.276	0.275	0.275	0.275
245	1.129	0.684	0.576	0.485	0.394	0.315	0.283	0.275	0.275	0.275
250	1.147	0.694	0.586	0.494	0.403	0.322	0.290	0.275	0.275	0.275
255	1.165	0.704	0.596	0.503	0.411	0.330	0.297	0.275	0.275	0.275
260	1.183	0.714	0.606	0.512	0.419	0.338	0.305	0.275	0.275	0.275
265	1.201	0.724	0.616	0.521	0.428	0.345	0.312	0.275	0.275	0.275
270	1.219	0.734	0.626	0.530	0.436	0.353	0.319	0.276	0.275	0.275
275	1.236	0.744	0.636	0.539	0.445	0.360	0.326	0.282	0.275	0.275
280	1.254	0.754	0.646	0.548	0.453	0.368	0.333	0.289	0.275	0.275
285	1.272	0.764	0.656	0.557	0.462	0.375	0.341	0.295	0.275	0.275
290	1.290	0.774	0.666	0.566	0.470	0.383	0.348	0.302	0.275	0.275
295	1.308	0.784	0.676	0.575	0.478	0.391	0.355	0.308	0.275	0.275
300	1.326	0.794	0.686	0.584	0.487	0.398	0.362	0.315	0.275	0.275
305	1.344	0.804	0.696	0.593	0.495	0.406	0.370	0.321	0.275	0.275
310	1.362	0.814	0.706	0.602	0.504	0.413	0.377	0.328	0.275	0.275
315	1.380	0.824	0.716	0.611	0.512	0.421	0.384	0.335	0.275	0.275
320	1.398	0.834	0.726	0.620	0.521	0.429	0.391	0.341	0.275	0.275
325	1.415	0.844	0.736	0.633	0.529	0.436	0.398	0.348	0.275	0.275
330	1.433	0.854	0.746	0.647	0.538	0.444	0.406	0.354	0.275	0.275
335	1.451	0.864	0.756	0.661	0.546	0.451	0.413	0.361	0.275	0.275
340	1.469	0.874	0.766	0.675	0.554	0.459	0.420	0.367	0.280	0.275
345	1.487	0.884	0.776	0.689	0.563	0.466	0.427	0.374	0.285	0.275
350	1.505	0.894	0.786	0.703	0.571	0.474	0.435	0.380	0.290	0.275
355	1.523	0.904	0.796	0.717	0.580	0.482	0.442	0.387	0.295	0.275
360	1.541	0.914	0.810	0.731	0.588	0.489	0.449	0.393	0.301	0.275
365	1.559	0.924	0.824	0.745	0.597	0.497	0.456	0.400	0.306	0.275

Thickness is intumescent only.

Results apply to I/H-section beams with concrete slabs with 3 sided fire exposure.





CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 2: I/H-Beam Sections 45 Minutes										
Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of									
	350°C	400°C	450°C	500°C	550°C	600°C	620°C	650°C	700°C	750°C
30	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
35	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
40	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
45	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
50	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
55	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
60	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
65	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
70	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
75	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
80	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
85	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
90	1.127	0.761	0.523	0.420	0.344	0.288	0.275	0.275	0.275	0.275
95	1.153	0.781	0.538	0.429	0.353	0.297	0.279	0.275	0.275	0.275
100	1.180	0.801	0.553	0.437	0.362	0.306	0.288	0.275	0.275	0.275
105	1.207	0.820	0.568	0.446	0.371	0.315	0.296	0.275	0.275	0.275
110	1.234	0.840	0.583	0.455	0.381	0.324	0.305	0.275	0.275	0.275
115	1.260	0.860	0.598	0.463	0.390	0.333	0.314	0.275	0.275	0.275
120	1.287	0.880	0.613	0.472	0.399	0.342	0.323	0.280	0.275	0.275
125	1.314	0.899	0.631	0.481	0.408	0.351	0.331	0.289	0.275	0.275
130	1.341	0.919	0.651	0.489	0.417	0.360	0.340	0.298	0.275	0.275
135	1.367	0.939	0.671	0.498	0.427	0.369	0.349	0.306	0.275	0.275
140	1.394	0.958	0.691	0.506	0.436	0.378	0.357	0.315	0.275	0.275
145	1.421	0.978	0.711	0.515	0.445	0.387	0.366	0.324	0.275	0.275
150	1.448	0.998	0.731	0.524	0.454	0.396	0.375	0.332	0.275	0.275
155	1.475	1.018	0.751	0.532	0.464	0.405	0.383	0.341	0.275	0.275
160	1.501	1.037	0.772	0.541	0.473	0.414	0.392	0.350	0.275	0.275
165	1.528	1.057	0.792	0.550	0.482	0.423	0.401	0.358	0.275	0.275
170	1.555	1.077	0.812	0.558	0.491	0.431	0.410	0.367	0.276	0.275
175	1.582	1.097	0.832	0.567	0.501	0.440	0.418	0.376	0.285	0.275
180	1.608	1.116	0.852	0.575	0.510	0.449	0.427	0.384	0.293	0.275
185	1.635	1.136	0.872	0.584	0.519	0.458	0.436	0.393	0.302	0.275
190	1.662	1.156	0.892	0.593	0.528	0.467	0.444	0.402	0.311	0.275
195	1.689	1.176	0.912	0.601	0.537	0.476	0.453	0.410	0.320	0.275
200	1.715	1.195	0.932	0.610	0.547	0.485	0.462	0.419	0.328	0.275
205	1.737	1.215	0.952	0.619	0.556	0.494	0.470	0.428	0.337	0.275
210	1.758	1.235	0.973	0.637	0.565	0.503	0.479	0.436	0.346	0.275
215	1.780	1.255	0.993	0.658	0.574	0.512	0.488	0.445	0.355	0.280
220	1.802	1.274	1.013	0.680	0.584	0.521	0.497	0.454	0.363	0.287
225	1.824	1.294	1.033	0.702	0.593	0.530	0.505	0.462	0.372	0.294
230	1.846	1.314	1.053	0.723	0.602	0.539	0.514	0.471	0.381	0.302
235	1.867	1.334	1.073	0.745	0.611	0.548	0.523	0.480	0.389	0.309
240	1.889	1.353	1.093	0.767	0.620	0.557	0.531	0.488	0.398	0.316
245	1.911	1.373	1.113	0.788	0.639	0.566	0.540	0.497	0.407	0.323
250	1.933	1.393	1.133	0.810	0.657	0.575	0.549	0.506	0.416	0.331
255	1.955	1.413	1.153	0.832	0.676	0.584	0.558	0.514	0.424	0.338
260	1.976	1.432	1.174	0.854	0.695	0.593	0.566	0.523	0.433	0.345
265	1.998	1.452	1.194	0.875	0.714	0.602	0.575	0.532	0.442	0.352
270	2.020	1.472	1.214	0.897	0.732	0.610	0.584	0.540	0.451	0.360
275	2.042	1.491	1.234	0.919	0.751	0.619	0.592	0.549	0.459	0.367
280	2.064	1.511	1.254	0.940	0.770	0.634	0.601	0.558	0.468	0.374
285	2.085	1.531	1.274	0.962	0.789	0.650	0.610	0.566	0.477	0.381
290	2.107	1.551	1.294	0.984	0.807	0.666	0.618	0.575	0.485	0.389
295	2.129	1.570	1.314	1.005	0.826	0.682	0.632	0.584	0.494	0.396
300	2.151	1.590	1.334	1.027	0.845	0.698	0.646	0.592	0.503	0.403
305	2.173	1.610	1.355	1.049	0.864	0.714	0.661	0.601	0.512	0.410
310	2.194	1.630	1.375	1.070	0.883	0.730	0.676	0.610	0.520	0.418
315	2.216	1.649	1.395	1.092	0.901	0.746	0.691	0.618	0.529	0.425
320	2.238	1.669	1.415	1.114	0.920	0.762	0.706	0.630	0.538	0.432
325	2.260	1.689	1.435	1.135	0.939	0.778	0.721	0.644	0.547	0.439
330	2.282	1.709	1.455	1.157	0.958	0.794	0.736	0.657	0.555	0.447
335	2.303	1.744	1.475	1.179	0.976	0.810	0.751	0.671	0.564	0.454
340	2.325	1.784	1.495	1.201	0.995	0.826	0.766	0.684	0.573	0.461
345	2.420	1.823	1.515	1.222	1.014	0.842	0.781	0.698	0.581	0.468
350	2.517	1.862	1.535	1.244	1.033	0.858	0.796	0.711	0.590	0.476
355	2.615	1.901	1.556	1.266	1.051	0.874	0.811	0.724	0.599	0.483
360	2.712	1.940	1.576	1.287	1.070	0.890	0.826	0.738	0.608	0.490
365	2.809	1.980	1.596	1.309	1.089	0.906	0.841	0.751	0.616	0.497

Thickness is intumescent only.

Results apply to I/H-section beams with concrete slabs with 3 sided fire exposure.



CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 3: I/H-Beam Sections 60 Minutes

Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of									
	350°C	400°C	450°C	500°C	550°C	600°C	620°C	650°C	700°C	750°C
30	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
35	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
40	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
45	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
50	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
55	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
60	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
65	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
70	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
75	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
80	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
85	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
90	1.687	1.238	0.908	0.662	0.533	0.461	0.435	0.397	0.337	0.275
95	1.720	1.277	0.934	0.683	0.546	0.470	0.443	0.405	0.346	0.275
100	1.753	1.317	0.960	0.704	0.559	0.478	0.451	0.413	0.355	0.283
105	1.787	1.356	0.985	0.725	0.572	0.486	0.458	0.422	0.363	0.291
110	1.820	1.396	1.011	0.746	0.585	0.494	0.466	0.430	0.372	0.300
115	1.853	1.435	1.037	0.768	0.598	0.503	0.474	0.438	0.381	0.309
120	1.886	1.475	1.063	0.789	0.611	0.511	0.482	0.447	0.389	0.317
125	1.919	1.514	1.088	0.810	0.626	0.519	0.490	0.455	0.398	0.326
130	1.953	1.554	1.114	0.831	0.646	0.528	0.497	0.463	0.407	0.334
135	1.986	1.593	1.140	0.852	0.667	0.536	0.505	0.471	0.415	0.343
140	2.019	1.633	1.166	0.874	0.688	0.544	0.513	0.480	0.424	0.352
145	2.052	1.672	1.191	0.895	0.708	0.552	0.521	0.488	0.433	0.360
150	2.086	1.712	1.217	0.916	0.729	0.561	0.528	0.496	0.441	0.369
155	2.119	1.742	1.243	0.937	0.749	0.569	0.536	0.505	0.450	0.377
160	2.152	1.771	1.269	0.959	0.770	0.577	0.544	0.513	0.458	0.386
165	2.185	1.801	1.294	0.980	0.791	0.585	0.552	0.521	0.467	0.395
170	2.219	1.831	1.320	1.001	0.811	0.594	0.560	0.530	0.476	0.403
175	2.252	1.861	1.346	1.022	0.832	0.602	0.567	0.538	0.484	0.412
180	2.285	1.891	1.372	1.043	0.853	0.610	0.575	0.546	0.493	0.421
185	2.318	1.920	1.397	1.065	0.873	0.619	0.583	0.555	0.502	0.429
190	2.376	1.950	1.423	1.086	0.894	0.636	0.591	0.563	0.510	0.438
195	2.442	1.980	1.449	1.107	0.914	0.657	0.599	0.571	0.519	0.446
200	2.507	2.010	1.474	1.128	0.935	0.678	0.606	0.580	0.528	0.455
205	2.572	2.040	1.500	1.149	0.956	0.699	0.614	0.588	0.536	0.464
210	2.637	2.070	1.526	1.171	0.976	0.720	0.623	0.596	0.545	0.472
215	2.703	2.099	1.552	1.192	0.997	0.741	0.644	0.605	0.554	0.481
220	2.768	2.129	1.577	1.213	1.017	0.762	0.665	0.613	0.562	0.489
225	2.833	2.159	1.603	1.234	1.038	0.783	0.686	0.622	0.571	0.498
230	2.898	2.189	1.629	1.255	1.059	0.804	0.707	0.640	0.580	0.507
235	2.963	2.219	1.655	1.277	1.079	0.825	0.727	0.659	0.588	0.515
240	3.029	2.249	1.680	1.298	1.100	0.846	0.748	0.678	0.597	0.524
245	3.094	2.278	1.706	1.319	1.120	0.867	0.769	0.697	0.605	0.533
250	3.159	2.308	1.735	1.340	1.141	0.888	0.790	0.716	0.614	0.541
255	3.224	2.357	1.765	1.362	1.162	0.909	0.811	0.735	0.624	0.550
260	3.290	2.434	1.795	1.383	1.182	0.930	0.832	0.754	0.640	0.558
265	3.355	2.511	1.824	1.404	1.203	0.951	0.852	0.773	0.657	0.567
270	3.420	2.588	1.854	1.425	1.224	0.972	0.873	0.792	0.673	0.576
275	3.485	2.664	1.884	1.446	1.244	0.993	0.894	0.811	0.689	0.584
280	3.551	2.741	1.914	1.468	1.265	1.014	0.915	0.829	0.705	0.593
285	3.616	2.818	1.944	1.489	1.285	1.035	0.936	0.848	0.721	0.601
290	3.681	2.895	1.974	1.510	1.306	1.056	0.956	0.867	0.737	0.610
295	3.746	2.972	2.003	1.531	1.327	1.077	0.977	0.886	0.753	0.619
300	3.811	3.049	2.033	1.552	1.347	1.098	0.998	0.905	0.769	0.631
305	3.877	3.126	2.063	1.574	1.368	1.119	1.019	0.924	0.786	0.644
310	-	3.203	2.093	1.595	1.388	1.140	1.040	0.943	0.802	0.658
315	-	3.280	2.123	1.616	1.409	1.161	1.061	0.962	0.818	0.671
320	-	3.356	2.153	1.637	1.430	1.182	1.081	0.981	0.834	0.685
325	-	3.433	2.182	1.659	1.450	1.203	1.102	1.000	0.850	0.698
330	-	3.510	2.212	1.680	1.471	1.224	1.123	1.019	0.866	0.712
335	-	3.587	2.242	1.701	1.491	1.245	1.144	1.037	0.882	0.725
340	-	3.664	2.272	1.738	1.512	1.266	1.165	1.056	0.898	0.739
345	-	3.741	2.302	1.792	1.533	1.287	1.186	1.075	0.914	0.752
350	-	3.818	2.355	1.846	1.553	1.308	1.206	1.094	0.931	0.766
355	-	3.895	2.514	1.900	1.574	1.329	1.227	1.113	0.947	0.779
360	-	-	2.673	1.954	1.595	1.350	1.248	1.132	0.963	0.793
365	-	-	2.832	2.008	1.615	1.371	1.269	1.151	0.979	0.806

Thickness is intumescent only.

Results apply to I/H-section beams with concrete slabs with 3 sided fire exposure.



CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 4: I/H-Beam Sections 75 Minutes

Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of									
	350°C	400°C	450°C	500°C	550°C	600°C	620°C	650°C	700°C	750°C
30	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
35	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
40	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
45	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
50	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
55	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
60	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
65	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
70	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
75	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
80	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
85	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
90	2.059	1.724	1.329	1.044	0.815	0.635	0.589	0.547	0.480	0.401
95	2.110	1.762	1.379	1.080	0.840	0.656	0.604	0.560	0.489	0.410
100	2.161	1.799	1.428	1.116	0.864	0.677	0.609	0.572	0.498	0.418
105	2.212	1.837	1.478	1.152	0.889	0.697	0.638	0.585	0.507	0.427
110	2.264	1.874	1.527	1.187	0.914	0.718	0.659	0.597	0.516	0.435
115	2.315	1.912	1.577	1.223	0.939	0.739	0.679	0.610	0.525	0.443
120	2.366	1.949	1.626	1.259	0.964	0.760	0.700	0.623	0.534	0.452
125	2.417	1.987	1.676	1.295	0.989	0.780	0.720	0.643	0.543	0.460
130	2.469	2.024	1.721	1.331	1.014	0.801	0.740	0.662	0.552	0.469
135	2.520	2.062	1.757	1.367	1.038	0.822	0.761	0.682	0.561	0.477
140	2.571	2.099	1.792	1.403	1.063	0.842	0.781	0.701	0.570	0.485
145	2.622	2.137	1.827	1.439	1.088	0.863	0.802	0.721	0.579	0.494
150	2.674	2.174	1.862	1.475	1.113	0.884	0.822	0.740	0.588	0.502
155	2.725	2.212	1.897	1.511	1.138	0.905	0.843	0.760	0.597	0.511
160	2.776	2.249	1.932	1.547	1.163	0.925	0.863	0.780	0.605	0.519
165	2.827	2.287	1.967	1.582	1.187	0.946	0.883	0.799	0.614	0.527
170	2.879	2.324	2.003	1.618	1.212	0.967	0.904	0.819	0.626	0.536
175	2.930	2.398	2.038	1.654	1.237	0.988	0.924	0.838	0.645	0.544
180	2.981	2.473	2.073	1.690	1.262	1.008	0.945	0.858	0.664	0.552
185	3.032	2.549	2.108	1.725	1.287	1.029	0.965	0.878	0.684	0.561
190	3.083	2.624	2.143	1.757	1.312	1.050	0.986	0.897	0.703	0.569
195	3.135	2.700	2.178	1.790	1.337	1.071	1.006	0.917	0.722	0.578
200	3.186	2.776	2.213	1.823	1.361	1.091	1.026	0.936	0.741	0.586
205	3.237	2.851	2.248	1.855	1.386	1.112	1.047	0.956	0.761	0.594
210	3.288	2.927	2.284	1.888	1.411	1.133	1.067	0.975	0.780	0.603
215	3.340	3.002	2.319	1.920	1.436	1.154	1.088	0.995	0.799	0.611
220	3.391	3.078	2.352	1.953	1.461	1.174	1.108	1.015	0.818	0.620
225	3.442	3.154	2.476	1.985	1.486	1.195	1.128	1.034	0.837	0.636
230	3.493	3.229	2.560	2.018	1.510	1.216	1.149	1.054	0.857	0.654
235	3.545	3.305	2.643	2.051	1.535	1.237	1.169	1.073	0.876	0.672
240	3.596	3.380	2.727	2.083	1.560	1.257	1.190	1.093	0.895	0.690
245	3.647	3.456	2.811	2.116	1.585	1.278	1.210	1.112	0.914	0.708
250	3.698	3.532	2.894	2.148	1.610	1.299	1.231	1.132	0.934	0.726
255	3.750	3.607	2.978	2.181	1.635	1.320	1.251	1.152	0.953	0.744
260	3.801	3.683	3.061	2.213	1.660	1.340	1.271	1.171	0.972	0.763
265	3.852	3.759	3.145	2.246	1.684	1.361	1.292	1.191	0.991	0.781
270	3.903	3.834	3.229	2.279	1.709	1.382	1.312	1.210	1.010	0.799
275	-	-	3.312	2.311	1.746	1.403	1.333	1.230	1.030	0.817
280	-	-	3.396	2.393	1.784	1.423	1.353	1.250	1.049	0.835
285	-	-	3.480	2.515	1.823	1.444	1.374	1.269	1.068	0.853
290	-	-	3.563	2.637	1.861	1.465	1.394	1.289	1.087	0.871
295	-	-	3.647	2.759	1.900	1.486	1.414	1.308	1.107	0.889
300	-	-	3.731	2.882	1.938	1.506	1.435	1.328	1.126	0.907
305	-	-	3.814	3.004	1.976	1.527	1.455	1.347	1.145	0.925
310	-	-	3.898	3.126	2.015	1.548	1.476	1.367	1.164	0.943
315	-	-	-	3.248	2.053	1.569	1.496	1.387	1.183	0.962
320	-	-	-	3.370	2.091	1.589	1.517	1.406	1.203	0.980
325	-	-	-	3.493	2.130	1.610	1.537	1.426	1.222	0.998
330	-	-	-	3.615	2.168	1.631	1.557	1.445	1.241	1.016
335	-	-	-	3.737	2.206	1.652	1.578	1.465	1.260	1.034
340	-	-	-	3.859	2.245	1.672	1.598	1.484	1.280	1.052
345	-	-	-	-	2.283	1.693	1.619	1.504	1.299	1.070
350	-	-	-	-	2.321	1.719	1.639	1.524	1.318	1.088
355	-	-	-	-	2.589	1.792	1.660	1.543	1.337	1.106
360	-	-	-	-	2.888	1.865	1.680	1.563	1.356	1.124
365	-	-	-	-	3.187	1.938	1.700	1.582	1.376	1.142

Thickness is intumescent only.

Results apply to I/H-section beams with concrete slabs with 3 sided fire exposure.

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CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 5: I/H-Beam Sections 90 Minutes

Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of									
	350°C	400°C	450°C	500°C	550°C	600°C	620°C	650°C	700°C	750°C
30	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
35	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
40	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
45	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
50	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
55	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
60	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
65	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
70	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
75	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
80	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
85	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
90	-	2.077	1.760	1.422	1.153	0.941	0.869	0.770	0.619	0.534
95	-	2.134	1.806	1.479	1.196	0.972	0.895	0.791	0.639	0.546
100	-	2.191	1.853	1.536	1.240	1.003	0.921	0.813	0.659	0.558
105	-	2.248	1.899	1.594	1.283	1.033	0.947	0.834	0.679	0.571
110	-	2.305	1.945	1.651	1.326	1.064	0.973	0.856	0.698	0.583
115	-	2.362	1.992	1.709	1.369	1.094	0.999	0.878	0.718	0.596
120	-	2.419	2.038	1.749	1.412	1.125	1.024	0.899	0.738	0.608
125	-	2.476	2.084	1.788	1.455	1.155	1.050	0.921	0.758	0.621
130	-	2.533	2.131	1.827	1.499	1.186	1.076	0.942	0.778	0.639
135	-	2.590	2.177	1.866	1.542	1.217	1.102	0.964	0.797	0.658
140	-	2.647	2.223	1.905	1.585	1.247	1.128	0.986	0.817	0.677
145	-	2.704	2.270	1.944	1.628	1.278	1.154	1.007	0.837	0.695
150	-	2.761	2.316	1.983	1.671	1.308	1.180	1.029	0.857	0.714
155	-	2.818	2.368	2.022	1.714	1.339	1.206	1.050	0.877	0.733
160	-	2.875	2.425	2.061	1.750	1.369	1.232	1.072	0.896	0.751
165	-	3.183	3.183	2.101	1.787	1.400	1.258	1.094	0.916	0.770
170	-	3.491	3.491	2.140	1.823	1.431	1.284	1.115	0.936	0.789
175	-	3.798	3.798	2.179	1.859	1.461	1.310	1.137	0.956	0.808
180	-	-	-	2.218	1.895	1.492	1.336	1.158	0.976	0.826
185	-	-	-	2.257	1.932	1.522	1.362	1.180	0.995	0.845
190	-	-	-	2.296	1.968	1.553	1.388	1.201	1.015	0.864
195	-	-	-	2.334	2.004	1.583	1.414	1.223	1.035	0.883
200	-	-	-	2.475	2.041	1.614	1.440	1.245	1.055	0.901
205	-	-	-	2.596	2.077	1.645	1.466	1.266	1.075	0.920
210	-	-	-	2.717	2.113	1.675	1.492	1.288	1.094	0.939
215	-	-	-	2.839	2.149	1.706	1.518	1.309	1.114	0.958
220	-	-	-	2.960	2.186	1.739	1.544	1.331	1.134	0.976
225	-	-	-	3.081	2.222	1.773	1.570	1.353	1.154	0.995
230	-	-	-	3.202	2.258	1.807	1.596	1.374	1.173	1.014
235	-	-	-	3.323	2.295	1.841	1.622	1.396	1.193	1.032
240	-	-	-	3.444	2.342	1.874	1.648	1.417	1.213	1.051
245	-	-	-	3.565	2.460	1.908	1.674	1.439	1.233	1.070
250	-	-	-	3.686	2.579	1.942	1.700	1.461	1.253	1.089
255	-	-	-	3.807	2.697	1.976	1.731	1.482	1.272	1.107
260	-	-	-	-	2.816	2.010	1.767	1.504	1.292	1.126
265	-	-	-	-	2.934	2.044	1.804	1.525	1.312	1.145
270	-	-	-	-	3.052	2.078	1.840	1.547	1.332	1.164
275	-	-	-	-	3.171	2.112	1.877	1.569	1.352	1.182
280	-	-	-	-	3.289	2.146	1.913	1.590	1.371	1.201
285	-	-	-	-	3.408	2.179	1.950	1.612	1.391	1.220
290	-	-	-	-	3.526	2.213	1.986	1.633	1.411	1.239
295	-	-	-	-	3.645	2.247	2.023	1.655	1.431	1.257
300	-	-	-	-	3.763	2.281	2.059	1.676	1.451	1.276
305	-	-	-	-	3.882	2.315	2.096	1.698	1.470	1.295
310	-	-	-	-	-	2.495	2.132	1.733	1.490	1.313
315	-	-	-	-	-	2.745	2.169	1.793	1.510	1.332
320	-	-	-	-	-	2.996	2.205	1.853	1.530	1.351
325	-	-	-	-	-	3.246	2.242	1.913	1.550	1.370
330	-	-	-	-	-	3.496	2.278	1.973	1.569	1.388
335	-	-	-	-	-	3.746	2.315	2.033	1.589	1.407
340	-	-	-	-	-	-	2.670	2.093	1.609	1.426
345	-	-	-	-	-	-	3.163	2.153	1.629	1.445
350	-	-	-	-	-	-	3.655	2.213	1.649	1.463
355	-	-	-	-	-	-	-	2.273	1.668	1.482
360	-	-	-	-	-	-	-	2.389	1.688	1.501
365	-	-	-	-	-	-	-	2.939	1.708	1.520

Thickness is intumescent only.

Results apply to I/H-section beams with concrete slabs with 3 sided fire exposure.



CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 6: I/H-Beam Sections 105 Minutes										
Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of									
	350°C	400°C	450°C	500°C	550°C	600°C	620°C	650°C	700°C	750°C
30	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
35	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
40	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
45	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
50	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
55	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
60	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
65	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
70	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
75	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
80	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
85	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
90	-	-	2.102	1.805	1.493	1.242	1.154	1.036	0.869	0.711
95	-	-	2.167	1.859	1.556	1.290	1.197	1.071	0.893	0.731
100	-	-	2.233	1.913	1.618	1.337	1.239	1.106	0.917	0.750
105	-	-	2.298	1.967	1.681	1.385	1.281	1.140	0.941	0.770
110	-	-	2.364	2.020	1.799	1.432	1.323	1.175	0.965	0.789
115	-	-	2.429	2.074	1.974	1.480	1.365	1.210	0.989	0.809
120	-	-	2.495	2.149	2.149	1.527	1.407	1.244	1.013	0.828
125	-	-	2.560	2.224	2.324	1.575	1.450	1.279	1.037	0.848
130	-	-	2.626	2.499	2.499	1.622	1.492	1.314	1.061	0.867
135	-	-	2.691	2.674	2.674	1.670	1.534	1.348	1.085	0.887
140	-	-	2.849	2.849	2.849	1.716	1.576	1.383	1.109	0.906
145	-	-	3.024	3.024	3.024	1.755	1.618	1.418	1.133	0.926
150	-	-	3.198	3.198	3.198	1.794	1.660	1.453	1.157	0.946
155	-	-	3.373	3.373	3.373	1.832	1.702	1.487	1.181	0.965
160	-	-	3.548	3.548	3.548	1.871	1.741	1.522	1.205	0.985
165	-	-	3.723	3.723	3.723	1.909	1.778	1.557	1.229	1.004
170	-	-	3.898	3.898	3.898	1.948	1.816	1.591	1.253	1.024
175	-	-	-	-	-	1.987	1.853	1.626	1.277	1.043
180	-	-	-	-	-	2.025	1.890	1.661	1.301	1.063
185	-	-	-	-	-	2.064	1.928	1.695	1.325	1.082
190	-	-	-	-	-	2.103	1.965	1.731	1.349	1.102
195	-	-	-	-	-	2.141	2.003	1.767	1.373	1.121
200	-	-	-	-	-	2.180	2.040	1.803	1.397	1.141
205	-	-	-	-	-	2.219	2.077	1.839	1.421	1.160
210	-	-	-	-	-	2.257	2.115	1.875	1.445	1.180
215	-	-	-	-	-	2.296	2.152	1.911	1.469	1.200
220	-	-	-	-	-	2.365	2.190	1.947	1.493	1.219
225	-	-	-	-	-	2.542	2.227	1.983	1.517	1.239
230	-	-	-	-	-	2.718	2.264	2.019	1.541	1.258
235	-	-	-	-	-	2.895	2.302	2.055	1.565	1.278
240	-	-	-	-	-	3.072	2.376	2.091	1.589	1.297
245	-	-	-	-	-	3.248	2.518	2.127	1.613	1.317
250	-	-	-	-	-	3.425	2.660	2.164	1.637	1.336
255	-	-	-	-	-	3.602	2.801	2.200	1.661	1.356
260	-	-	-	-	-	3.779	2.943	2.236	1.685	1.375
265	-	-	-	-	-	-	3.085	2.272	1.709	1.395
270	-	-	-	-	-	-	3.227	2.308	1.750	1.414
275	-	-	-	-	-	-	3.369	2.423	1.793	1.434
280	-	-	-	-	-	-	3.511	2.620	1.837	1.454
285	-	-	-	-	-	-	3.653	2.817	1.880	1.473
290	-	-	-	-	-	-	3.795	3.014	1.924	1.493
295	-	-	-	-	-	-	-	3.211	1.967	1.512
300	-	-	-	-	-	-	-	3.408	2.011	1.532
305	-	-	-	-	-	-	-	3.605	2.054	1.551
310	-	-	-	-	-	-	-	3.802	2.098	1.571
315	-	-	-	-	-	-	-	-	2.141	1.590
320	-	-	-	-	-	-	-	-	2.185	1.610
325	-	-	-	-	-	-	-	-	2.228	1.629
330	-	-	-	-	-	-	-	-	2.272	1.649
335	-	-	-	-	-	-	-	-	2.315	1.669
340	-	-	-	-	-	-	-	-	2.832	1.688
345	-	-	-	-	-	-	-	-	3.505	1.708
350	-	-	-	-	-	-	-	-	-	1.799
355	-	-	-	-	-	-	-	-	-	1.911
360	-	-	-	-	-	-	-	-	-	2.023
365	-	-	-	-	-	-	-	-	-	2.134

Thickness is intumescent only.

Results apply to I/H-section beams with concrete slabs with 3 sided fire exposure.



CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 7: I/H-Beam Sections 120 Minutes										
Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of									
	350°C	400°C	450°C	500°C	550°C	600°C	620°C	650°C	700°C	750°C
30	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
35	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
40	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
45	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
50	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
55	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
60	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
65	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
70	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
75	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
80	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
85	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
90	-	-	-	2.190	1.835	1.443	1.443	1.301	1.108	0.941
95	-	-	-	2.266	1.895	1.501	1.501	1.351	1.145	0.968
100	-	-	-	2.343	1.955	1.615	1.560	1.401	1.182	0.995
105	-	-	-	2.419	2.015	1.731	1.618	1.451	1.220	1.022
110	-	-	-	2.496	2.075	1.779	1.677	1.500	1.257	1.049
115	-	-	-	2.572	2.135	1.826	1.729	1.550	1.294	1.076
120	-	-	-	2.649	2.195	1.873	1.773	1.600	1.332	1.103
125	-	-	-	2.725	2.255	1.920	1.817	1.650	1.369	1.130
130	-	-	-	2.802	2.315	1.968	1.861	1.699	1.406	1.157
135	-	-	-	2.878	2.375	2.015	1.905	1.743	1.444	1.184
140	-	-	-	2.955	2.435	2.062	1.949	1.785	1.481	1.211
145	-	-	-	3.031	2.495	2.110	1.993	1.826	1.518	1.238
150	-	-	-	3.108	2.555	2.157	2.037	1.868	1.556	1.265
155	-	-	-	3.184	2.615	2.204	2.081	1.909	1.593	1.292
160	-	-	-	3.261	2.675	2.251	2.125	1.951	1.630	1.319
165	-	-	-	3.337	2.735	2.299	2.169	1.993	1.668	1.346
170	-	-	-	3.414	2.795	2.346	2.213	2.034	1.705	1.373
175	-	-	-	3.490	2.855	2.393	2.257	2.076	1.742	1.400
180	-	-	-	3.567	2.915	2.440	2.301	2.117	1.780	1.427
185	-	-	-	3.643	2.975	2.488	2.345	2.159	1.818	1.454
190	-	-	-	3.720	3.035	2.535	2.389	2.201	1.855	1.481
195	-	-	-	3.796	3.095	2.582	2.433	2.242	1.893	1.508
200	-	-	-	3.873	3.154	2.629	2.477	2.284	1.930	1.535
205	-	-	-	-	3.214	2.677	2.521	2.325	1.968	1.562
210	-	-	-	-	3.274	2.724	2.565	2.367	2.006	1.589
215	-	-	-	-	3.334	2.771	2.609	2.408	2.043	1.616
220	-	-	-	-	3.394	2.819	2.653	2.450	2.081	1.643
225	-	-	-	-	3.454	2.866	2.697	2.492	2.118	1.670
230	-	-	-	-	3.514	2.913	2.741	2.533	2.156	1.697
235	-	-	-	-	3.574	2.960	2.785	2.575	2.193	1.731
240	-	-	-	-	3.634	3.008	2.829	2.616	2.231	1.774
245	-	-	-	-	3.694	3.055	2.873	2.658	2.269	1.817
250	-	-	-	-	3.754	3.102	2.917	2.700	2.306	1.860
255	-	-	-	-	3.814	3.149	2.961	2.741	2.342	1.903
260	-	-	-	-	3.874	3.197	3.005	2.783	2.379	1.946
265	-	-	-	-	-	3.244	3.049	2.824	2.776	1.989
270	-	-	-	-	-	3.291	3.093	2.958	2.958	2.032
275	-	-	-	-	-	3.339	3.140	3.140	3.140	2.075
280	-	-	-	-	-	3.386	3.322	3.322	3.322	2.118
285	-	-	-	-	-	3.504	3.504	3.504	3.504	2.161
290	-	-	-	-	-	3.686	3.686	3.686	3.686	2.204
295	-	-	-	-	-	3.868	3.868	3.868	3.868	2.246
300	-	-	-	-	-	-	-	-	-	2.289
305	-	-	-	-	-	-	-	-	-	2.378
310	-	-	-	-	-	-	-	-	-	2.726
315	-	-	-	-	-	-	-	-	-	3.073
320	-	-	-	-	-	-	-	-	-	3.421
325	-	-	-	-	-	-	-	-	-	3.768
330	-	-	-	-	-	-	-	-	-	-
335	-	-	-	-	-	-	-	-	-	-
340	-	-	-	-	-	-	-	-	-	-
345	-	-	-	-	-	-	-	-	-	-
350	-	-	-	-	-	-	-	-	-	-
355	-	-	-	-	-	-	-	-	-	-
360	-	-	-	-	-	-	-	-	-	-
365	-	-	-	-	-	-	-	-	-	-

Thickness is intumescent only.

Results apply to I/H-section beams with concrete slabs with 3 sided fire exposure.



CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 8: I/H-Column Sections 30 Minutes

Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of								
	350°C	400°C	450°C	500°C	550°C	600°C	650°C	700°C	750°C
30	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
35	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
40	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
45	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
50	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
55	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
60	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
65	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
70	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
75	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
80	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
85	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
90	0.609	0.386	0.273	0.260	0.260	0.260	0.260	0.260	0.260
95	0.627	0.396	0.283	0.260	0.260	0.260	0.260	0.260	0.260
100	0.645	0.406	0.293	0.260	0.260	0.260	0.260	0.260	0.260
105	0.663	0.416	0.303	0.260	0.260	0.260	0.260	0.260	0.260
110	0.681	0.426	0.313	0.260	0.260	0.260	0.260	0.260	0.260
115	0.699	0.436	0.323	0.261	0.260	0.260	0.260	0.260	0.260
120	0.718	0.445	0.333	0.270	0.260	0.260	0.260	0.260	0.260
125	0.736	0.455	0.344	0.279	0.260	0.260	0.260	0.260	0.260
130	0.754	0.465	0.354	0.288	0.260	0.260	0.260	0.260	0.260
135	0.772	0.475	0.364	0.297	0.260	0.260	0.260	0.260	0.260
140	0.790	0.484	0.374	0.306	0.260	0.260	0.260	0.260	0.260
145	0.809	0.494	0.384	0.315	0.260	0.260	0.260	0.260	0.260
150	0.827	0.504	0.394	0.324	0.260	0.260	0.260	0.260	0.260
155	0.845	0.514	0.404	0.333	0.260	0.260	0.260	0.260	0.260
160	0.863	0.523	0.414	0.342	0.260	0.260	0.260	0.260	0.260
165	0.882	0.533	0.425	0.351	0.265	0.260	0.260	0.260	0.260
170	0.900	0.543	0.435	0.360	0.274	0.260	0.260	0.260	0.260
175	0.918	0.553	0.445	0.369	0.283	0.260	0.260	0.260	0.260
180	0.936	0.562	0.455	0.378	0.292	0.260	0.260	0.260	0.260
185	0.954	0.572	0.465	0.387	0.301	0.260	0.260	0.260	0.260
190	0.973	0.582	0.475	0.396	0.310	0.260	0.260	0.260	0.260
195	0.991	0.592	0.485	0.405	0.319	0.260	0.260	0.260	0.260
200	1.009	0.601	0.496	0.414	0.327	0.260	0.260	0.260	0.260
205	1.027	0.611	0.506	0.423	0.336	0.267	0.260	0.260	0.260
210	1.046	0.621	0.516	0.432	0.344	0.275	0.260	0.260	0.260
215	1.064	0.640	0.526	0.441	0.353	0.283	0.260	0.260	0.260
220	1.082	0.659	0.536	0.451	0.362	0.291	0.260	0.260	0.260
225	1.100	0.678	0.546	0.460	0.370	0.299	0.260	0.260	0.260
230	1.118	0.697	0.556	0.469	0.379	0.307	0.260	0.260	0.260
235	1.137	0.716	0.566	0.478	0.387	0.315	0.260	0.260	0.260
240	1.155	0.735	0.577	0.487	0.396	0.322	0.260	0.260	0.260
245	1.173	0.754	0.587	0.496	0.405	0.330	0.260	0.260	0.260
250	1.191	0.773	0.597	0.505	0.413	0.338	0.266	0.260	0.260
255	1.210	0.792	0.607	0.514	0.422	0.345	0.273	0.260	0.260
260	1.228	0.811	0.617	0.523	0.430	0.353	0.280	0.260	0.260
265	1.246	0.830	0.631	0.532	0.439	0.361	0.287	0.260	0.260
270	1.264	0.849	0.648	0.541	0.448	0.369	0.294	0.260	0.260
275	1.282	0.868	0.664	0.550	0.456	0.376	0.301	0.260	0.260
280	1.301	0.887	0.681	0.559	0.465	0.384	0.308	0.260	0.260
285	1.319	0.906	0.697	0.568	0.473	0.392	0.314	0.263	0.260
290	1.337	0.925	0.714	0.577	0.482	0.399	0.321	0.268	0.260
295	1.355	0.944	0.730	0.586	0.491	0.407	0.328	0.273	0.260
300	1.374	0.963	0.747	0.595	0.499	0.415	0.335	0.278	0.260
305	1.392	0.982	0.763	0.604	0.508	0.423	0.342	0.283	0.260
310	1.410	1.002	0.780	0.613	0.516	0.430	0.349	0.288	0.260
315	1.428	1.021	0.796	0.623	0.525	0.438	0.355	0.293	0.260
320	1.446	1.040	0.813	0.638	0.534	0.446	0.362	0.298	0.260
325	1.465	1.059	0.830	0.652	0.542	0.453	0.369	0.303	0.260
330	1.483	1.078	0.846	0.666	0.551	0.461	0.376	0.309	0.260
335	1.501	1.097	0.863	0.681	0.559	0.469	0.383	0.314	0.260
340	1.519	1.116	0.879	0.695	0.568	0.476	0.390	0.320	0.260
345	1.538	1.135	0.896	0.709	0.577	0.484	0.396	0.326	0.260
350	1.556	1.154	0.912	0.724	0.585	0.492	0.403	0.331	0.260
355	1.574	1.173	0.929	0.738	0.594	0.500	0.410	0.337	0.260
360	1.592	1.192	0.945	0.753	0.602	0.507	0.417	0.342	0.260
365	1.610	1.211	0.962	0.767	0.611	0.515	0.424	0.348	0.260

Thickness is intumescent only.

Results also apply to I/H-section beams exposed on all four sides limited to a maximum protection thickness of 3.906mm.



CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 9: I/H-Column Sections 45 Minutes

Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of								
	350°C	400°C	450°C	500°C	550°C	600°C	650°C	700°C	750°C
30	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
35	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
40	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
45	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
50	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
55	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
60	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
65	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
70	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
75	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
80	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
85	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
90	1.181	0.796	0.542	0.431	0.356	0.301	0.260	0.260	0.260
95	1.212	0.816	0.557	0.440	0.365	0.310	0.268	0.260	0.260
100	1.243	0.836	0.572	0.449	0.374	0.319	0.276	0.260	0.260
105	1.274	0.856	0.587	0.458	0.383	0.328	0.284	0.260	0.260
110	1.304	0.877	0.603	0.467	0.392	0.337	0.292	0.260	0.260
115	1.334	0.897	0.619	0.476	0.401	0.346	0.300	0.260	0.260
120	1.364	0.917	0.638	0.485	0.411	0.355	0.308	0.260	0.260
125	1.394	0.937	0.658	0.494	0.420	0.364	0.317	0.262	0.260
130	1.424	0.958	0.679	0.502	0.429	0.373	0.326	0.270	0.260
135	1.455	0.978	0.699	0.511	0.438	0.382	0.334	0.278	0.260
140	1.485	0.998	0.719	0.520	0.447	0.391	0.343	0.286	0.260
145	1.515	1.019	0.739	0.529	0.456	0.400	0.351	0.294	0.260
150	1.545	1.039	0.759	0.538	0.466	0.409	0.360	0.302	0.260
155	1.575	1.059	0.780	0.547	0.475	0.418	0.369	0.310	0.260
160	1.606	1.079	0.800	0.556	0.484	0.427	0.377	0.319	0.260
165	1.636	1.100	0.820	0.564	0.493	0.436	0.386	0.327	0.268
170	1.666	1.120	0.840	0.573	0.502	0.445	0.394	0.336	0.276
175	1.696	1.140	0.861	0.582	0.511	0.454	0.403	0.344	0.284
180	1.723	1.160	0.881	0.591	0.521	0.463	0.412	0.353	0.292
185	1.745	1.181	0.901	0.600	0.530	0.472	0.420	0.362	0.300
190	1.768	1.201	0.921	0.609	0.539	0.481	0.429	0.370	0.308
195	1.790	1.221	0.942	0.617	0.548	0.490	0.437	0.379	0.316
200	1.813	1.241	0.962	0.634	0.557	0.499	0.446	0.387	0.324
205	1.835	1.262	0.982	0.656	0.566	0.508	0.455	0.396	0.332
210	1.858	1.282	1.002	0.678	0.576	0.517	0.463	0.404	0.340
215	1.881	1.302	1.023	0.699	0.585	0.526	0.472	0.413	0.348
220	1.903	1.323	1.043	0.721	0.594	0.535	0.480	0.421	0.355
225	1.926	1.343	1.063	0.743	0.603	0.544	0.489	0.430	0.363
230	1.948	1.363	1.083	0.765	0.612	0.553	0.498	0.439	0.371
235	1.971	1.383	1.103	0.787	0.622	0.562	0.506	0.447	0.379
240	1.993	1.404	1.124	0.809	0.641	0.571	0.515	0.456	0.387
245	2.016	1.424	1.144	0.831	0.661	0.580	0.523	0.464	0.395
250	2.039	1.444	1.164	0.852	0.680	0.589	0.532	0.473	0.403
255	2.061	1.464	1.184	0.874	0.699	0.598	0.541	0.481	0.411
260	2.084	1.485	1.205	0.896	0.719	0.607	0.549	0.490	0.419
265	2.106	1.505	1.225	0.918	0.738	0.616	0.558	0.499	0.427
270	2.129	1.525	1.245	0.940	0.757	0.628	0.566	0.507	0.435
275	2.151	1.545	1.265	0.962	0.777	0.645	0.575	0.516	0.443
280	2.174	1.566	1.286	0.983	0.796	0.662	0.584	0.524	0.451
285	2.197	1.586	1.306	1.005	0.816	0.678	0.592	0.533	0.459
290	2.219	1.606	1.326	1.027	0.835	0.695	0.601	0.541	0.467
295	2.242	1.627	1.346	1.049	0.854	0.712	0.609	0.550	0.475
300	2.264	1.647	1.366	1.071	0.874	0.728	0.618	0.559	0.483
305	2.287	1.667	1.387	1.093	0.893	0.745	0.630	0.567	0.491
310	2.309	1.687	1.407	1.114	0.913	0.761	0.644	0.576	0.499
315	2.349	1.708	1.427	1.136	0.932	0.778	0.659	0.584	0.507
320	2.436	1.741	1.447	1.158	0.951	0.795	0.673	0.593	0.515
325	2.524	1.778	1.468	1.180	0.971	0.811	0.687	0.601	0.522
330	2.611	1.816	1.488	1.202	0.990	0.828	0.701	0.610	0.530
335	2.699	1.853	1.508	1.224	1.009	0.845	0.715	0.619	0.538
340	2.786	1.890	1.528	1.246	1.029	0.861	0.729	0.630	0.546
345	2.874	1.928	1.549	1.267	1.048	0.878	0.743	0.642	0.554
350	2.961	1.965	1.569	1.289	1.068	0.895	0.758	0.654	0.562
355	3.049	2.002	1.589	1.311	1.087	0.911	0.772	0.666	0.570
360	3.136	2.039	1.609	1.333	1.106	0.928	0.786	0.678	0.578
365	3.224	2.077	1.630	1.355	1.126	0.944	0.800	0.690	0.586

Thickness is intumescent only.

Results also apply to I/H-section beams exposed on all four sides limited to a maximum protection thickness of 3.906mm.

CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 10: I/H-Column Sections 60 Minutes

Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of								
	350°C	400°C	450°C	500°C	550°C	600°C	650°C	700°C	750°C
30	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
35	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
40	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
45	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
50	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
55	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
60	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
65	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
70	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
75	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
80	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
85	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
90	1.739	1.282	0.944	0.692	0.545	0.478	0.423	0.380	0.332
95	1.774	1.324	0.972	0.713	0.560	0.487	0.431	0.389	0.341
100	1.809	1.366	1.000	0.734	0.575	0.496	0.439	0.398	0.350
105	1.844	1.408	1.028	0.755	0.590	0.505	0.447	0.407	0.359
110	1.878	1.451	1.056	0.777	0.604	0.514	0.455	0.415	0.367
115	1.912	1.493	1.083	0.799	0.618	0.524	0.463	0.424	0.376
120	1.946	1.535	1.111	0.821	0.637	0.533	0.471	0.432	0.385
125	1.981	1.577	1.139	0.843	0.658	0.542	0.479	0.440	0.394
130	2.015	1.619	1.167	0.865	0.679	0.551	0.487	0.449	0.402
135	2.049	1.662	1.195	0.887	0.700	0.561	0.495	0.457	0.411
140	2.084	1.704	1.223	0.909	0.721	0.570	0.503	0.466	0.420
145	2.118	1.737	1.251	0.931	0.741	0.579	0.511	0.474	0.429
150	2.152	1.767	1.279	0.952	0.762	0.589	0.518	0.482	0.437
155	2.187	1.798	1.307	0.974	0.783	0.598	0.526	0.491	0.446
160	2.221	1.829	1.335	0.996	0.804	0.607	0.534	0.499	0.455
165	2.255	1.859	1.363	1.018	0.825	0.617	0.542	0.508	0.464
170	2.289	1.890	1.391	1.040	0.846	0.632	0.550	0.516	0.472
175	2.324	1.921	1.419	1.062	0.867	0.653	0.558	0.524	0.481
180	2.358	1.951	1.446	1.084	0.887	0.674	0.566	0.533	0.490
185	2.453	1.982	1.474	1.106	0.908	0.694	0.574	0.541	0.499
190	2.519	2.012	1.502	1.128	0.929	0.715	0.582	0.550	0.508
195	2.585	2.043	1.530	1.149	0.950	0.736	0.590	0.558	0.516
200	2.651	2.074	1.558	1.171	0.971	0.756	0.598	0.567	0.525
205	2.717	2.104	1.586	1.193	0.992	0.777	0.606	0.575	0.534
210	2.783	2.135	1.614	1.215	1.012	0.798	0.614	0.583	0.543
215	2.849	2.166	1.642	1.237	1.033	0.818	0.624	0.592	0.551
220	2.915	2.196	1.670	1.259	1.054	0.839	0.643	0.600	0.560
225	2.981	2.227	1.698	1.281	1.075	0.860	0.663	0.609	0.569
230	3.046	2.258	1.725	1.303	1.096	0.880	0.683	0.617	0.578
235	3.112	2.288	1.752	1.325	1.117	0.901	0.703	0.630	0.586
240	3.178	2.319	1.779	1.346	1.138	0.922	0.723	0.648	0.595
245	3.244	2.384	1.806	1.368	1.158	0.943	0.743	0.665	0.604
250	3.310	2.460	1.833	1.390	1.179	0.963	0.763	0.683	0.613
255	3.376	2.537	1.860	1.412	1.200	0.984	0.783	0.700	0.622
260	3.442	2.613	1.887	1.434	1.221	1.005	0.803	0.718	0.637
265	3.508	2.689	1.914	1.456	1.242	1.025	0.823	0.736	0.653
270	3.574	2.765	1.941	1.478	1.263	1.046	0.843	0.753	0.668
275	3.639	2.841	1.968	1.500	1.284	1.067	0.863	0.771	0.684
280	3.705	2.917	1.994	1.522	1.304	1.087	0.882	0.788	0.699
285	3.771	2.993	2.021	1.544	1.325	1.108	0.902	0.806	0.715
290	3.837	3.070	2.048	1.565	1.346	1.129	0.922	0.823	0.730
295	3.903	3.146	2.075	1.587	1.367	1.150	0.942	0.841	0.746
300	3.969	3.222	2.102	1.609	1.388	1.170	0.962	0.859	0.761
305	4.035	3.298	2.129	1.631	1.409	1.191	0.982	0.876	0.777
310	4.101	3.374	2.156	1.653	1.430	1.212	1.002	0.894	0.792
315	4.167	3.450	2.183	1.675	1.450	1.232	1.022	0.911	0.808
320	4.233	3.527	2.210	1.697	1.471	1.253	1.042	0.929	0.823
325	4.299	3.603	2.237	1.727	1.492	1.274	1.062	0.946	0.839
330	4.365	3.679	2.264	1.777	1.513	1.294	1.082	0.964	0.854
335	4.431	3.755	2.291	1.827	1.534	1.315	1.102	0.982	0.870
340	4.497	3.831	2.317	1.877	1.555	1.336	1.121	0.999	0.885
345	4.563	3.907	2.343	1.927	1.575	1.357	1.141	1.017	0.901
350	4.629	3.983	2.605	1.977	1.596	1.377	1.161	1.034	0.916
355	-	4.060	2.771	2.027	1.617	1.398	1.181	1.052	0.932
360	-	4.137	2.937	2.076	1.638	1.419	1.201	1.069	0.947
365	-	4.214	3.103	2.126	1.659	1.439	1.221	1.087	0.963

Thickness is intumescent only.

Results also apply to I/H-section beams exposed on all four sides limited to a maximum protection thickness of 3.906mm.

CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 11: I/H-Column Sections 75 Minutes

Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of								
	350°C	400°C	450°C	500°C	550°C	600°C	650°C	700°C	750°C
30	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
35	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
40	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
45	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
50	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
55	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
60	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
65	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
70	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
75	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
80	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
85	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
90	2.127	1.768	1.372	1.081	0.853	0.676	0.574	0.531	0.485
95	2.182	1.808	1.425	1.119	0.880	0.697	0.589	0.543	0.495
100	2.237	1.848	1.478	1.157	0.907	0.718	0.604	0.555	0.505
105	2.292	1.888	1.531	1.195	0.934	0.739	0.619	0.567	0.515
110	2.347	1.928	1.583	1.234	0.961	0.760	0.638	0.579	0.525
115	2.402	1.968	1.635	1.272	0.987	0.781	0.658	0.591	0.535
120	2.457	2.007	1.688	1.310	1.014	0.802	0.678	0.602	0.544
125	2.512	2.047	1.731	1.349	1.041	0.823	0.698	0.614	0.554
130	2.567	2.087	1.767	1.387	1.067	0.843	0.718	0.629	0.564
135	2.622	2.127	1.802	1.425	1.094	0.864	0.738	0.648	0.574
140	2.677	2.167	1.838	1.464	1.121	0.885	0.758	0.667	0.584
145	2.732	2.207	1.873	1.502	1.148	0.906	0.778	0.686	0.594
150	2.787	2.247	1.909	1.540	1.174	0.927	0.798	0.705	0.604
155	2.842	2.287	1.945	1.579	1.201	0.948	0.818	0.724	0.614
160	2.897	2.329	1.980	1.617	1.228	0.969	0.838	0.743	0.626
165	2.952	2.425	2.016	1.655	1.254	0.990	0.858	0.762	0.645
170	3.007	2.521	2.051	1.694	1.281	1.011	0.878	0.781	0.663
175	3.062	2.617	2.087	1.730	1.308	1.032	0.898	0.800	0.682
180	3.117	2.713	2.123	1.765	1.335	1.053	0.918	0.819	0.700
185	3.172	2.809	2.158	1.800	1.361	1.074	0.938	0.839	0.719
190	3.227	2.905	2.194	1.835	1.388	1.095	0.958	0.858	0.737
195	3.282	3.001	2.229	1.869	1.415	1.116	0.978	0.877	0.756
200	3.337	3.097	2.265	1.904	1.441	1.136	0.998	0.896	0.775
205	3.392	3.193	2.300	1.939	1.468	1.157	1.018	0.915	0.793
210	3.447	3.289	2.335	1.974	1.495	1.178	1.038	0.934	0.812
215	3.502	3.385	2.434	2.008	1.522	1.199	1.058	0.953	0.830
220	3.557	3.481	2.517	2.043	1.548	1.220	1.078	0.972	0.849
225	3.612	3.577	2.601	2.078	1.575	1.241	1.098	0.991	0.868
230	3.674	3.674	2.685	2.113	1.602	1.262	1.118	1.010	0.886
235	3.770	3.770	2.769	2.147	1.628	1.283	1.138	1.029	0.905
240	3.866	3.866	2.853	2.182	1.655	1.304	1.158	1.048	0.923
245	3.962	3.962	2.937	2.217	1.682	1.325	1.178	1.067	0.942
250	4.058	4.058	3.021	2.252	1.708	1.346	1.198	1.086	0.961
255	4.154	4.154	3.105	2.286	1.742	1.367	1.218	1.105	0.979
260	4.250	4.250	3.189	2.321	1.776	1.388	1.238	1.124	0.998
265	4.346	4.346	3.273	2.422	1.810	1.409	1.258	1.143	1.016
270	4.442	4.442	3.357	2.534	1.845	1.430	1.278	1.162	1.035
275	4.538	4.538	3.440	2.645	1.879	1.450	1.298	1.181	1.054
280	4.634	4.634	3.524	2.757	1.913	1.471	1.318	1.200	1.072
285	-	-	3.608	2.869	1.947	1.492	1.338	1.219	1.091
290	-	-	3.692	2.980	1.982	1.513	1.358	1.238	1.109
295	-	-	3.776	3.092	2.016	1.534	1.378	1.257	1.128
300	-	-	3.860	3.204	2.050	1.555	1.398	1.276	1.147
305	-	-	3.944	3.315	2.085	1.576	1.418	1.295	1.165
310	-	-	4.028	3.427	2.119	1.597	1.438	1.314	1.184
315	-	-	4.112	3.538	2.153	1.618	1.458	1.333	1.202
320	-	-	4.196	3.650	2.187	1.639	1.478	1.352	1.221
325	-	-	4.280	3.762	2.222	1.660	1.498	1.371	1.239
330	-	-	4.364	3.873	2.256	1.681	1.518	1.390	1.258
335	-	-	4.448	3.985	2.290	1.702	1.538	1.409	1.277
340	-	-	4.532	4.097	2.324	1.750	1.558	1.428	1.295
345	-	-	4.616	4.209	2.628	1.825	1.578	1.447	1.314
350	-	-	-	4.321	2.945	1.899	1.598	1.466	1.332
355	-	-	-	4.433	3.262	1.974	1.618	1.485	1.351
360	-	-	-	4.545	3.578	2.049	1.638	1.504	1.370
365	-	-	-	-	3.895	2.124	1.658	1.523	1.388

Thickness is intumescent only.

Results also apply to I/H-section beams exposed on all four sides limited to a maximum protection thickness of 3.906mm.

CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 12: I/H-Column Sections 90 Minutes

Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of								
	350°C	400°C	450°C	500°C	550°C	600°C	650°C	700°C	750°C
30	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
35	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
40	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
45	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
50	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
55	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
60	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
65	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
70	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
75	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
80	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
85	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
90	-	2.131	1.804	1.469	1.202	0.994	0.837	0.739	0.654
95	-	2.191	1.852	1.529	1.248	1.027	0.861	0.759	0.673
100	-	2.252	1.900	1.589	1.294	1.060	0.885	0.779	0.692
105	-	2.312	1.948	1.649	1.340	1.093	0.909	0.799	0.711
110	-	2.372	1.997	1.710	1.387	1.127	0.934	0.819	0.731
115	-	2.432	2.045	1.751	1.433	1.161	0.958	0.839	0.751
120	-	2.492	2.094	1.791	1.479	1.195	0.982	0.859	0.770
125	-	2.553	2.143	1.832	1.526	1.229	1.007	0.879	0.790
130	-	2.613	2.191	1.872	1.572	1.263	1.031	0.898	0.809
135	-	2.673	2.240	1.912	1.619	1.296	1.055	0.918	0.829
140	-	2.733	2.288	1.953	1.665	1.330	1.079	0.938	0.849
145	-	2.794	2.382	1.993	1.711	1.364	1.104	0.958	0.868
150	-	2.854	2.636	2.034	1.749	1.398	1.128	0.978	0.888
155	-	2.914	2.890	2.074	1.786	1.432	1.152	0.997	0.907
160	-	3.143	3.143	2.115	1.823	1.466	1.176	1.017	0.927
165	-	3.397	3.397	2.155	1.861	1.499	1.201	1.037	0.947
170	-	3.650	3.650	2.195	1.898	1.533	1.225	1.057	0.966
175	-	3.904	3.904	2.236	1.935	1.567	1.249	1.077	0.986
180	-	4.158	4.158	2.276	1.973	1.601	1.274	1.096	1.005
185	-	4.412	4.412	2.317	2.010	1.635	1.298	1.116	1.025
190	-	-	-	2.450	2.048	1.669	1.322	1.136	1.045
195	-	-	-	2.613	2.085	1.702	1.346	1.156	1.064
200	-	-	-	2.775	2.122	1.737	1.371	1.176	1.084
205	-	-	-	2.937	2.160	1.772	1.395	1.195	1.103
210	-	-	-	3.100	2.197	1.806	1.419	1.215	1.123
215	-	-	-	3.262	2.234	1.841	1.444	1.235	1.143
220	-	-	-	3.424	2.272	1.876	1.468	1.255	1.162
225	-	-	-	3.586	2.309	1.911	1.492	1.275	1.182
230	-	-	-	3.749	2.388	1.945	1.516	1.295	1.201
235	-	-	-	3.911	2.504	1.980	1.541	1.314	1.221
240	-	-	-	4.073	2.619	2.015	1.565	1.334	1.240
245	-	-	-	4.235	2.734	2.050	1.589	1.354	1.260
250	-	-	-	4.397	2.849	2.084	1.613	1.374	1.280
255	-	-	-	4.559	2.964	2.119	1.638	1.394	1.299
260	-	-	-	-	3.080	2.154	1.662	1.413	1.319
265	-	-	-	-	3.195	2.189	1.686	1.433	1.338
270	-	-	-	-	3.310	2.223	1.711	1.453	1.358
275	-	-	-	-	3.425	2.258	1.752	1.473	1.378
280	-	-	-	-	3.540	2.293	1.795	1.493	1.397
285	-	-	-	-	3.655	2.335	1.837	1.512	1.417
290	-	-	-	-	3.771	2.534	1.880	1.532	1.436
295	-	-	-	-	3.886	2.733	1.923	1.552	1.456
300	-	-	-	-	4.001	2.932	1.965	1.572	1.476
305	-	-	-	-	4.116	3.131	2.008	1.592	1.495
310	-	-	-	-	4.231	3.330	2.051	1.611	1.515
315	-	-	-	-	4.346	3.529	2.093	1.631	1.534
320	-	-	-	-	4.461	3.728	2.136	1.651	1.554
325	-	-	-	-	4.576	3.927	2.179	1.671	1.574
330	-	-	-	-	-	4.126	2.221	1.691	1.593
335	-	-	-	-	-	4.325	2.264	1.711	1.613
340	-	-	-	-	-	4.524	2.307	1.805	1.632
345	-	-	-	-	-	-	2.689	1.905	1.652
350	-	-	-	-	-	-	3.354	2.005	1.672
355	-	-	-	-	-	-	4.018	2.105	1.691
360	-	-	-	-	-	-	-	2.205	1.711
365	-	-	-	-	-	-	-	2.306	1.814

Thickness is intumescent only.

Results also apply to I/H-section beams exposed on all four sides limited to a maximum protection thickness of 3.906mm

CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 13: I/H-Column Sections 105 Minutes									
Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of								
	350°C	400°C	450°C	500°C	550°C	600°C	650°C	700°C	750°C
30	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
35	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
40	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
45	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
50	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
55	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
60	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
65	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
70	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
75	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
80	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
85	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
90	-	-	2.151	1.854	1.552	1.305	1.113	1.002	0.916
95	-	-	2.219	1.911	1.618	1.356	1.153	1.033	0.942
100	-	-	2.287	1.968	1.685	1.407	1.193	1.064	0.968
105	-	-	2.354	2.025	1.738	1.458	1.233	1.095	0.994
110	-	-	2.422	2.083	1.784	1.510	1.272	1.127	1.020
115	-	-	2.490	2.140	1.829	1.561	1.312	1.159	1.046
120	-	-	2.558	2.198	1.874	1.613	1.351	1.190	1.072
125	-	-	2.625	2.255	1.919	1.664	1.391	1.222	1.098
130	-	-	2.693	2.313	1.965	1.715	1.430	1.253	1.124
135	-	-	2.761	2.371	2.010	1.755	1.470	1.285	1.150
140	-	-	2.829	2.429	2.055	1.796	1.509	1.317	1.176
145	-	-	2.896	2.487	2.100	1.836	1.549	1.348	1.202
150	-	-	2.964	2.545	2.146	1.877	1.588	1.380	1.228
155	-	-	3.032	2.603	2.191	1.917	1.628	1.411	1.254
160	-	-	3.100	2.661	2.236	1.957	1.667	1.443	1.280
165	-	-	3.168	2.719	2.281	1.998	1.707	1.474	1.306
170	-	-	3.235	2.777	2.345	2.038	1.745	1.506	1.332
175	-	-	4.066	4.066	4.066	2.079	1.783	1.538	1.358
180	-	-	-	-	-	2.119	1.821	1.569	1.384
185	-	-	-	-	-	2.160	1.859	1.601	1.410
190	-	-	-	-	-	2.200	1.896	1.632	1.436
195	-	-	-	-	-	2.240	1.934	1.664	1.462
200	-	-	-	-	-	2.281	1.972	1.696	1.488
205	-	-	-	-	-	2.321	2.010	1.730	1.515
210	-	-	-	-	-	2.619	2.048	1.768	1.541
215	-	-	-	-	-	2.951	2.086	1.806	1.567
220	-	-	-	-	-	3.282	2.124	1.844	1.593
225	-	-	-	-	-	3.614	2.162	1.882	1.619
230	-	-	-	-	-	3.945	2.200	1.920	1.645
235	-	-	-	-	-	4.276	2.238	1.958	1.671
240	-	-	-	-	-	4.607	2.275	1.996	1.697
245	-	-	-	-	-	-	2.313	2.034	1.731
250	-	-	-	-	-	-	2.435	2.072	1.776
255	-	-	-	-	-	-	2.599	2.110	1.821
260	-	-	-	-	-	-	2.763	2.149	1.866
265	-	-	-	-	-	-	2.927	2.187	1.911
270	-	-	-	-	-	-	3.091	2.225	1.956
275	-	-	-	-	-	-	3.254	2.263	2.001
280	-	-	-	-	-	-	3.418	2.301	2.046
285	-	-	-	-	-	-	3.582	2.410	2.091
290	-	-	-	-	-	-	3.746	2.663	2.136
295	-	-	-	-	-	-	3.910	2.916	2.182
300	-	-	-	-	-	-	4.074	3.170	2.227
305	-	-	-	-	-	-	4.238	3.423	2.272
310	-	-	-	-	-	-	4.402	3.676	2.317
315	-	-	-	-	-	-	4.566	3.929	2.652
320	-	-	-	-	-	-	-	4.182	3.061
325	-	-	-	-	-	-	-	4.435	3.470
330	-	-	-	-	-	-	-	-	3.879
335	-	-	-	-	-	-	-	-	4.288
340	-	-	-	-	-	-	-	-	-
345	-	-	-	-	-	-	-	-	-
350	-	-	-	-	-	-	-	-	-
355	-	-	-	-	-	-	-	-	-
360	-	-	-	-	-	-	-	-	-
365	-	-	-	-	-	-	-	-	-

Thickness is intumescent only.

Results also apply to I/H-section beams exposed on all four sides limited to a maximum protection thickness of 3.906mm.

CERTIFICATE No CF 5303 CONTEGO INTERNATIONAL INC.

CON-RFB (HS) and CONTEGO Passive Fire Barrier Latex Intumescent

Table 14: I/H-Column Sections 120 Minutes									
Section Factor up to m ⁻¹	Thickness (mm) Required for a Design Temperature of								
	350°C	400°C	450°C	500°C	550°C	600°C	650°C	700°C	750°C
30	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
35	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
40	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
45	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
50	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
55	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
60	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
65	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
70	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
75	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
80	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
85	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
90	-	-	-	2.190	1.897	1.637	1.391	1.259	1.172
95	-	-	-	2.266	1.962	1.692	1.447	1.306	1.212
100	-	-	-	2.343	2.027	1.747	1.503	1.353	1.252
105	-	-	-	2.419	2.092	1.800	1.559	1.400	1.292
110	-	-	-	2.496	2.156	1.854	1.614	1.446	1.332
115	-	-	-	2.572	2.220	1.907	1.670	1.492	1.373
120	-	-	-	2.649	2.284	1.961	1.722	1.539	1.413
125	-	-	-	2.725	2.348	2.014	1.767	1.585	1.454
130	-	-	-	2.802	2.412	2.068	1.812	1.631	1.494
135	-	-	-	2.878	2.476	2.121	1.857	1.677	1.535
140	-	-	-	2.955	2.540	2.175	1.901	1.758	1.575
145	-	-	-	3.031	2.604	2.228	1.946	1.940	1.615
150	-	-	-	3.108	2.668	2.281	2.122	2.122	1.656
155	-	-	-	3.184	2.732	2.334	2.304	2.304	1.696
160	-	-	-	3.261	2.796	2.486	2.486	2.486	1.738
165	-	-	-	3.337	2.860	2.668	2.668	2.668	1.781
170	-	-	-	3.414	2.924	2.850	2.850	2.850	1.824
175	-	-	-	3.490	3.032	3.032	3.032	3.032	1.866
180	-	-	-	3.567	3.214	3.214	3.214	3.214	1.909
185	-	-	-	3.643	3.396	3.396	3.396	3.396	1.952
190	-	-	-	3.720	3.578	3.578	3.578	3.578	1.995
195	-	-	-	3.796	3.760	3.760	3.760	3.760	2.037
200	-	-	-	3.943	3.943	3.943	3.943	3.943	2.080
205	-	-	-	4.125	4.125	4.125	4.125	4.125	2.123
210	-	-	-	4.307	4.307	4.307	4.307	4.307	2.166
215	-	-	-	4.489	4.489	4.489	4.489	4.489	2.208
220	-	-	-	-	-	-	-	-	2.251
225	-	-	-	-	-	-	-	-	2.294
230	-	-	-	-	-	-	-	-	2.685
235	-	-	-	-	-	-	-	-	4.116
240	-	-	-	-	-	-	-	-	-
245	-	-	-	-	-	-	-	-	-
250	-	-	-	-	-	-	-	-	-
255	-	-	-	-	-	-	-	-	-
260	-	-	-	-	-	-	-	-	-
265	-	-	-	-	-	-	-	-	-
270	-	-	-	-	-	-	-	-	-
275	-	-	-	-	-	-	-	-	-
280	-	-	-	-	-	-	-	-	-
285	-	-	-	-	-	-	-	-	-
290	-	-	-	-	-	-	-	-	-
295	-	-	-	-	-	-	-	-	-
300	-	-	-	-	-	-	-	-	-
305	-	-	-	-	-	-	-	-	-
310	-	-	-	-	-	-	-	-	-
315	-	-	-	-	-	-	-	-	-
320	-	-	-	-	-	-	-	-	-
325	-	-	-	-	-	-	-	-	-
330	-	-	-	-	-	-	-	-	-
335	-	-	-	-	-	-	-	-	-
340	-	-	-	-	-	-	-	-	-
345	-	-	-	-	-	-	-	-	-
350	-	-	-	-	-	-	-	-	-
355	-	-	-	-	-	-	-	-	-
360	-	-	-	-	-	-	-	-	-
365	-	-	-	-	-	-	-	-	-

Thickness is intumescent only.

Results also apply to I/H-section beams exposed on all four sides limited to a maximum protection thickness of 3.906mm.