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## CERTIFICATE OF APPROVAL

### No CF 216

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

## SIKA DEUTSCHLAND GMBH

Kornwestheimer Strasse 103-107, D-70439 Stuttgart, Germany.  
Tel: 0049 7042 109 259 Fax: 0049 7042 109 261

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

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#### CERTIFIED PRODUCT

Sika® Unitherm® Steel S

#### TECHNICAL SCHEDULE

TS15 Intumescent Coatings  
for Steelwork

Signed and sealed for and on behalf of Warringtonfire Testing and Certification Limited

Paul Duggan  
Certification Manager

Issued: 6<sup>th</sup> October 1999  
Reissued: 5<sup>th</sup> March 2019  
Valid to: 30<sup>th</sup> June 2019





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## CERTIFICATE No CF 216

### SIKA DEUTSCHLAND GMBH

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#### Sika® Unitherm® Steel S

1. This approval relates to the use of Sika® Unitherm® Steel S for the fire protection of I-shaped and hollow steel sections. The precise scope is given in Tables 1 to 15 which show the total dry film thickness of Sika® Unitherm® Steel S (excluding primer and top sealer) required to provide fire resistance periods in accordance with BS476: Part 21: 1987 of 30 minutes up to 120 minutes for differing sections and section factors.
2. This certification is provided to the client for their own purposes and we cannot opine on whether it will be accepted by Building Control authorities or any other third parties for any purpose.
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: 2008.
  - 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 galvanised or blast cleaned to Swedish Standard SA2.5 or equivalent and primed with a suitable and compatible primer. The data shown is applicable to cast iron sections blast cleaned to Swedish Standard SA2.5 or equivalent and primed with a suitable and compatible primer. Specifications of surface preparations, primers and top sealers is available from Sika Deutschland GmbH whose responsibility is to ensure that Sika® Unitherm® Steel S is compatible for use in respect of both ambient and fire conditions. The total dry film thickness of primer and top sealer together may not exceed the maximum tested thickness.
6. The data shown is applicable to Sika® Unitherm® Steel S applied by spray to horizontal, vertical, flexural and compression members supporting loads up to the maximum design loads specified in BS449: Part 2 as indicated in Tables 7,11,14 and 15. For other design temperatures it should be confirmed it is acceptable to utilise these temperatures prior to using the data for approval purposes.
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 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 1: Three Sided I-Section Beams: 350°C

30 minutes				45 minutes		60 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
35	0.228	180	0.625	160	0.300	105	1.866
40	0.233	185	0.652	165	0.440	110	1.956
45	0.244	190	0.678	170	0.580	115	2.046
50	0.254	195	0.705	175	0.720	120	2.136
55	0.265	200	0.732	180	0.860	125	2.226
60	0.275	205	0.759	185	1.000	130	2.316
65	0.285	210	0.786	190	1.140	135	2.406
70	0.296	215	0.812	195	1.280	140	2.497
75	0.306	220	0.839	200	1.420	145	2.587
80	0.316	225	0.866	205	1.560	150	2.677
85	0.327	230	0.893	210	1.700	155	2.767
90	0.337	235	0.920	215	1.840	160	2.857
95	0.347	240	0.946	220	1.980	165	2.947
100	0.358	245	0.973	225	2.120	170	3.037
105	0.368	250	1.000	230	2.260	175	3.128
110	0.379	255	1.053	235	2.400	180	3.218
115	0.389	260	1.105	240	2.540	185	3.308
120	0.399	265	1.158	245	2.680	190	3.398
125	0.410	270	1.211	250	2.820	195	3.488
130	0.420	275	1.263	255	2.960	200	3.578
135	0.438	280	1.316	260	3.100	205	3.668
140	0.456	285	1.369	265	3.240		
145	0.475	290	1.421	270	3.380		
150	0.493	295	1.474	275	3.520		
155	0.511	300	1.527	280	3.660		
160	0.529	305	1.579				
165	0.548	310	1.632				
170	0.571	315	1.685				
175	0.598	320	1.737				

Thickness is intumescent only. Beams with a concrete slab



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 2: Three Sided I-Section Beams: 400°C

30 minutes				45 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
65	0.228	195	0.462	30	0.238	180	0.813
70	0.236	200	0.468	35	0.253	185	0.835
75	0.246	205	0.474	40	0.268	190	0.857
80	0.256	210	0.481	45	0.282	195	0.880
85	0.266	215	0.487	50	0.297	200	0.902
90	0.276	220	0.493	55	0.312	205	0.924
95	0.286	225	0.499	60	0.326	210	0.946
100	0.297	230	0.505	65	0.341	215	0.969
105	0.307	235	0.512	70	0.356	220	0.991
110	0.317	240	0.518	75	0.370	225	1.058
115	0.327	245	0.524	80	0.385	230	1.155
120	0.337	250	0.530	85	0.399	235	1.252
125	0.347	255	0.536	90	0.414	240	1.348
130	0.357	260	0.543	95	0.433	245	1.445
135	0.367	265	0.549	100	0.456	250	1.542
140	0.378	270	0.555	105	0.478	255	1.639
145	0.388	275	0.607	110	0.500	260	1.735
150	0.398	280	0.658	115	0.523	265	1.832
155	0.408	285	0.710	120	0.545	270	1.929
160	0.418	290	0.762	125	0.567	275	2.026
165	0.425	295	0.814	130	0.590	280	2.122
170	0.431	300	0.865	135	0.612	285	2.219
175	0.437	305	0.917	140	0.634	290	2.316
180	0.444	310	0.969	145	0.656	295	2.413
185	0.450	315	1.021	150	0.679	300	2.509
190	0.456	320	1.072	155	0.701	305	2.606
				160	0.723	310	2.703
				165	0.746	315	2.800
				170	0.768	320	2.896
				175	0.790		

Thickness is intumescent only. Beams with a concrete slab



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 2 continued: Three Sided I-Section Beams: 400°C

60 minutes		90 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
180	1.037	135	2.963
185	1.220	140	3.073
190	1.403	145	3.182
195	1.586	150	3.292
200	1.769	155	3.402
205	1.952	160	3.512
210	2.135	165	3.621
215	2.318		
220	2.501		
225	2.684		
230	2.867		
235	3.050		
240	3.234		
245	3.417		
250	3.600		

Thickness is intumescent only. Beams with a concrete slab



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 3: Three Sided I-Section Beams: 450°C

30 minutes				45 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
95	0.228	210	0.452	30	0.228	180	0.674
100	0.237	215	0.456	35	0.234	185	0.700
105	0.250	220	0.460	40	0.244	190	0.725
110	0.263	225	0.464	45	0.254	195	0.751
115	0.275	230	0.469	50	0.264	200	0.776
120	0.288	235	0.473	55	0.273	205	0.802
125	0.301	240	0.477	60	0.283	210	0.827
130	0.313	245	0.481	65	0.293	215	0.852
135	0.326	250	0.485	70	0.303	220	0.878
140	0.339	255	0.490	75	0.313	225	0.903
145	0.351	260	0.494	80	0.322	230	0.929
150	0.364	265	0.498	85	0.332	235	0.954
155	0.377	270	0.502	90	0.342	240	0.980
160	0.390	275	0.506	95	0.352	245	1.012
165	0.402	280	0.511	100	0.361	250	1.075
170	0.415	285	0.515	105	0.371	255	1.137
175	0.423	290	0.519	110	0.381	260	1.199
180	0.427	295	0.523	115	0.391	265	1.262
185	0.431	300	0.527	120	0.400	270	1.324
190	0.435	305	0.532	125	0.410	275	1.386
195	0.439	310	0.536	130	0.420	280	1.449
200	0.443	315	0.540	135	0.445	285	1.511
205	0.448	320	0.544	140	0.471	290	1.573
				145	0.496	295	1.635
				150	0.522	300	1.698
				155	0.547	305	1.760
				160	0.573	310	1.822
				165	0.598	315	1.885
				170	0.624	320	1.947
				175	0.649		

Thickness is intumescent only. Beams with a concrete slab

Page 6 of 33 Signed

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## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 3 continued: Three Sided I-Section Beams: 450°C

60 minutes				90 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
25	0.250	175	0.888	170	3.040
30	0.268	180	0.910	175	3.130
35	0.287	185	0.933	180	3.219
40	0.305	190	0.955	185	3.308
45	0.324	195	0.978	190	3.398
50	0.342	200	1.000	195	3.487
55	0.361	205	1.116	200	3.577
60	0.379	210	1.231	205	3.666
65	0.398	215	1.347		
70	0.416	220	1.462		
75	0.438	225	1.578		
80	0.460	230	1.693		
85	0.483	235	1.809		
90	0.505	240	1.924		
95	0.528	245	2.040		
100	0.550	250	2.155		
105	0.573	255	2.271		
110	0.595	260	2.386		
115	0.618	265	2.502		
120	0.640	270	2.617		
125	0.663	275	2.733		
130	0.685	280	2.849		
135	0.708	285	2.964		
140	0.730	290	3.080		
145	0.753	295	3.195		
150	0.775	300	3.311		
155	0.798	305	3.426		
160	0.820	310	3.542		
165	0.843	315	3.657		
170	0.865				

Thickness is intumescent only. Beams with a concrete slab

Page 7 of 33 Signed

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## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 4: Three Sided I-Section Beams: 500°C

30 minutes				45 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
115	0.228	220	0.445	50	0.228	190	0.594
120	0.235	225	0.449	55	0.234	195	0.615
125	0.250	230	0.452	60	0.244	200	0.636
130	0.265	235	0.455	65	0.254	205	0.657
135	0.280	240	0.459	70	0.264	210	0.678
140	0.295	245	0.462	75	0.274	215	0.699
145	0.310	250	0.465	80	0.284	220	0.721
150	0.325	255	0.469	85	0.293	225	0.742
155	0.339	260	0.472	90	0.303	230	0.763
160	0.354	265	0.475	95	0.313	235	0.784
165	0.369	270	0.479	100	0.323	240	0.805
170	0.384	275	0.482	105	0.333	245	0.826
175	0.399	280	0.485	110	0.343	250	0.848
180	0.414	285	0.488	115	0.353	255	0.869
185	0.422	290	0.492	120	0.363	260	0.890
190	0.425	295	0.495	125	0.373	265	0.911
195	0.429	300	0.498	130	0.382	270	0.932
200	0.432	305	0.502	135	0.392	275	0.953
205	0.435	310	0.505	140	0.402	280	0.975
210	0.439	315	0.508	145	0.412	285	0.996
215	0.442	320	0.512	150	0.424	290	1.044
				155	0.445	295	1.100
				160	0.467	300	1.156
				165	0.488	305	1.211
				170	0.509	310	1.267
				175	0.530	315	1.323
				180	0.551	320	1.378
				185	0.572		

Thickness is intumescent only. Beams with a concrete slab.

Page 8 of 33 Signed

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## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 4 continued: Three Sided I-Section Beams: 500°C

60 minutes				90 minutes		120 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
30	0.228	180	0.798	200	3.115	145	3.162
35	0.234	185	0.820	205	3.193	150	3.271
40	0.250	190	0.841	210	3.271	155	3.380
45	0.266	195	0.863	215	3.349	160	3.489
50	0.283	200	0.884	220	3.427	165	3.598
55	0.299	205	0.905	225	3.505	170	3.707
60	0.315	210	0.927	230	3.582		
65	0.332	215	0.948	235	3.660		
70	0.348	220	0.970				
75	0.364	225	0.991				
80	0.381	230	1.061				
85	0.397	235	1.161				
90	0.413	240	1.262				
95	0.433	245	1.363				
100	0.454	250	1.464				
105	0.476	255	1.565				
110	0.497	260	1.666				
115	0.519	265	1.766				
120	0.540	270	1.867				
125	0.562	275	1.968				
130	0.583	280	2.069				
135	0.605	285	2.170				
140	0.626	290	2.271				
145	0.648	295	2.372				
150	0.669	300	2.472				
155	0.691	305	2.573				
160	0.712	310	2.674				
165	0.734	315	2.775				
170	0.755	320	2.876				
175	0.777						

Thickness is intumescent only. Beams with a concrete slab.

Page 9 of 33 Signed

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## CERTIFICATE No CF 216

### SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 5: Three Sided I-Section Beams: 550°C

30 minutes				45 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
130	0.228	230	0.430	60	0.228	195	0.480
135	0.231	235	0.433	65	0.238	200	0.488
140	0.243	240	0.436	70	0.248	205	0.495
145	0.255	245	0.439	75	0.258	210	0.503
150	0.267	250	0.443	80	0.268	215	0.511
155	0.279	255	0.446	85	0.278	220	0.518
160	0.291	260	0.449	90	0.288	225	0.526
165	0.303	265	0.452	95	0.298	230	0.534
170	0.316	270	0.455	100	0.308	235	0.541
175	0.328	275	0.458	105	0.318	240	0.549
180	0.340	280	0.461	110	0.328	245	0.561
185	0.352	285	0.464	115	0.338	250	0.589
190	0.364	290	0.467	120	0.348	255	0.617
195	0.376	295	0.470	125	0.358	260	0.645
200	0.388	300	0.473	130	0.368	265	0.673
205	0.401	305	0.476	135	0.378	270	0.701
210	0.413	310	0.479	140	0.388	275	0.730
215	0.421	315	0.482	145	0.398	280	0.758
220	0.424	320	0.485	150	0.408	285	0.786
225	0.427			155	0.418	290	0.814
				160	0.426	295	0.842
				165	0.434	300	0.870
				170	0.441	305	0.899
				175	0.449	310	0.927
				180	0.457	315	0.955
				185	0.464	320	0.983
				190	0.472		

Thickness is intumescent only. Beams with a concrete slab.



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 5 continued: Three Sided I-Section Beams: 550°C

60 minutes				90 minutes		120 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
30	0.228	180	0.721	155	1.000	160	3.144
35	0.233	185	0.743	160	1.134	165	3.242
40	0.245	190	0.765	165	1.267	170	3.341
45	0.257	195	0.786	170	1.401	175	3.439
50	0.270	200	0.808	175	1.535	180	3.537
55	0.282	205	0.830	180	1.669	185	3.635
60	0.294	210	0.852	185	1.802		
65	0.307	215	0.874	190	1.936		
70	0.319	220	0.895	195	2.070		
75	0.331	225	0.917	200	2.203		
80	0.344	230	0.939	205	2.337		
85	0.356	235	0.961	210	2.471		
90	0.368	240	0.983	215	2.604		
95	0.381	245	1.015	220	2.738		
100	0.393	250	1.092	225	2.872		
105	0.405	255	1.168	230	3.006		
110	0.418	260	1.244	235	3.139		
115	0.437	265	1.320	240	3.273		
120	0.459	270	1.397	245	3.407		
125	0.481	275	1.473	250	3.540		
130	0.503	280	1.549	255	3.674		
135	0.525	285	1.626				
140	0.546	290	1.702				
145	0.568	295	1.778				
150	0.590	300	1.854				
155	0.612	305	1.931				
160	0.634	310	2.007				
165	0.655	315	2.083				
170	0.677	320	2.159				
175	0.699						

Thickness is intumescent only. Beams with a concrete slab.

Page 11 of 33 Signed

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## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 6: Three Sided I-Section Beams: 600°C

30 minutes		45 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
155	0.228	75	0.228	205	0.465
160	0.232	80	0.235	210	0.471
165	0.245	85	0.246	215	0.476
170	0.258	90	0.257	220	0.482
175	0.271	95	0.268	225	0.488
180	0.283	100	0.279	230	0.493
185	0.296	105	0.290	235	0.499
190	0.309	110	0.301	240	0.504
195	0.322	115	0.312	245	0.510
200	0.335	120	0.323	250	0.515
205	0.348	125	0.334	255	0.521
210	0.361	130	0.345	260	0.526
215	0.374	135	0.356	265	0.532
220	0.387	140	0.367	270	0.537
225	0.399	145	0.378	275	0.543
230	0.412	150	0.389	280	0.548
235	0.421	155	0.400	285	0.554
240	0.424	160	0.411	290	0.580
245	0.426	165	0.421	295	0.611
250	0.429	170	0.427	300	0.643
255	0.432	175	0.432	305	0.674
260	0.434	185	0.443	310	0.705
265	0.437	190	0.449	315	0.737
270	0.440	195	0.454	320	0.768
275	0.442	200	0.460		
280	0.445				
285	0.448				
290	0.450				
295	0.453				
300	0.455				
305	0.458				
310	0.461				
315	0.463				
320	0.466				

Thickness is intumescent only. Beams with a concrete slab.

Page 12 of 33 Signed

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## CERTIFICATE No CF 216

### SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 6 continued: Three Sided I-Section Beams: 600°C

60 minutes				90 minutes		120 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
35	0.228	180	0.531	172	1.000	160	2.971
40	0.231	185	0.544	175	1.092	165	3.064
45	0.240	190	0.562	180	1.244	170	3.157
50	0.250	195	0.595	185	1.397	175	3.250
55	0.260	200	0.628	190	1.549	180	3.343
60	0.269	205	0.661	195	1.702	185	3.436
65	0.279	210	0.694	200	1.854	190	3.529
70	0.288	215	0.728	205	2.007	195	3.621
75	0.298	220	0.761	210	2.159		
80	0.307	225	0.794	215	2.312		
85	0.317	230	0.827	220	2.465		
90	0.326	235	0.861	225	2.617		
95	0.336	240	0.894	230	2.770		
100	0.346	245	0.927	235	2.922		
105	0.355	250	0.960	240	3.075		
110	0.365	255	0.993	245	3.227		
115	0.374	260	1.063	250	3.380		
120	0.384	265	1.141	255	3.533		
125	0.393	270	1.219	260	3.685		
130	0.403	275	1.298				
135	0.412	280	1.376				
140	0.423	285	1.454				
145	0.436	290	1.532				
150	0.450	295	1.611				
155	0.463	300	1.689				
160	0.477	305	1.767				
165	0.490	310	1.846				
170	0.504	315	1.924				
175	0.517	320	2.002				

Thickness is intumescent only. Beams with a concrete slab.

Page 13 of 33 Signed

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## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 7: Three Sided I-Section Beams: 620°C

30 minutes				45 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
165	0.235	250	0.420	85	0.237	205	0.460
170	0.246	255	0.423	90	0.248	210	0.466
175	0.257	260	0.425	95	0.259	215	0.471
180	0.267	265	0.428	100	0.270	220	0.476
185	0.278	270	0.431	105	0.281	225	0.482
190	0.289	275	0.434	110	0.293	230	0.487
195	0.300	280	0.436	115	0.304	235	0.492
200	0.311	285	0.439	120	0.315	240	0.498
205	0.322	290	0.442	125	0.326	245	0.503
210	0.333	295	0.444	130	0.337	250	0.508
215	0.344	300	0.447	135	0.348	255	0.514
220	0.355	305	0.450	140	0.360	260	0.519
225	0.366	310	0.452	145	0.371	265	0.524
230	0.376	315	0.455	150	0.382	270	0.529
235	0.387	320	0.458	155	0.393	275	0.535
240	0.398	315	0.455	160	0.404	280	0.540
245	0.409	320	0.458	165	0.416	285	0.545
				170	0.423	290	0.551
				175	0.429	295	0.559
				180	0.434	300	0.580
				185	0.439	305	0.601
				190	0.444	310	0.622
				195	0.450	315	0.643
				200	0.455	320	0.664

Thickness is intumescent only. Beams with a concrete slab.

## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 7 continued: Three Sided I-Section Beams: 620°C

60 minutes				90 minutes				120 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
45	0.235	185	0.518	50	0.420	185	1.000	40	0.945
50	0.244	190	0.530	55	0.441	190	1.101	45	1.023
55	0.254	195	0.543	60	0.463	195	1.202	50	1.101
60	0.263	200	0.555	65	0.484	200	1.303	55	1.179
65	0.272	205	0.587	70	0.506	205	1.403	60	1.257
70	0.281	210	0.619	75	0.527	210	1.504	65	1.335
75	0.291	215	0.650	80	0.549	215	1.605	70	1.413
80	0.300	220	0.682	85	0.570	220	1.706	75	1.491
85	0.309	225	0.714	90	0.592	225	1.807	80	1.569
90	0.318	230	0.746	95	0.613	230	1.908	85	1.647
95	0.328	235	0.778	100	0.635	235	2.008	90	1.725
100	0.337	240	0.809	105	0.656	240	2.109	95	1.803
105	0.346	245	0.841	110	0.678	245	2.210	100	1.881
110	0.355	250	0.873	115	0.699	250	2.311	105	1.96
115	0.365	255	0.905	120	0.721	255	2.412	110	2.038
120	0.374	260	0.936	125	0.742	260	2.513	115	2.116
125	0.383	265	0.968	130	0.764	265	2.614	120	2.194
130	0.392	270	1.000	135	0.785	270	2.714	125	2.272
135	0.402	275	1.063	140	0.807	275	2.815	130	2.35
140	0.411	280	1.126	145	0.828	280	2.916	135	2.428
145	0.420	285	1.190	150	0.850	285	3.017	140	2.506
150	0.432	290	1.253	155	0.871	290	3.118	145	2.584
155	0.445	295	1.316	160	0.893	295	3.219	150	2.662
160	0.457	300	1.379	165	0.914	300	3.319	155	2.74
165	0.469	305	1.443	170	0.936	305	3.420	160	2.818
170	0.481	310	1.506	175	0.957	310	3.521	165	2.896
175	0.494	315	1.569	180	0.979	315	3.622	170	2.974
180	0.506	320	1.632					175	3.052
								180	3.13
								185	3.208
								190	3.286
								195	3.364
								200	3.442
								205	3.52
								210	3.599
								215	3.677

Thickness is intumescent only. Beams with a concrete slab.



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 8: Three Sided I-Section Beams: 650°C

30 minutes		45 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
185	0.228	110	0.228	220	0.468
190	0.230	115	0.240	225	0.473
195	0.240	120	0.257	230	0.477
200	0.250	125	0.273	235	0.482
205	0.260	130	0.290	240	0.487
210	0.270	135	0.307	245	0.491
215	0.280	140	0.323	250	0.496
220	0.290	145	0.340	255	0.501
225	0.299	150	0.357	260	0.505
230	0.309	155	0.373	265	0.510
235	0.319	160	0.390	270	0.515
240	0.329	165	0.407	275	0.519
245	0.339	170	0.421	280	0.524
250	0.349	175	0.426	285	0.529
255	0.359	180	0.430	290	0.533
260	0.369	185	0.435	295	0.538
265	0.378	190	0.440	300	0.543
270	0.388	195	0.444	305	0.548
275	0.398	200	0.449	310	0.552
280	0.408	205	0.454	315	0.565
285	0.418	210	0.458	320	0.591
290	0.422	215	0.463		
295	0.425				
300	0.427				
305	0.430				
310	0.432				
315	0.435				
320	0.437				

Thickness is intumescent only. Beams with a concrete slab.





## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 8 continued: Three Sided I-Section Beams: 650°C

60 minutes			
Section factor up to $m^{-1}$	Thickness mm	Section factor up to $m^{-1}$	Thickness mm
50	0.230	190	0.491
55	0.239	195	0.501
60	0.248	200	0.511
65	0.257	205	0.521
70	0.266	210	0.531
75	0.276	215	0.541
80	0.285	220	0.551
85	0.294	225	0.576
90	0.303	230	0.611
95	0.312	235	0.645
100	0.321	240	0.680
105	0.330	245	0.715
110	0.340	250	0.750
115	0.349	255	0.784
120	0.358	260	0.819
125	0.367	265	0.854
130	0.376	270	0.889
135	0.385	275	0.924
140	0.394	280	0.958
145	0.404	285	0.993
150	0.413	290	1.026
155	0.422	295	1.059
160	0.432	300	1.091
165	0.442	305	1.124
170	0.452	310	1.156
175	0.462	315	1.189
180	0.472	320	1.221
185	0.482		

Thickness is intumescent only. Beams with a concrete slab.

Page 17 of 33 Signed

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## CERTIFICATE No CF 216

### SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 8 continued: Three Sided I-Section Beams: 650°C

90 minutes				120 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
25	0.233	175	0.903	45	0.950	140	2.381
30	0.254	180	0.926	50	1.025	145	2.459
35	0.275	185	0.949	55	1.099	150	2.537
40	0.296	190	0.972	60	1.174	155	2.615
45	0.316	195	0.995	65	1.249	160	2.693
50	0.337	200	1.081	70	1.323	165	2.771
55	0.358	205	1.183	75	1.398	170	2.849
60	0.379	210	1.285	80	1.473	175	2.927
65	0.399	215	1.386	85	1.547	180	3.005
70	0.420	220	1.488	90	1.622	185	3.083
75	0.443	225	1.590	95	1.697	190	3.161
80	0.466	230	1.692	100	1.771	195	3.240
85	0.489	235	1.793	105	1.846	200	3.318
90	0.512	240	1.895	110	1.921	205	3.396
95	0.535	245	1.997	115	1.995	210	3.474
100	0.558	250	2.098	120	2.070	215	3.552
105	0.581	255	2.200	125	2.147	220	3.630
110	0.604	260	2.302	130	2.225	225	3.708
115	0.627	265	2.404	135	2.303		
120	0.650	270	2.505				
125	0.673	275	2.607				
130	0.696	280	2.709				
135	0.719	285	2.810				
140	0.742	290	2.912				
145	0.765	295	3.014				
150	0.788	300	3.116				
155	0.811	305	3.217				
160	0.834	310	3.319				
165	0.857	315	3.421				
170	0.880	320	3.522				

Thickness is intumescent only. Beams with a concrete slab.

Page 18 of 33 Signed

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## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 9: Three Sided I-Section Beams: 700°C

30 minutes		45 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
235	0.228	135	0.228	230	0.458
240	0.230	140	0.238	235	0.462
245	0.240	145	0.258	240	0.466
250	0.250	150	0.278	245	0.471
255	0.260	155	0.299	250	0.475
260	0.270	160	0.319	255	0.479
265	0.281	165	0.339	260	0.483
270	0.291	170	0.359	265	0.488
275	0.301	175	0.380	270	0.492
280	0.311	180	0.400	275	0.496
285	0.322	185	0.420	280	0.500
290	0.332	190	0.424	285	0.504
295	0.342	195	0.428	290	0.509
300	0.352	200	0.433	295	0.513
305	0.363	205	0.437	300	0.517
310	0.373	210	0.441	305	0.521
315	0.383	215	0.445	310	0.525
320	0.393	220	0.450	315	0.530
		225	0.454	320	0.534

Thickness is intumescent only. Beams with a concrete slab.



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## CERTIFICATE No CF 216

### SIKA DEUTSCHLAND GMBH

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Sika® Unitherm® Steel S

Table 9 continued: Three Sided I-Section Beams: 700°C

60 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
90	0.228	210	0.503
95	0.231	215	0.511
100	0.247	220	0.518
105	0.262	225	0.526
110	0.278	230	0.534
115	0.293	235	0.541
120	0.309	240	0.549
125	0.324	245	0.561
130	0.340	250	0.594
135	0.355	255	0.626
140	0.371	260	0.658
145	0.386	265	0.690
150	0.401	270	0.723
155	0.417	275	0.755
160	0.426	280	0.787
165	0.434	285	0.819
170	0.441	290	0.852
175	0.449	295	0.884
180	0.457	300	0.916
185	0.464	305	0.948
190	0.472	310	0.981
195	0.480	315	1.013
200	0.488	320	1.045
205	0.495		

Thickness is intumescent only. Beams with a concrete slab.



## CERTIFICATE No CF 216

### SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 9 continued: Three Sided I-Section Beams: 700°C

90 minutes				120 minutes			
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
30	0.227	180	0.817	50	0.950	150	2.448
35	0.243	185	0.839	55	1.027	155	2.517
40	0.260	190	0.860	60	1.103	160	2.587
45	0.276	195	0.882	65	1.180	165	2.657
50	0.293	200	0.904	70	1.257	170	2.726
55	0.309	205	0.926	75	1.333	175	2.796
60	0.325	210	0.948	80	1.410	180	2.865
65	0.342	215	0.969	85	1.487	185	2.935
70	0.358	220	0.991	90	1.563	190	3.004
75	0.374	225	1.064	95	1.640	195	3.074
80	0.391	230	1.172	100	1.717	200	3.143
85	0.407	235	1.279	105	1.793	205	3.213
90	0.424	240	1.386	110	1.870	210	3.283
95	0.446	245	1.493	115	1.947	215	3.352
100	0.468	250	1.600	120	2.023	220	3.422
105	0.490	255	1.708	125	2.100	225	3.491
110	0.512	260	1.815	130	2.170	230	3.561
115	0.533	265	1.922	135	2.239	235	3.630
120	0.555	270	2.029	140	2.309	240	3.700
125	0.577	275	2.136	145	2.378		
130	0.599	280	2.244				
135	0.621	285	2.351				
140	0.642	290	2.458				
145	0.664	295	2.565				
150	0.686	300	2.672				
155	0.708	305	2.780				
160	0.730	310	2.887				
165	0.751	315	2.994				
170	0.773	320	3.101				
175	0.795						

Thickness is intumescent only. Beams with a concrete slab.



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 10: Four Sided I-Section Columns and Beams: 500°C

15 minutes		30 minutes		45 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
83	0.250	83	0.250	50	0.250
144	0.270	103	0.300	55	0.300
200	0.350	124	0.350	61	0.350
228	0.390	144	0.400	66	0.400
256	0.430	200	0.500	71	0.450
320	0.550	228	0.550	77	0.550
		256	0.600	82	0.580
		320	0.750	110	0.620
				136	0.650
				149	0.690
				162	0.730
				174	0.770
				200	0.850
				215	1.350
				228	1.420
				256	1.500
				320	1.850

Thickness is intumescent only.



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 10 continued: Four Sided I-Section Columns and Beams: 500°C

60 minutes		90 minutes		120 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
36	0.250	36	0.550	25	1.000
40	0.300	38	0.600	33	1.200
44	0.350	44	0.800	42	1.400
48	0.400	51	1.000	50	1.600
51	0.450	57	1.200	59	1.800
55	0.500	64	1.400	67	2.000
59	0.550	70	1.600	76	2.200
72	0.600	72	1.650	84	2.400
85	0.650	99	2.100	91	2.600
97	0.700	120	2.300	97	2.800
110	0.750	148	2.600	104	3.000
123	0.800	165	2.800	120	3.200
136	0.850	172	3.000	136	3.400
149	0.900	182	3.200		
162	0.950	192	3.400		
174	1.000				
200	1.100				
215	1.750				
228	1.850				
256	1.950				
320	2.400				

Thickness is intumescent only.



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 11: Four Sided I-Section Columns and Beams: 550°C

15 minutes		30 minutes		45 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
90	0.250	90	0.250	54	0.250
180	0.300	120	0.300	60	0.269
250	0.360	150	0.350	66	0.288
285	0.400	180	0.400	72	0.306
320	0.440	215	0.450	78	0.326
		250	0.500	84	0.345
		285	0.550	90	0.365
		320	0.600	117	0.452
				144	0.539
				171	0.626
				198	0.713
				225	0.800
				250	0.881
				252	0.880
				255	0.920
				259	1.000
				264	1.080
				269	1.150
				273	1.230
				278	1.310
				285	1.400
				303	1.460
				320	1.480

Thickness is intumescent only.





## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 11 continued: Four Sided I-Section Columns and Beams: 550°C

60 minutes		90 minutes		120 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
37	0.250	38	0.550	25	1.000
53	0.300	43	0.650	31	1.100
71	0.350	47	0.750	36	1.200
83	0.400	52	0.850	42	1.300
97	0.450	57	0.950	48	1.400
112	0.500	62	1.050	54	1.500
127	0.550	66	1.150	59	1.600
141	0.600	71	1.250	65	1.700
156	0.650	76	1.350	71	1.800
170	0.700	80	1.450	76	1.900
185	0.750	85	1.550	82	2.000
194	0.800	90	1.650	88	2.100
204	0.850	97	1.700	94	2.200
222	0.900	110	1.800	99	2.300
231	0.950	123	1.900	105	2.400
241	1.000	137	2.000	113	2.600
250	1.100	150	2.100	122	2.800
252	1.150	168	2.200	130	3.000
255	1.200	185	2.300	150	3.200
259	1.300	189	2.400	170	3.400
264	1.400	198	2.600		
269	1.500	206	2.800		
273	1.600	215	3.000		
278	1.700	228	3.200		
285	1.850	240	3.400		
303	1.900				
320	1.950				

Thickness is intumescent only.

Page 25 of 33 Signed

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## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 12: Four Sided I-Section Columns and Beams: 600°C

15 minutes		30 minutes		45 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
105	0.250	105	0.250	63	0.250
225	0.290	162	0.300	68	0.300
288	0.350	194	0.340	73	0.350
320	0.390	225	0.380	78	0.400
		257	0.420	83	0.450
		288	0.460	87	0.500
		320	0.510	93	0.550
				99	0.580
				112	0.620
				124	0.650
				137	0.690
				149	0.730
				162	0.770
				257	0.850
				265	0.960
				271	1.040
				277	1.110
				282	1.190
				288	1.270
				320	1.410

Thickness is intumescent only.



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 12 continued: Four Sided I-Section Columns and Beams: 600°C

60 minutes		90 minutes		120 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
42	0.250	47	0.550	25	1.000
47	0.300	49	0.600	32	1.100
52	0.350	53	0.700	38	1.200
57	0.400	57	0.800	51	1.400
62	0.450	61	0.900	64	1.600
67	0.500	65	1.000	78	1.800
72	0.550	69	1.100	91	2.000
79	0.600	73	1.200	104	2.200
86	0.650	77	1.300	117	2.400
92	0.700	87	1.400	128	2.600
99	0.750	98	1.500	138	2.800
112	0.800	113	1.650	149	3.000
124	0.850	131	1.800	160	3.200
137	0.900	143	1.900	171	3.400
149	0.950	167	2.100		
162	1.000	198	2.300		
257	1.100	211	2.500		
265	1.250	225	2.700		
271	1.350	257	3.000		
277	1.450				
282	1.550				
288	1.650				
320	1.830				

Thickness is intumescent only.



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 13: Four Sided I-Section Columns and Beams: 650°C

15 minutes		30 minutes		45 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
135	0.250	136	0.250	69	0.250
288	0.300	187	0.300	76	0.300
320	0.333	259	0.380	84	0.350
		279	0.400	91	0.400
		320	0.440	99	0.450
				106	0.500
				114	0.550
				128	0.620
				143	0.650
				157	0.690
				172	0.730
				187	0.770
				242	0.810
				295	0.850
				320	1.190

Thickness is intumescent only.



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 13 continued: Four Sided I-Section Columns and Beams: 650°C

60 minutes		90 minutes		120 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
47	0.250	51	0.550	25	1.000
54	0.300	53	0.600	41	1.200
60	0.350	58	0.700	57	1.400
67	0.400	63	0.800	72	1.600
74	0.450	68	0.900	88	1.800
80	0.500	73	1.000	104	2.000
87	0.550	78	1.100	119	2.200
94	0.600	83	1.200	135	2.400
101	0.650	88	1.300	141	2.600
107	0.700	100	1.400	158	2.800
114	0.750	112	1.500	171	3.000
128	0.800	130	1.650	184	3.200
143	0.850	164	1.900	197	3.400
157	0.900	192	2.100		
172	0.950	228	2.300		
187	1.000	240	2.500		
242	1.050	259	2.700		
295	1.100	271	2.800		
320	1.550	295	3.000		

Thickness is intumescent only.



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 14: Hollow Beams (RHS): 590°C

15 minutes		30 minutes		45 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
192	0.600	192	0.600	100	0.600
211	0.650	207	0.700	110	0.650
231	0.700	214	0.750	118	0.700
250	0.750	221	0.800	127	0.750
285	0.790	228	0.850	135	0.800
320	0.830	236	0.900	144	0.850
		243	0.950	152	0.900
		250	1.000	165	0.980
		285	1.050	180	1.130
		320	1.100	197	1.250
				210	1.350
				217	1.400
				230	1.500
				240	1.580
				257	1.700
				270	1.800
				275	1.850
				285	1.950
				295	2.030
				320	2.200

Thickness is intumescent only.



## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 14 continued: Hollow Beams (RHS): 590°C

60 minutes		90 minutes				120 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
77	0.600	25	1.300	145	2.380	115	2.570
78	0.650	30	1.350	150	2.430	120	2.630
79	0.700	35	1.390	155	2.470	125	2.700
80	0.750	40	1.440	160	2.520	130	2.770
81	0.800	45	1.480	165	2.560	135	2.830
82	0.850	50	1.530	170	2.610	140	2.900
84	0.900	55	1.570	175	2.650	145	2.970
85	0.950	60	1.620	180	2.700	150	3.030
86	1.000	65	1.660	185	2.740	155	3.100
87	1.060	70	1.710	190	2.780	160	3.170
100	1.100	75	1.750	195	2.820	165	3.230
133	1.200	80	1.800	200	2.860	170	3.300
165	1.300	85	1.840	205	2.900	115	2.570
172	1.400	90	1.890	210	2.940	120	2.630
180	1.500	95	1.930	215	2.980	125	2.700
190	1.600	100	1.980	220	3.020	130	2.770
200	1.700	105	2.020	225	3.060	135	2.830
210	1.800	110	2.070	230	3.100	140	2.900
220	1.900	115	2.110	235	3.140	145	2.970
240	2.100	120	2.160	240	3.180	150	3.030
270	2.400	125	2.200	245	3.220	155	3.100
285	2.600	130	2.250	250	3.260	160	3.170
295	2.700	135	2.290	255	3.300	165	3.230
		140	2.340			170	3.300

Thickness is intumescent only.

Page 31 of 33 Signed

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## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 15: Hollow Columns (RHS and CHS): 520°C

15 minutes		30 minutes		45 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
166	0.600	166	0.600	95	0.600
209	0.730	173	0.650	99	0.650
216	0.750	180	0.700	104	0.700
223	0.770	187	0.750	108	0.750
230	0.790	194	0.800	113	0.800
255	0.830	202	0.850	117	0.850
288	0.900	209	0.900	121	0.900
320	1.000	216	0.950	126	0.950
		223	1.000	130	1.000
		230	1.050	145	1.050
		255	1.100	160	1.100
		288	1.200	175	1.150
		320	1.300	190	1.200
				193	1.250
				196	1.300
				199	1.350
				202	1.400
				205	1.450
				208	1.500
				210	1.550
				215	1.600
				218	1.650
				222	1.700
				226	1.750
				229	1.800
				235	1.880
				238	1.900
				247	1.960
				260	2.060
				290	2.300
				320	2.540

Thickness is intumescent only.

Page 32 of 33 Signed

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## CERTIFICATE No CF 216 SIKA DEUTSCHLAND GMBH

Sika® Unitherm® Steel S

Table 15 continued: Hollow Columns (RHS and CHS): 520°C

60 minutes		90 minutes		120 minutes	
Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm	Section factor up to m <sup>-1</sup>	Thickness mm
67	0.600	25	1.300	37	2.700
71	0.650	30	1.400	40	2.720
75	0.700	35	1.500	45	2.760
79	0.750	40	1.600	50	2.790
84	0.800	45	1.700	55	2.830
88	0.850	50	1.800	60	2.860
92	0.900	55	1.900	65	2.900
96	0.950	60	2.000	70	2.930
100	1.000	65	2.100	75	2.970
105	1.060	70	2.200	80	3.000
110	1.100	75	2.300		
120	1.200	80	2.400		
130	1.300	85	2.500		
150	1.400	90	2.600		
170	1.500				
190	1.600				
200	1.800				
210	2.050				
223	2.300				
235	2.500				
260	2.750				

Thickness is intumescent only.