



CERTIFICATE OF APPROVAL

No CF 5994

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

RUDOLF HENSEL GMBH
Lauenburger Landstraße 11
D-21039 Börnsen, Germany

TEL: +49 040 72106210

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

HENSOTHERM® 920 KS

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: 11th May 2021
Valid to: 10th May 2026





CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

HENSOTHERM® 920 KS

1. This approval relates to the use of HENSOTHERM® 920 KS for the fire protection of I/H - shaped beams, I/H shaped columns and hollow columns. The precise scope is given in Tables 1 to 26 which show the total dry film thickness of HENSOTHERM® 920 KS (excluding any primer and topcoat) required to provide fire resistance periods in accordance with BS476: Part 21: 1987. The scope includes periods of fire resistance of up to 120 minutes for I/H-sections beams, up to 150 minutes for I/H section columns and up to 150 minutes for circular as well as rectangular/square hollow columns.
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: 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 Sa 2.5 or equivalent and primed with a suitable and compatible primer. Specifications of suitably tested and evaluated surface preparations, primers and topcoats are available from Rudolf Hensel GmbH whose responsibility is to ensure HENSOTHERM® 920 KS is compatible for use in respect of both ambient and fire conditions. The nominal dry film thickness of primer and topcoat should be applied at a nominal thickness tested unless stated otherwise in this certificate.
6. The data shown is applicable to HENSOTHERM® 920 KS applied 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. The product and/or its immediate packaging shall be 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 an assessment that complies with the criteria for acceptability incorporated within the CERTIFIRE scheme.

Signed Page 2 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 1. HENSOTHERM® 920 KS

I/H Beams 15 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
30	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
35	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
40	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
45	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
50	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
55	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
60	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
65	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
70	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
75	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
80	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
85	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
90	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
95	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
100	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
105	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
110	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
115	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
120	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
125	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
130	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
135	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
140	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
145	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
150	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
155	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
160	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
165	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
170	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
175	0.355	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
180	0.374	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
185	0.393	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
190	0.412	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
195	0.431	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 3 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 1 Continued. HENSOTHERM® 920 KS

I/H Beams 15 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
200	0.450	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
205	0.469	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
210	0.488	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
215	0.507	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
220	0.526	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
225	0.545	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
230	0.564	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
235	0.583	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
240	0.602	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
245	0.621	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
250	0.640	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
255	0.659	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
260	0.678	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
265	0.697	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
270	0.716	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
275	0.735	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
280	0.755	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
285	0.774	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
290	0.793	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
295	0.812	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
300	0.831	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
305	0.850	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
310	0.869	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
315	0.888	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
320	0.907	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
325	0.926	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
330	0.945	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
335	0.964	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
340	0.983	0.359	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
345	1.002	0.383	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
350	1.021	0.406	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
355	1.040	0.430	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
360	1.059	0.454	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 4 of 54
C/009

Issued: 11th May 2021
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CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 2. HENSOTHERM® 920 KS

I/H Beams 30 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
30	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
35	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
40	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
45	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
50	0.390	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
55	0.442	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
60	0.493	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
65	0.544	0.387	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
70	0.595	0.421	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
75	0.647	0.455	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
80	0.698	0.490	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
85	0.749	0.524	0.365	0.353	0.353	0.353	0.353	0.353	0.353	0.353
90	0.800	0.559	0.390	0.353	0.353	0.353	0.353	0.353	0.353	0.353
95	0.852	0.593	0.414	0.353	0.353	0.353	0.353	0.353	0.353	0.353
100	0.903	0.627	0.439	0.353	0.353	0.353	0.353	0.353	0.353	0.353
105	0.954	0.662	0.464	0.353	0.353	0.353	0.353	0.353	0.353	0.353
110	1.006	0.696	0.488	0.353	0.353	0.353	0.353	0.353	0.353	0.353
115	1.057	0.731	0.513	0.353	0.353	0.353	0.353	0.353	0.353	0.353
120	1.108	0.765	0.538	0.353	0.353	0.353	0.353	0.353	0.353	0.353
125	1.159	0.800	0.563	0.376	0.353	0.353	0.353	0.353	0.353	0.353
130	1.211	0.834	0.587	0.399	0.353	0.353	0.353	0.353	0.353	0.353
135	1.262	0.868	0.612	0.421	0.353	0.353	0.353	0.353	0.353	0.353
140	1.313	0.903	0.637	0.444	0.353	0.353	0.353	0.353	0.353	0.353
145	1.364	0.937	0.661	0.466	0.353	0.353	0.353	0.353	0.353	0.353
150	1.416	0.972	0.686	0.489	0.353	0.353	0.353	0.353	0.353	0.353
155	1.467	1.006	0.711	0.512	0.353	0.353	0.353	0.353	0.353	0.353
160	1.509	1.040	0.735	0.534	0.353	0.353	0.353	0.353	0.353	0.353
165	1.542	1.075	0.760	0.557	0.353	0.353	0.353	0.353	0.353	0.353
170	1.576	1.109	0.785	0.579	0.353	0.353	0.353	0.353	0.353	0.353
175	1.610	1.144	0.809	0.602	0.353	0.353	0.353	0.353	0.353	0.353
180	1.643	1.178	0.834	0.624	0.353	0.353	0.353	0.353	0.353	0.353
185	1.677	1.212	0.859	0.647	0.353	0.353	0.353	0.353	0.353	0.353
190	1.710	1.247	0.883	0.670	0.353	0.353	0.353	0.353	0.353	0.353
195	1.744	1.281	0.908	0.692	0.363	0.353	0.353	0.353	0.353	0.353

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 5 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 2 Continued. HENSOTHERM® 920 KS

I/H Beams 30 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
200	1.778	1.316	0.933	0.715	0.387	0.353	0.353	0.353	0.353	0.353
205	1.811	1.350	0.957	0.737	0.411	0.353	0.353	0.353	0.353	0.353
210	1.845	1.384	0.982	0.760	0.435	0.353	0.353	0.353	0.353	0.353
215	1.878	1.419	1.007	0.783	0.459	0.353	0.353	0.353	0.353	0.353
220	1.912	1.453	1.031	0.805	0.482	0.353	0.353	0.353	0.353	0.353
225	1.945	1.488	1.056	0.828	0.506	0.353	0.353	0.353	0.353	0.353
230	1.979	1.523	1.081	0.850	0.530	0.353	0.353	0.353	0.353	0.353
235	2.013	1.558	1.105	0.873	0.554	0.353	0.353	0.353	0.353	0.353
240	2.046	1.593	1.130	0.895	0.578	0.353	0.353	0.353	0.353	0.353
245	2.080	1.628	1.155	0.918	0.602	0.353	0.353	0.353	0.353	0.353
250	2.113	1.664	1.179	0.941	0.626	0.353	0.353	0.353	0.353	0.353
255	2.147	1.699	1.204	0.963	0.650	0.353	0.353	0.353	0.353	0.353
260	2.181	1.734	1.229	0.986	0.673	0.353	0.353	0.353	0.353	0.353
265	2.214	1.769	1.253	1.008	0.697	0.353	0.353	0.353	0.353	0.353
270	2.248	1.804	1.278	1.031	0.721	0.353	0.353	0.353	0.353	0.353
275	2.281	1.840	1.303	1.054	0.745	0.353	0.353	0.353	0.353	0.353
280	2.315	1.875	1.327	1.076	0.769	0.353	0.353	0.353	0.353	0.353
285	2.348	1.910	1.352	1.099	0.793	0.353	0.353	0.353	0.353	0.353
290	2.382	1.945	1.377	1.121	0.817	0.353	0.353	0.353	0.353	0.353
295	2.416	1.981	1.401	1.144	0.841	0.353	0.353	0.353	0.353	0.353
300	2.449	2.016	1.426	1.166	0.864	0.353	0.353	0.353	0.353	0.353
305	2.483	2.051	1.451	1.189	0.888	0.353	0.353	0.353	0.353	0.353
310	2.516	2.086	1.475	1.212	0.912	0.353	0.353	0.353	0.353	0.353
315	2.550	2.121	1.506	1.234	0.936	0.353	0.353	0.353	0.353	0.353
320	2.584	2.157	1.546	1.257	0.960	0.353	0.353	0.353	0.353	0.353
325	2.617	2.192	1.586	1.279	0.984	0.355	0.353	0.353	0.353	0.353
330	2.651	2.227	1.627	1.302	1.008	0.387	0.353	0.353	0.353	0.353
335	2.684	2.262	1.667	1.325	1.032	0.419	0.353	0.353	0.353	0.353
340	2.718	2.298	1.707	1.347	1.055	0.451	0.353	0.353	0.353	0.353
345	2.752	2.333	1.747	1.370	1.079	0.483	0.353	0.353	0.353	0.353
350	2.785	2.368	1.787	1.392	1.103	0.515	0.371	0.353	0.353	0.353
355	2.819	2.403	1.828	1.415	1.127	0.547	0.400	0.353	0.353	0.353
360	2.852	2.439	1.868	1.437	1.151	0.579	0.430	0.353	0.353	0.353

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 6 of 54
C/009



Issued: 11th May 2021
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CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 3. HENSOTHERM® 920 KS

I /H Beams 45 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
30	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
35	0.775	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
40	0.775	0.394	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
45	0.775	0.552	0.367	0.353	0.353	0.353	0.353	0.353	0.353	0.353
50	0.775	0.552	0.425	0.356	0.353	0.353	0.353	0.353	0.353	0.353
55	0.886	0.632	0.482	0.397	0.353	0.353	0.353	0.353	0.353	0.353
60	0.997	0.711	0.539	0.439	0.353	0.353	0.353	0.353	0.353	0.353
65	1.108	0.790	0.597	0.480	0.384	0.353	0.353	0.353	0.353	0.353
70	1.220	0.870	0.654	0.521	0.415	0.353	0.353	0.353	0.353	0.353
75	1.331	0.949	0.712	0.563	0.447	0.353	0.353	0.353	0.353	0.353
80	1.442	1.028	0.769	0.604	0.478	0.376	0.353	0.353	0.353	0.353
85	1.548	1.108	0.826	0.646	0.510	0.401	0.357	0.353	0.353	0.353
90	1.648	1.187	0.884	0.687	0.541	0.427	0.381	0.353	0.353	0.353
95	1.748	1.266	0.941	0.728	0.573	0.452	0.404	0.353	0.353	0.353
100	1.849	1.345	0.999	0.770	0.604	0.478	0.428	0.353	0.353	0.353
105	1.949	1.425	1.056	0.811	0.636	0.503	0.451	0.367	0.353	0.353
110	2.050	1.504	1.113	0.852	0.667	0.529	0.475	0.389	0.353	0.353
115	2.150	1.580	1.171	0.894	0.699	0.554	0.498	0.412	0.353	0.353
120	2.251	1.656	1.228	0.935	0.730	0.580	0.522	0.434	0.353	0.353
125	2.351	1.733	1.286	0.977	0.762	0.605	0.545	0.457	0.353	0.353
130	2.452	1.809	1.343	1.018	0.793	0.631	0.569	0.479	0.353	0.353
135	2.552	1.886	1.400	1.059	0.825	0.656	0.592	0.501	0.353	0.353
140	2.653	1.962	1.458	1.101	0.856	0.682	0.616	0.524	0.353	0.353
145	2.753	2.038	1.512	1.142	0.888	0.707	0.639	0.546	0.353	0.353
150	2.854	2.115	1.561	1.183	0.919	0.732	0.663	0.569	0.353	0.353
155	2.915	2.191	1.609	1.225	0.951	0.758	0.686	0.591	0.360	0.353
160	2.963	2.268	1.658	1.266	0.982	0.783	0.710	0.614	0.381	0.353
165	3.010	2.344	1.707	1.308	1.014	0.809	0.733	0.636	0.403	0.353
170	3.057	2.421	1.756	1.349	1.045	0.834	0.757	0.658	0.425	0.353
175	3.104	2.497	1.805	1.390	1.077	0.860	0.781	0.681	0.447	0.353
180	3.151	2.573	1.854	1.432	1.108	0.885	0.804	0.703	0.468	0.353
185	3.199	2.650	1.902	1.473	1.140	0.911	0.828	0.726	0.490	0.353
190	3.246	2.726	1.951	1.514	1.171	0.936	0.851	0.748	0.512	0.353
195	3.293	2.803	2.000	1.554	1.203	0.962	0.875	0.770	0.534	0.353

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 7 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 3 Continued. HENSOTHERM® 920 KS

I/H Beams 45 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
200	3.340	2.879	2.049	1.594	1.234	0.987	0.898	0.793	0.555	0.353
205	3.387	2.921	2.098	1.634	1.266	1.013	0.922	0.815	0.577	0.353
210	3.435	2.962	2.147	1.674	1.297	1.038	0.945	0.838	0.599	0.353
215	3.482	3.003	2.195	1.714	1.329	1.064	0.969	0.860	0.621	0.353
220	3.529	3.044	2.244	1.753	1.360	1.089	0.992	0.883	0.643	0.353
225	3.576	3.085	2.293	1.793	1.392	1.115	1.016	0.905	0.664	0.353
230	3.623	3.126	2.342	1.833	1.423	1.140	1.039	0.927	0.686	0.353
235	3.670	3.168	2.391	1.873	1.455	1.165	1.063	0.950	0.708	0.353
240	3.718	3.209	2.440	1.913	1.486	1.191	1.086	0.972	0.730	0.353
245	3.765	3.250	2.489	1.953	1.526	1.216	1.110	0.995	0.751	0.353
250	3.812	3.291	2.537	1.993	1.566	1.242	1.133	1.017	0.773	0.353
255	3.859	3.332	2.586	2.033	1.607	1.267	1.157	1.040	0.795	0.353
260	3.906	3.373	2.635	2.073	1.647	1.293	1.180	1.062	0.817	0.353
265	3.954	3.414	2.684	2.113	1.688	1.318	1.204	1.084	0.838	0.353
270	4.005	3.455	2.733	2.153	1.729	1.344	1.227	1.107	0.860	0.353
275	4.059	3.496	2.782	2.193	1.769	1.369	1.251	1.129	0.882	0.353
280	4.112	3.537	2.830	2.233	1.810	1.395	1.274	1.152	0.904	0.353
285	4.166	3.579	2.879	2.273	1.850	1.420	1.298	1.174	0.926	0.353
290	4.219	3.620	2.941	2.313	1.891	1.446	1.321	1.196	0.947	0.353
295	4.273	3.661	3.003	2.353	1.931	1.471	1.345	1.219	0.969	0.353
300	4.327	3.702	3.064	2.393	1.972	1.500	1.368	1.241	0.991	0.353
305	4.380	3.743	3.126	2.433	2.012	1.540	1.392	1.264	1.013	0.353
310	4.434	3.784	3.188	2.473	2.053	1.580	1.415	1.286	1.034	0.353
315	4.487	3.825	3.250	2.513	2.094	1.620	1.439	1.309	1.056	0.353
320	4.541	3.866	3.312	2.553	2.134	1.660	1.462	1.331	1.078	0.353
325	4.595	3.907	3.374	2.593	2.175	1.700	1.486	1.353	1.100	0.376
330	4.648	3.948	3.436	2.633	2.215	1.740	1.522	1.376	1.121	0.407
335	4.702	3.994	3.497	2.673	2.256	1.779	1.562	1.398	1.143	0.439
340	4.755	4.044	3.559	2.713	2.296	1.819	1.602	1.421	1.165	0.470
345	4.809	4.094	3.621	2.753	2.337	1.859	1.641	1.443	1.187	0.501
350	4.863	4.145	3.683	2.793	2.378	1.899	1.681	1.465	1.209	0.532
355	4.916	4.195	3.745	2.833	2.418	1.939	1.721	1.488	1.230	0.563
360	4.970	4.245	3.807	2.873	2.459	1.979	1.761	1.522	1.252	0.594

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 8 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 4. HENSOTHERM® 920 KS

I/H Beams 60 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
30	1.385	0.406	0.353	0.353	0.353	0.353	0.353	0.353	0.353	0.353
35	1.385	0.924	0.401	0.353	0.353	0.353	0.353	0.353	0.353	0.353
40	1.385	0.924	0.697	0.405	0.353	0.353	0.353	0.353	0.353	0.353
45	1.385	0.924	0.697	0.556	0.406	0.359	0.353	0.353	0.353	0.353
50	1.385	0.924	0.697	0.556	0.464	0.403	0.384	0.359	0.353	0.353
55	1.479	1.054	0.796	0.632	0.522	0.447	0.423	0.391	0.353	0.353
60	1.645	1.183	0.895	0.707	0.580	0.491	0.461	0.424	0.353	0.353
65	1.820	1.312	0.994	0.783	0.637	0.534	0.500	0.457	0.375	0.353
70	1.996	1.442	1.093	0.859	0.695	0.578	0.539	0.490	0.402	0.353
75	2.171	1.577	1.191	0.935	0.753	0.622	0.578	0.522	0.429	0.353
80	2.347	1.716	1.290	1.010	0.811	0.666	0.616	0.555	0.456	0.353
85	2.522	1.855	1.389	1.086	0.869	0.710	0.655	0.588	0.484	0.353
90	2.698	1.994	1.488	1.162	0.927	0.754	0.694	0.621	0.511	0.375
95	2.874	2.133	1.600	1.237	0.984	0.797	0.733	0.653	0.538	0.398
100	2.981	2.271	1.712	1.313	1.042	0.841	0.772	0.686	0.565	0.421
105	3.086	2.410	1.824	1.389	1.100	0.885	0.810	0.719	0.593	0.445
110	3.191	2.549	1.936	1.465	1.158	0.929	0.849	0.751	0.620	0.468
115	3.296	2.688	2.049	1.550	1.216	0.973	0.888	0.784	0.647	0.491
120	3.401	2.827	2.161	1.640	1.274	1.016	0.927	0.817	0.674	0.514
125	3.506	2.925	2.273	1.730	1.331	1.060	0.965	0.850	0.702	0.537
130	3.610	2.996	2.386	1.820	1.389	1.104	1.004	0.882	0.729	0.560
135	3.715	3.068	2.498	1.910	1.447	1.148	1.043	0.915	0.756	0.583
140	3.820	3.140	2.610	2.000	1.506	1.192	1.082	0.948	0.783	0.606
145	3.925	3.211	2.722	2.090	1.570	1.236	1.120	0.981	0.811	0.630
150	4.000	3.283	2.835	2.180	1.633	1.279	1.159	1.013	0.838	0.653
155	4.053	3.355	2.914	2.270	1.697	1.323	1.198	1.046	0.865	0.676
160	4.105	3.426	2.971	2.360	1.760	1.367	1.237	1.079	0.892	0.699
165	4.157	3.498	3.028	2.451	1.824	1.411	1.276	1.111	0.920	0.722
170	4.210	3.569	3.086	2.541	1.887	1.455	1.314	1.144	0.947	0.745
175	4.262	3.641	3.143	2.631	1.951	1.498	1.353	1.177	0.974	0.768
180	4.314	3.713	3.200	2.721	2.014	1.539	1.392	1.210	1.002	0.791
185	4.366	3.784	3.257	2.811	2.078	1.581	1.431	1.242	1.029	0.815
190	4.419	3.856	3.314	2.892	2.142	1.622	1.469	1.275	1.056	0.838
195	4.471	3.928	3.371	2.942	2.205	1.664	1.509	1.308	1.083	0.861

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 9 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 4 Continued. HENSOTHERM® 920 KS

I/H Beams 60 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
200	4.523	3.991	3.428	2.992	2.269	1.705	1.551	1.341	1.111	0.884
205	4.576	4.041	3.485	3.042	2.332	1.747	1.593	1.373	1.138	0.907
210	4.628	4.092	3.542	3.092	2.396	1.788	1.634	1.406	1.165	0.930
215	4.680	4.143	3.599	3.142	2.459	1.830	1.676	1.439	1.192	0.953
220	4.732	4.193	3.656	3.192	2.523	1.871	1.717	1.472	1.220	0.976
225	4.785	4.244	3.713	3.242	2.586	1.912	1.759	1.508	1.247	1.000
230	4.837	4.295	3.770	3.291	2.650	1.954	1.801	1.549	1.274	1.023
235	4.889	4.345	3.827	3.341	2.713	1.995	1.842	1.590	1.301	1.046
240	4.942	4.396	3.884	3.391	2.777	2.037	1.884	1.632	1.329	1.069
245	4.994	4.446	3.941	3.441	2.840	2.078	1.925	1.673	1.356	1.092
250	5.046	4.497	3.995	3.491	2.902	2.120	1.967	1.714	1.383	1.115
255	5.099	4.548	4.045	3.541	2.959	2.161	2.009	1.756	1.410	1.138
260	5.151	4.598	4.095	3.591	3.017	2.203	2.050	1.797	1.438	1.161
265	5.203	4.649	4.145	3.641	3.075	2.244	2.092	1.839	1.465	1.185
270	5.255	4.699	4.195	3.691	3.132	2.285	2.133	1.880	1.492	1.208
275	5.308	4.750	4.245	3.741	3.190	2.327	2.175	1.921	1.529	1.231
280	5.360	4.801	4.295	3.791	3.248	2.368	2.217	1.963	1.565	1.254
285	5.412	4.851	4.346	3.840	3.305	2.410	2.258	2.004	1.602	1.277
290	5.465	4.902	4.396	3.890	3.363	2.451	2.300	2.045	1.638	1.300
295	5.517	4.952	4.446	3.940	3.421	2.493	2.341	2.087	1.675	1.323
300	5.569	5.003	4.496	3.991	3.478	2.534	2.383	2.128	1.711	1.346
305	5.622	5.054	4.546	4.041	3.536	2.576	2.425	2.169	1.748	1.369
310	5.674	5.104	4.596	4.092	3.594	2.617	2.466	2.211	1.784	1.393
315	5.726	5.155	4.646	4.143	3.651	2.659	2.508	2.252	1.821	1.416
320	5.778	5.205	4.697	4.194	3.709	2.700	2.549	2.293	1.857	1.439
325	5.831	5.256	4.747	4.244	3.767	2.741	2.591	2.335	1.894	1.462
330	5.883	5.307	4.797	4.295	3.824	2.783	2.633	2.376	1.930	1.485
335	5.935	5.357	4.847	4.346	3.882	2.824	2.674	2.417	1.967	1.513
340	5.988	5.408	4.897	4.396	3.940	2.866	2.716	2.459	2.003	1.543
345	6.040	5.458	4.947	4.447	3.993	2.965	2.757	2.500	2.040	1.572
350	6.092	5.509	4.997	4.498	4.041	3.098	2.799	2.541	2.076	1.602
355	6.144	5.560	5.048	4.549	4.090	3.231	2.841	2.583	2.113	1.632
360	6.197	5.610	5.098	4.599	4.138	3.363	2.885	2.624	2.149	1.661

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 10 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 5. HENSOTHERM® 920 KS

I/H Beams 75 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
30	1.993	1.344	1.122	0.378	0.353	0.353	0.353	0.353	0.353	0.353
35	1.993	1.344	1.122	0.827	0.413	0.361	0.353	0.353	0.353	0.353
40	1.993	1.344	1.122	0.827	0.679	0.433	0.409	0.377	0.353	0.353
45	1.993	1.344	1.122	0.827	0.679	0.577	0.542	0.435	0.379	0.353
50	1.993	1.344	1.122	0.827	0.679	0.577	0.542	0.493	0.423	0.365
55	2.185	1.548	1.234	0.939	0.768	0.649	0.609	0.552	0.468	0.397
60	2.426	1.752	1.352	1.051	0.857	0.721	0.675	0.610	0.513	0.430
65	2.667	1.956	1.471	1.163	0.946	0.793	0.742	0.668	0.557	0.463
70	2.901	2.160	1.629	1.275	1.035	0.865	0.809	0.726	0.602	0.495
75	3.088	2.364	1.795	1.387	1.123	0.937	0.875	0.784	0.646	0.528
80	3.274	2.567	1.962	1.501	1.212	1.009	0.942	0.843	0.691	0.561
85	3.460	2.771	2.128	1.637	1.301	1.081	1.008	0.901	0.735	0.594
90	3.647	2.945	2.294	1.774	1.390	1.153	1.075	0.959	0.780	0.626
95	3.833	3.082	2.461	1.911	1.479	1.225	1.141	1.017	0.824	0.659
100	4.016	3.220	2.627	2.047	1.588	1.297	1.208	1.075	0.869	0.692
105	4.188	3.358	2.793	2.184	1.700	1.369	1.274	1.134	0.914	0.724
110	4.361	3.495	2.929	2.320	1.812	1.441	1.341	1.192	0.958	0.757
115	4.533	3.633	3.030	2.457	1.924	1.518	1.408	1.250	1.003	0.790
120	4.706	3.771	3.132	2.594	2.036	1.606	1.474	1.308	1.047	0.823
125	4.879	3.909	3.233	2.730	2.148	1.694	1.549	1.366	1.092	0.855
130	5.051	4.010	3.334	2.867	2.260	1.782	1.627	1.425	1.136	0.888
135	5.224	4.082	3.436	2.947	2.372	1.870	1.705	1.483	1.181	0.921
140	5.396	4.153	3.537	3.020	2.484	1.958	1.782	1.541	1.226	0.953
145	5.569	4.225	3.639	3.094	2.596	2.045	1.860	1.598	1.270	0.986
150	5.742	4.296	3.740	3.167	2.708	2.133	1.938	1.656	1.315	1.019
155	5.914	4.368	3.841	3.241	2.820	2.221	2.016	1.713	1.359	1.052
160	6.087	4.440	3.943	3.314	2.910	2.309	2.093	1.771	1.404	1.084
165	6.259	4.511	4.008	3.388	2.972	2.397	2.171	1.829	1.448	1.117
170	6.432	4.583	4.060	3.461	3.035	2.485	2.249	1.886	1.493	1.150
175	-	4.654	4.111	3.534	3.098	2.573	2.327	1.944	1.531	1.182
180	-	4.726	4.163	3.608	3.161	2.661	2.404	2.001	1.569	1.215
185	-	4.797	4.214	3.681	3.224	2.749	2.482	2.059	1.608	1.248
190	-	4.869	4.266	3.755	3.287	2.837	2.560	2.117	1.646	1.281
195	-	4.941	4.318	3.828	3.350	2.909	2.638	2.174	1.684	1.313

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 11 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 5 Continued. HENSOTHERM® 920 KS

I/H Beams 75 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
200	-	5.012	4.369	3.902	3.412	2.967	2.715	2.232	1.722	1.346
205	-	5.084	4.421	3.974	3.475	3.024	2.793	2.289	1.761	1.379
210	-	5.155	4.472	4.027	3.538	3.081	2.871	2.347	1.799	1.411
215	-	5.227	4.524	4.081	3.601	3.139	2.930	2.405	1.837	1.444
220	-	5.299	4.575	4.134	3.664	3.196	2.986	2.462	1.875	1.477
225	-	5.370	4.627	4.187	3.727	3.253	3.043	2.520	1.914	1.511
230	-	5.442	4.679	4.241	3.790	3.311	3.099	2.578	1.952	1.546
235	-	5.513	4.730	4.294	3.852	3.368	3.155	2.635	1.990	1.581
240	-	5.585	4.782	4.347	3.915	3.425	3.212	2.693	2.028	1.616
245	-	5.656	4.833	4.401	3.977	3.482	3.268	2.750	2.067	1.651
250	-	5.728	4.885	4.454	4.030	3.540	3.324	2.808	2.105	1.685
255	-	5.800	4.936	4.507	4.083	3.597	3.381	2.866	2.143	1.720
260	-	5.871	4.988	4.561	4.136	3.654	3.437	2.932	2.181	1.755
265	-	5.943	5.039	4.614	4.189	3.712	3.493	3.003	2.220	1.790
270	-	6.014	5.091	4.667	4.242	3.769	3.550	3.073	2.258	1.825
275	-	6.086	5.143	4.721	4.295	3.826	3.606	3.143	2.296	1.860
280	-	6.158	5.194	4.774	4.348	3.884	3.662	3.214	2.334	1.895
285	-	6.229	5.246	4.827	4.401	3.941	3.719	3.284	2.373	1.930
290	-	6.301	5.297	4.881	4.454	3.996	3.775	3.354	2.411	1.965
295	-	6.372	5.349	4.934	4.507	4.048	3.831	3.424	2.449	2.000
300	-	-	5.400	4.987	4.560	4.099	3.888	3.495	2.487	2.035
305	-	-	5.452	5.041	4.613	4.151	3.944	3.565	2.526	2.069
310	-	-	5.504	5.094	4.666	4.203	3.998	3.635	2.564	2.104
315	-	-	5.555	5.147	4.719	4.255	4.049	3.705	2.602	2.139
320	-	-	5.607	5.201	4.772	4.307	4.100	3.776	2.640	2.174
325	-	-	5.658	5.254	4.825	4.359	4.152	3.846	2.679	2.209
330	-	-	5.710	5.307	4.878	4.411	4.203	3.916	2.717	2.244
335	-	-	5.761	5.361	4.931	4.462	4.254	3.982	2.755	2.279
340	-	-	5.813	5.414	4.984	4.514	4.306	4.031	2.793	2.314
345	-	-	5.865	5.467	5.037	4.566	4.357	4.079	2.832	2.349
350	-	-	5.916	5.520	5.090	4.618	4.408	4.128	2.870	2.384
355	-	-	5.968	5.574	5.143	4.670	4.460	4.177	3.023	2.419
360	-	-	6.019	5.627	5.197	4.722	4.511	4.226	3.223	2.453

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 12 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 6. HENSOTHERM® 920 KS

I/H Beams 90 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
30	2.593	1.992	1.408	1.201	1.017	0.391	0.370	0.353	0.353	0.353
35	2.593	1.992	1.408	1.201	1.017	0.798	0.754	0.426	0.364	0.353
40	2.593	1.992	1.408	1.201	1.017	0.798	0.754	0.688	0.439	0.363
45	2.593	1.992	1.408	1.201	1.017	0.798	0.754	0.688	0.589	0.425
50	2.593	1.992	1.408	1.201	1.017	0.798	0.754	0.688	0.589	0.486
55	2.906	2.182	1.629	1.320	1.119	0.899	0.849	0.775	0.663	0.548
60	3.281	2.442	1.850	1.444	1.222	1.001	0.945	0.862	0.738	0.609
65	3.655	2.702	2.072	1.606	1.325	1.102	1.041	0.949	0.813	0.670
70	4.035	2.952	2.293	1.790	1.429	1.204	1.137	1.036	0.888	0.732
75	4.438	3.180	2.514	1.973	1.552	1.305	1.233	1.123	0.963	0.793
80	4.842	3.409	2.735	2.157	1.705	1.407	1.329	1.210	1.037	0.855
85	5.246	3.638	2.938	2.341	1.857	1.512	1.425	1.298	1.112	0.916
90	5.649	3.866	3.106	2.525	2.010	1.635	1.525	1.385	1.187	0.978
95	6.053	4.105	3.274	2.708	2.163	1.758	1.636	1.472	1.262	1.039
100	-	4.352	3.442	2.889	2.316	1.881	1.747	1.566	1.337	1.101
105	-	4.599	3.609	3.016	2.469	2.004	1.857	1.662	1.411	1.162
110	-	4.846	3.777	3.144	2.622	2.127	1.968	1.758	1.486	1.224
115	-	5.093	3.945	3.271	2.775	2.250	2.079	1.854	1.553	1.285
120	-	5.340	4.065	3.399	2.910	2.373	2.189	1.951	1.620	1.347
125	-	5.587	4.176	3.527	3.007	2.496	2.300	2.047	1.686	1.408
130	-	5.834	4.288	3.654	3.103	2.619	2.411	2.143	1.752	1.470
135	-	6.081	4.399	3.782	3.199	2.742	2.522	2.239	1.819	1.513
140	-	6.329	4.511	3.909	3.296	2.865	2.632	2.335	1.885	1.547
145	-	-	4.622	4.002	3.392	2.944	2.743	2.431	1.952	1.581
150	-	-	4.734	4.062	3.489	3.017	2.854	2.527	2.018	1.615
155	-	-	4.845	4.123	3.585	3.091	2.934	2.624	2.085	1.650
160	-	-	4.957	4.183	3.681	3.164	3.005	2.720	2.151	1.684
165	-	-	5.068	4.243	3.778	3.237	3.076	2.816	2.217	1.718
170	-	-	5.179	4.304	3.874	3.310	3.146	2.903	2.284	1.752
175	-	-	5.291	4.364	3.971	3.383	3.217	2.969	2.350	1.786
180	-	-	5.402	4.424	4.026	3.456	3.288	3.036	2.417	1.820
185	-	-	5.514	4.485	4.080	3.529	3.358	3.103	2.483	1.854
190	-	-	5.625	4.545	4.135	3.602	3.429	3.169	2.550	1.888
195	-	-	5.737	4.605	4.190	3.676	3.500	3.236	2.616	1.922

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 13 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 6 Continued. HENSOTHERM® 920 KS

I/H Beams 90 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
200	-	-	5.848	4.666	4.245	3.749	3.571	3.303	2.682	1.956
205	-	-	5.959	4.726	4.300	3.822	3.641	3.370	2.749	1.990
210	-	-	6.071	4.786	4.354	3.895	3.712	3.436	2.815	2.025
215	-	-	6.182	4.847	4.409	3.968	3.783	3.503	2.882	2.059
220	-	-	6.294	4.907	4.464	4.024	3.853	3.570	2.948	2.093
225	-	-	6.405	4.967	4.519	4.080	3.924	3.636	3.014	2.127
230	-	-	-	5.028	4.574	4.136	3.989	3.703	3.079	2.161
235	-	-	-	5.088	4.628	4.191	4.044	3.770	3.145	2.195
240	-	-	-	5.148	4.683	4.247	4.098	3.837	3.211	2.229
245	-	-	-	5.209	4.738	4.303	4.153	3.903	3.277	2.263
250	-	-	-	5.269	4.793	4.358	4.207	3.970	3.343	2.297
255	-	-	-	5.329	4.848	4.414	4.262	4.023	3.409	2.331
260	-	-	-	5.390	4.902	4.470	4.316	4.076	3.475	2.365
265	-	-	-	5.450	4.957	4.525	4.370	4.128	3.541	2.400
270	-	-	-	5.510	5.012	4.581	4.425	4.181	3.606	2.434
275	-	-	-	5.571	5.067	4.637	4.479	4.234	3.672	2.468
280	-	-	-	5.631	5.122	4.692	4.534	4.286	3.738	2.502
285	-	-	-	5.691	5.176	4.748	4.588	4.339	3.804	2.536
290	-	-	-	5.751	5.231	4.804	4.643	4.392	3.870	2.570
295	-	-	-	5.812	5.286	4.859	4.697	4.444	3.936	2.604
300	-	-	-	5.872	5.341	4.915	4.752	4.497	3.994	2.638
305	-	-	-	5.932	5.395	4.970	4.806	4.550	4.045	2.672
310	-	-	-	5.993	5.450	5.026	4.861	4.602	4.095	2.706
315	-	-	-	6.053	5.505	5.082	4.915	4.655	4.145	2.740
320	-	-	-	6.113	5.560	5.137	4.969	4.708	4.196	2.774
325	-	-	-	6.174	5.615	5.193	5.024	4.760	4.246	2.809
330	-	-	-	6.234	5.669	5.249	5.078	4.813	4.296	2.843
335	-	-	-	6.294	5.724	5.304	5.133	4.866	4.346	2.877
340	-	-	-	6.355	5.779	5.360	5.187	4.918	4.397	2.911
345	-	-	-	-	5.834	5.416	5.242	4.971	4.447	2.945
350	-	-	-	-	5.889	5.471	5.296	5.024	4.497	2.979
355	-	-	-	-	5.943	5.527	5.351	5.076	4.548	3.013
360	-	-	-	-	5.998	5.583	5.405	5.129	4.598	3.047

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 14 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994
RUDOLF HENSEL GMBH

Table 7. HENSOTHERM® 920 KS

I/H Beams 105 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
30	3.616	2.562	1.995	1.464	1.263	1.120	1.080	1.018	0.381	0.353
35	3.616	2.562	1.995	1.464	1.263	1.120	1.080	1.018	0.810	0.397
40	3.616	2.562	1.995	1.464	1.263	1.120	1.080	1.018	0.810	0.688
45	3.616	2.562	1.995	1.464	1.263	1.120	1.080	1.018	0.810	0.688
50	3.616	2.562	1.995	1.464	1.263	1.120	1.080	1.018	0.810	0.688
55	4.156	2.809	2.185	1.695	1.388	1.230	1.185	1.115	0.918	0.785
60	4.696	3.204	2.454	1.926	1.529	1.340	1.289	1.212	1.025	0.882
65	5.236	3.623	2.723	2.157	1.723	1.450	1.394	1.309	1.132	0.979
70	5.777	4.052	2.993	2.388	1.916	1.590	1.502	1.406	1.240	1.075
75	6.317	4.525	3.263	2.620	2.110	1.748	1.646	1.507	1.347	1.172
80	-	4.998	3.533	2.851	2.304	1.907	1.790	1.636	1.454	1.269
85	-	5.471	3.803	3.047	2.498	2.065	1.933	1.765	1.556	1.366
90	-	5.944	4.094	3.238	2.692	2.223	2.077	1.894	1.655	1.463
95	-	6.418	4.419	3.429	2.885	2.381	2.221	2.024	1.754	1.536
100	-	-	4.744	3.620	3.035	2.539	2.365	2.153	1.853	1.600
105	-	-	5.069	3.811	3.186	2.697	2.508	2.282	1.952	1.664
110	-	-	5.394	3.998	3.337	2.855	2.652	2.411	2.051	1.728
115	-	-	5.719	4.164	3.487	2.981	2.796	2.540	2.150	1.792
120	-	-	6.044	4.329	3.638	3.100	2.926	2.670	2.249	1.855
125	-	-	-	4.495	3.788	3.220	3.035	2.799	2.348	1.919
130	-	-	-	4.661	3.939	3.339	3.144	2.914	2.447	1.983
135	-	-	-	4.827	4.041	3.459	3.254	3.005	2.546	2.047
140	-	-	-	4.993	4.129	3.578	3.363	3.095	2.645	2.111
145	-	-	-	5.158	4.217	3.697	3.472	3.186	2.744	2.174
150	-	-	-	5.324	4.305	3.817	3.582	3.276	2.843	2.238
155	-	-	-	5.490	4.394	3.936	3.691	3.367	2.924	2.302
160	-	-	-	5.656	4.482	4.011	3.800	3.458	2.994	2.366
165	-	-	-	5.822	4.570	4.067	3.910	3.548	3.064	2.430
170	-	-	-	5.987	4.658	4.122	3.995	3.639	3.135	2.494
175	-	-	-	6.153	4.747	4.178	4.050	3.729	3.205	2.557
180	-	-	-	6.319	4.835	4.234	4.105	3.820	3.275	2.621
185	-	-	-	-	4.923	4.290	4.161	3.910	3.345	2.685
190	-	-	-	-	5.011	4.346	4.216	3.989	3.415	2.749
195	-	-	-	-	5.100	4.402	4.271	4.044	3.485	2.813

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 15 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994
RUDOLF HENSEL GMBH

Table 7 Continued. HENSOTHERM® 920 KS

I/H Beams 105 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
200	-	-	-	-	5.188	4.458	4.326	4.098	3.555	2.876
205	-	-	-	-	5.276	4.514	4.381	4.153	3.625	2.951
210	-	-	-	-	5.364	4.570	4.436	4.207	3.696	3.026
215	-	-	-	-	5.453	4.626	4.491	4.262	3.766	3.100
220	-	-	-	-	5.541	4.682	4.546	4.316	3.836	3.175
225	-	-	-	-	5.629	4.738	4.601	4.370	3.906	3.250
230	-	-	-	-	5.717	4.793	4.657	4.425	3.975	3.325
235	-	-	-	-	5.806	4.849	4.712	4.479	4.028	3.400
240	-	-	-	-	5.894	4.905	4.767	4.534	4.082	3.475
245	-	-	-	-	5.982	4.961	4.822	4.588	4.135	3.550
250	-	-	-	-	6.071	5.017	4.877	4.643	4.188	3.625
255	-	-	-	-	6.159	5.073	4.932	4.697	4.242	3.700
260	-	-	-	-	6.247	5.129	4.987	4.752	4.295	3.775
265	-	-	-	-	6.335	5.185	5.042	4.806	4.349	3.850
270	-	-	-	-	-	5.241	5.098	4.861	4.402	3.925
275	-	-	-	-	-	5.297	5.153	4.915	4.455	3.991
280	-	-	-	-	-	5.353	5.208	4.970	4.509	4.041
285	-	-	-	-	-	5.409	5.263	5.024	4.562	4.091
290	-	-	-	-	-	5.464	5.318	5.079	4.616	4.141
295	-	-	-	-	-	5.520	5.373	5.133	4.669	4.191
300	-	-	-	-	-	5.576	5.428	5.188	4.722	4.241
305	-	-	-	-	-	5.632	5.483	5.242	4.776	4.291
310	-	-	-	-	-	5.688	5.538	5.297	4.829	4.341
315	-	-	-	-	-	5.744	5.594	5.351	4.882	4.391
320	-	-	-	-	-	5.800	5.649	5.406	4.936	4.441
325	-	-	-	-	-	5.856	5.704	5.460	4.989	4.492
330	-	-	-	-	-	5.912	5.759	5.515	5.043	4.542
335	-	-	-	-	-	5.968	5.814	5.569	5.096	4.592
340	-	-	-	-	-	6.024	5.869	5.624	5.149	4.642
345	-	-	-	-	-	6.080	5.924	5.678	5.203	4.692
350	-	-	-	-	-	6.135	5.979	5.733	5.256	4.742
355	-	-	-	-	-	6.191	6.035	5.787	5.310	4.792
360	-	-	-	-	-	6.247	6.090	5.842	5.363	4.842

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 16 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 8. HENSOTHERM® 920 KS

I/H Beams 120 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
30	5.030	3.574	2.492	1.997	1.513	1.342	1.301	1.233	1.160	0.407
35	5.030	3.574	2.492	1.997	1.513	1.342	1.301	1.233	1.160	0.949
40	5.030	3.574	2.492	1.997	1.513	1.342	1.301	1.233	1.160	0.949
45	5.030	3.574	2.492	1.997	1.513	1.342	1.301	1.233	1.160	0.949
50	5.030	3.574	2.492	1.997	1.513	1.342	1.301	1.233	1.160	0.949
55	5.559	3.938	2.731	2.186	1.748	1.473	1.430	1.356	1.276	1.084
60	6.089	4.522	3.125	2.459	1.983	1.666	1.583	1.475	1.385	1.220
65	-	5.105	3.587	2.732	2.218	1.860	1.760	1.631	1.494	1.355
70	-	5.689	4.058	3.018	2.453	2.053	1.937	1.794	1.626	1.490
75	-	-	4.577	3.319	2.688	2.246	2.114	1.956	1.758	1.587
80	-	-	5.096	3.619	2.919	2.440	2.291	2.119	1.890	1.684
85	-	-	5.615	3.920	3.131	2.633	2.467	2.281	2.022	1.780
90	-	-	6.134	4.309	3.344	2.826	2.644	2.443	2.154	1.876
95	-	-	-	4.716	3.556	3.007	2.821	2.606	2.285	1.973
100	-	-	-	5.122	3.769	3.182	2.991	2.768	2.417	2.069
105	-	-	-	5.529	3.982	3.358	3.157	2.926	2.549	2.166
110	-	-	-	5.936	4.204	3.534	3.323	3.071	2.681	2.262
115	-	-	-	6.343	4.426	3.709	3.490	3.216	2.813	2.359
120	-	-	-	-	4.647	3.885	3.656	3.361	2.932	2.455
125	-	-	-	-	4.869	4.029	3.822	3.506	3.037	2.552
130	-	-	-	-	5.091	4.142	3.979	3.651	3.143	2.648
135	-	-	-	-	5.312	4.256	4.057	3.796	3.248	2.745
140	-	-	-	-	5.534	4.369	4.134	3.941	3.353	2.841
145	-	-	-	-	5.756	4.483	4.212	4.018	3.458	2.924
150	-	-	-	-	5.977	4.596	4.290	4.078	3.563	2.996
155	-	-	-	-	6.199	4.710	4.367	4.138	3.669	3.069
160	-	-	-	-	-	4.823	4.445	4.197	3.774	3.142
165	-	-	-	-	-	4.937	4.523	4.257	3.879	3.215
170	-	-	-	-	-	5.050	4.600	4.316	3.978	3.288
175	-	-	-	-	-	5.164	4.678	4.376	4.030	3.361
180	-	-	-	-	-	5.277	4.756	4.435	4.083	3.434
185	-	-	-	-	-	5.391	4.833	4.495	4.136	3.507
190	-	-	-	-	-	5.504	4.911	4.555	4.188	3.579
195	-	-	-	-	-	5.618	4.989	4.614	4.241	3.652

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 17 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994
RUDOLF HENSEL GMBH

Table 8 Continued. HENSOTHERM® 920 KS

I/H Beams 120 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	550	600	620	650	700	750
200	-	-	-	-	-	5.731	5.066	4.674	4.293	3.725
205	-	-	-	-	-	5.845	5.144	4.733	4.346	3.798
210	-	-	-	-	-	5.958	5.222	4.793	4.399	3.871
215	-	-	-	-	-	6.072	5.299	4.853	4.451	3.944
220	-	-	-	-	-	6.185	5.377	4.912	4.504	4.004
225	-	-	-	-	-	6.299	5.455	4.972	4.556	4.058
230	-	-	-	-	-	6.412	5.533	5.031	4.609	4.111
235	-	-	-	-	-	6.526	5.610	5.091	4.662	4.164
240	-	-	-	-	-	-	5.688	5.151	4.714	4.218
245	-	-	-	-	-	-	5.766	5.210	4.767	4.271
250	-	-	-	-	-	-	5.843	5.270	4.819	4.324
255	-	-	-	-	-	-	5.921	5.329	4.872	4.377
260	-	-	-	-	-	-	5.999	5.389	4.925	4.431
265	-	-	-	-	-	-	6.076	5.448	4.977	4.484
270	-	-	-	-	-	-	6.154	5.508	5.030	4.537
275	-	-	-	-	-	-	6.232	5.568	5.083	4.591
280	-	-	-	-	-	-	6.309	5.627	5.135	4.644
285	-	-	-	-	-	-	6.387	5.687	5.188	4.697
290	-	-	-	-	-	-	-	5.746	5.240	4.751
295	-	-	-	-	-	-	-	5.806	5.293	4.804
300	-	-	-	-	-	-	-	5.866	5.346	4.857
305	-	-	-	-	-	-	-	5.925	5.398	4.911
310	-	-	-	-	-	-	-	5.985	5.451	4.964
315	-	-	-	-	-	-	-	6.044	5.503	5.017
320	-	-	-	-	-	-	-	6.104	5.556	5.070
325	-	-	-	-	-	-	-	6.163	5.609	5.124
330	-	-	-	-	-	-	-	6.223	5.661	5.177
335	-	-	-	-	-	-	-	6.283	5.714	5.230
340	-	-	-	-	-	-	-	6.342	5.766	5.284
345	-	-	-	-	-	-	-	-	5.819	5.337
350	-	-	-	-	-	-	-	-	5.872	5.390
355	-	-	-	-	-	-	-	-	5.924	5.444
360	-	-	-	-	-	-	-	-	5.977	5.497

Thickness is intumescent coating only.
Results apply to I/H beams with concrete slabs with 3-sided fire exposure.

Signed Page 18 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 9. HENSOTHERM® 920 KS

I/H Columns 15 minutes									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
30	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
35	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
40	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
45	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
50	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
55	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
60	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
65	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
70	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
75	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
80	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
85	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
90	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
95	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
100	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
105	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
110	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
115	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
120	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
125	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
130	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
135	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
140	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
145	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
150	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
155	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
160	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
165	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
170	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
175	0.359	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
180	0.378	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
185	0.397	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
190	0.416	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
195	0.436	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 19 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 9 Continued. HENSOTHERM® 920 KS

I/H Columns 15 minutes (Continued)									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
200	0.455	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
205	0.474	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
210	0.493	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
215	0.512	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
220	0.531	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
225	0.550	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
230	0.569	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
235	0.588	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
240	0.607	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
245	0.626	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
250	0.645	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
255	0.664	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
260	0.683	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
265	0.702	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
270	0.721	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
275	0.740	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
280	0.759	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
285	0.778	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
290	0.797	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
295	0.816	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
300	0.835	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
305	0.854	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
310	0.873	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
315	0.893	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
320	0.912	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
325	0.931	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
330	0.950	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
335	0.969	0.375	0.351	0.351	0.351	0.351	0.351	0.351	0.351
340	0.988	0.400	0.351	0.351	0.351	0.351	0.351	0.351	0.351
345	1.007	0.424	0.351	0.351	0.351	0.351	0.351	0.351	0.351
350	1.026	0.449	0.351	0.351	0.351	0.351	0.351	0.351	0.351
355	1.045	0.473	0.351	0.351	0.351	0.351	0.351	0.351	0.351
360	1.064	0.497	0.351	0.351	0.351	0.351	0.351	0.351	0.351

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 20 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994
RUDOLF HENSEL GMBH

Table 10. HENSOTHERM® 920 KS

I/H Columns 30 minutes									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
30	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
35	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
40	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
45	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
50	0.392	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
55	0.443	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
60	0.495	0.369	0.351	0.351	0.351	0.351	0.351	0.351	0.351
65	0.546	0.405	0.351	0.351	0.351	0.351	0.351	0.351	0.351
70	0.598	0.441	0.351	0.351	0.351	0.351	0.351	0.351	0.351
75	0.649	0.477	0.351	0.351	0.351	0.351	0.351	0.351	0.351
80	0.701	0.513	0.358	0.351	0.351	0.351	0.351	0.351	0.351
85	0.752	0.549	0.384	0.351	0.351	0.351	0.351	0.351	0.351
90	0.804	0.585	0.410	0.351	0.351	0.351	0.351	0.351	0.351
95	0.855	0.621	0.436	0.351	0.351	0.351	0.351	0.351	0.351
100	0.907	0.657	0.461	0.351	0.351	0.351	0.351	0.351	0.351
105	0.959	0.693	0.487	0.351	0.351	0.351	0.351	0.351	0.351
110	1.010	0.729	0.513	0.351	0.351	0.351	0.351	0.351	0.351
115	1.062	0.765	0.539	0.365	0.351	0.351	0.351	0.351	0.351
120	1.113	0.801	0.565	0.387	0.351	0.351	0.351	0.351	0.351
125	1.165	0.837	0.590	0.410	0.351	0.351	0.351	0.351	0.351
130	1.216	0.873	0.616	0.433	0.351	0.351	0.351	0.351	0.351
135	1.268	0.909	0.642	0.456	0.351	0.351	0.351	0.351	0.351
140	1.319	0.945	0.668	0.478	0.351	0.351	0.351	0.351	0.351
145	1.371	0.981	0.694	0.501	0.351	0.351	0.351	0.351	0.351
150	1.422	1.017	0.719	0.524	0.351	0.351	0.351	0.351	0.351
155	1.474	1.053	0.745	0.546	0.351	0.351	0.351	0.351	0.351
160	1.514	1.089	0.771	0.569	0.351	0.351	0.351	0.351	0.351
165	1.547	1.125	0.797	0.592	0.351	0.351	0.351	0.351	0.351
170	1.581	1.161	0.823	0.615	0.363	0.351	0.351	0.351	0.351
175	1.614	1.197	0.849	0.637	0.386	0.351	0.351	0.351	0.351
180	1.648	1.233	0.874	0.660	0.409	0.351	0.351	0.351	0.351
185	1.682	1.269	0.900	0.683	0.432	0.351	0.351	0.351	0.351
190	1.715	1.305	0.926	0.705	0.455	0.351	0.351	0.351	0.351
195	1.749	1.341	0.952	0.728	0.478	0.351	0.351	0.351	0.351

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 21 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 10 Continued. HENSOTHERM® 920 KS

I/H Columns 30 minutes (Continued)									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
200	1.782	1.378	0.978	0.751	0.501	0.351	0.351	0.351	0.351
205	1.816	1.414	1.003	0.774	0.524	0.351	0.351	0.351	0.351
210	1.850	1.450	1.029	0.796	0.547	0.351	0.351	0.351	0.351
215	1.883	1.486	1.055	0.819	0.570	0.351	0.351	0.351	0.351
220	1.917	1.521	1.081	0.842	0.593	0.351	0.351	0.351	0.351
225	1.951	1.556	1.107	0.865	0.616	0.351	0.351	0.351	0.351
230	1.984	1.591	1.132	0.887	0.639	0.351	0.351	0.351	0.351
235	2.018	1.627	1.158	0.910	0.662	0.351	0.351	0.351	0.351
240	2.051	1.662	1.184	0.933	0.685	0.351	0.351	0.351	0.351
245	2.085	1.697	1.210	0.955	0.708	0.351	0.351	0.351	0.351
250	2.119	1.732	1.236	0.978	0.731	0.351	0.351	0.351	0.351
255	2.152	1.768	1.262	1.001	0.754	0.351	0.351	0.351	0.351
260	2.186	1.803	1.287	1.024	0.777	0.351	0.351	0.351	0.351
265	2.220	1.838	1.313	1.046	0.800	0.351	0.351	0.351	0.351
270	2.253	1.873	1.339	1.069	0.823	0.351	0.351	0.351	0.351
275	2.287	1.909	1.365	1.092	0.846	0.351	0.351	0.351	0.351
280	2.320	1.944	1.391	1.114	0.869	0.351	0.351	0.351	0.351
285	2.354	1.979	1.416	1.137	0.892	0.351	0.351	0.351	0.351
290	2.388	2.014	1.442	1.160	0.915	0.369	0.351	0.351	0.351
295	2.421	2.050	1.468	1.183	0.938	0.398	0.351	0.351	0.351
300	2.455	2.085	1.495	1.205	0.961	0.427	0.351	0.351	0.351
305	2.489	2.120	1.535	1.228	0.984	0.456	0.351	0.351	0.351
310	2.522	2.155	1.574	1.251	1.007	0.485	0.351	0.351	0.351
315	2.556	2.191	1.614	1.273	1.030	0.514	0.351	0.351	0.351
320	2.589	2.226	1.653	1.296	1.053	0.543	0.351	0.351	0.351
325	2.623	2.261	1.693	1.319	1.076	0.571	0.351	0.351	0.351
330	2.657	2.296	1.733	1.342	1.099	0.600	0.351	0.351	0.351
335	2.690	2.331	1.772	1.364	1.122	0.629	0.351	0.351	0.351
340	2.724	2.367	1.812	1.387	1.145	0.658	0.351	0.351	0.351
345	2.757	2.402	1.851	1.410	1.168	0.687	0.351	0.351	0.351
350	2.791	2.437	1.891	1.432	1.191	0.716	0.351	0.351	0.351
355	2.825	2.472	1.930	1.455	1.215	0.745	0.351	0.351	0.351
360	2.858	2.508	1.970	1.478	1.238	0.774	0.351	0.351	0.351

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 22 of 54
C/009

Issued: 11th May 2021
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CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 11. HENSOTHERM® 920 KS

I/H Columns 45 minutes									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
30	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
35	0.778	0.351	0.351	0.351	0.351	0.351	0.351	0.351	0.351
40	0.778	0.409	0.351	0.351	0.351	0.351	0.351	0.351	0.351
45	0.778	0.575	0.379	0.351	0.351	0.351	0.351	0.351	0.351
50	0.778	0.575	0.439	0.366	0.351	0.351	0.351	0.351	0.351
55	0.890	0.657	0.499	0.410	0.351	0.351	0.351	0.351	0.351
60	1.001	0.740	0.559	0.453	0.378	0.351	0.351	0.351	0.351
65	1.113	0.823	0.619	0.497	0.412	0.351	0.351	0.351	0.351
70	1.225	0.905	0.679	0.540	0.445	0.355	0.351	0.351	0.351
75	1.337	0.988	0.739	0.584	0.478	0.381	0.351	0.351	0.351
80	1.448	1.071	0.799	0.628	0.512	0.408	0.351	0.351	0.351
85	1.554	1.153	0.858	0.671	0.545	0.435	0.351	0.351	0.351
90	1.655	1.236	0.918	0.715	0.578	0.462	0.351	0.351	0.351
95	1.756	1.319	0.978	0.758	0.611	0.489	0.357	0.351	0.351
100	1.857	1.401	1.038	0.802	0.645	0.516	0.380	0.351	0.351
105	1.958	1.484	1.098	0.846	0.678	0.543	0.402	0.351	0.351
110	2.059	1.565	1.158	0.889	0.711	0.569	0.425	0.351	0.351
115	2.160	1.645	1.218	0.933	0.745	0.596	0.448	0.351	0.351
120	2.261	1.726	1.278	0.976	0.778	0.623	0.470	0.351	0.351
125	2.362	1.807	1.338	1.020	0.811	0.650	0.493	0.351	0.351
130	2.463	1.887	1.398	1.064	0.844	0.677	0.516	0.351	0.351
135	2.564	1.968	1.458	1.107	0.878	0.704	0.538	0.362	0.351
140	2.665	2.048	1.515	1.151	0.911	0.731	0.561	0.383	0.351
145	2.766	2.129	1.569	1.195	0.944	0.757	0.584	0.405	0.351
150	2.867	2.209	1.623	1.238	0.978	0.784	0.606	0.427	0.351
155	2.922	2.290	1.677	1.282	1.011	0.811	0.629	0.448	0.351
160	2.969	2.370	1.731	1.325	1.044	0.838	0.652	0.470	0.351
165	3.017	2.451	1.785	1.369	1.077	0.865	0.674	0.491	0.351
170	3.064	2.532	1.839	1.413	1.111	0.892	0.697	0.513	0.351
175	3.112	2.612	1.893	1.456	1.144	0.919	0.720	0.534	0.351
180	3.159	2.693	1.947	1.499	1.177	0.945	0.742	0.556	0.351
185	3.207	2.773	2.001	1.539	1.211	0.972	0.765	0.577	0.351
190	3.254	2.854	2.055	1.579	1.244	0.999	0.788	0.599	0.351
195	3.301	2.908	2.109	1.619	1.277	1.026	0.811	0.620	0.351

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 23 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 11 Continued. HENSOTHERM® 920 KS

I/H Columns 45 minutes (Continued)									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
200	3.349	2.949	2.163	1.659	1.310	1.053	0.833	0.642	0.351
205	3.396	2.990	2.217	1.699	1.344	1.080	0.856	0.664	0.351
210	3.444	3.031	2.271	1.739	1.377	1.107	0.879	0.685	0.351
215	3.491	3.072	2.325	1.779	1.410	1.134	0.901	0.707	0.351
220	3.539	3.112	2.379	1.819	1.444	1.160	0.924	0.728	0.351
225	3.586	3.153	2.433	1.859	1.477	1.187	0.947	0.750	0.351
230	3.634	3.194	2.487	1.899	1.515	1.214	0.969	0.771	0.351
235	3.681	3.235	2.541	1.939	1.555	1.241	0.992	0.793	0.351
240	3.729	3.276	2.595	1.979	1.596	1.268	1.015	0.814	0.351
245	3.776	3.317	2.649	2.019	1.637	1.295	1.037	0.836	0.351
250	3.824	3.358	2.703	2.060	1.678	1.322	1.060	0.857	0.351
255	3.871	3.398	2.757	2.100	1.719	1.348	1.083	0.879	0.360
260	3.919	3.439	2.811	2.140	1.760	1.375	1.105	0.900	0.385
265	3.966	3.480	2.865	2.180	1.801	1.402	1.128	0.922	0.411
270	4.019	3.521	2.920	2.220	1.842	1.429	1.151	0.944	0.436
275	4.073	3.562	2.975	2.260	1.882	1.456	1.173	0.965	0.461
280	4.126	3.603	3.030	2.300	1.923	1.483	1.196	0.987	0.486
285	4.180	3.644	3.085	2.340	1.964	1.519	1.219	1.008	0.512
290	4.233	3.684	3.141	2.380	2.005	1.558	1.241	1.030	0.537
295	4.287	3.725	3.196	2.420	2.046	1.598	1.264	1.051	0.562
300	4.340	3.766	3.251	2.460	2.087	1.638	1.287	1.073	0.588
305	4.394	3.807	3.306	2.500	2.128	1.678	1.309	1.094	0.613
310	4.447	3.848	3.361	2.540	2.168	1.718	1.332	1.116	0.638
315	4.501	3.889	3.417	2.580	2.209	1.758	1.355	1.137	0.664
320	4.554	3.930	3.472	2.620	2.250	1.797	1.377	1.159	0.689
325	4.608	3.971	3.527	2.660	2.291	1.837	1.400	1.180	0.714
330	4.662	4.022	3.582	2.700	2.332	1.877	1.423	1.202	0.740
335	4.715	4.073	3.638	2.740	2.373	1.917	1.445	1.224	0.765
340	4.769	4.125	3.693	2.780	2.414	1.957	1.468	1.245	0.790
345	4.822	4.176	3.748	2.820	2.455	1.997	1.491	1.267	0.816
350	4.876	4.228	3.803	2.860	2.495	2.036	1.527	1.288	0.841
355	4.929	4.279	3.859	2.929	2.536	2.076	1.564	1.310	0.866
360	4.983	4.331	3.914	3.027	2.577	2.116	1.600	1.331	0.892

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 24 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 12. HENSOTHERM® 920 KS

I/H Columns 60 minutes									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
30	1.342	0.425	0.351	0.351	0.351	0.351	0.351	0.351	0.351
35	1.342	0.962	0.417	0.351	0.351	0.351	0.351	0.351	0.351
40	1.342	0.962	0.724	0.420	0.366	0.351	0.351	0.351	0.351
45	1.342	0.962	0.724	0.578	0.428	0.375	0.351	0.351	0.351
50	1.342	0.962	0.724	0.578	0.490	0.422	0.370	0.351	0.351
55	1.475	1.096	0.827	0.657	0.552	0.470	0.404	0.351	0.351
60	1.652	1.230	0.929	0.736	0.614	0.517	0.438	0.374	0.351
65	1.828	1.364	1.032	0.815	0.676	0.565	0.473	0.403	0.351
70	2.004	1.499	1.134	0.894	0.738	0.612	0.507	0.432	0.351
75	2.180	1.644	1.237	0.973	0.801	0.660	0.541	0.460	0.351
80	2.357	1.789	1.339	1.052	0.863	0.707	0.575	0.489	0.372
85	2.533	1.933	1.441	1.131	0.925	0.755	0.609	0.518	0.396
90	2.709	2.078	1.551	1.210	0.987	0.802	0.643	0.547	0.421
95	2.884	2.223	1.668	1.288	1.049	0.850	0.677	0.575	0.445
100	2.989	2.368	1.785	1.367	1.111	0.897	0.711	0.604	0.470
105	3.095	2.512	1.902	1.446	1.173	0.945	0.746	0.633	0.494
110	3.200	2.657	2.019	1.532	1.235	0.992	0.780	0.661	0.519
115	3.306	2.802	2.135	1.626	1.297	1.040	0.814	0.690	0.543
120	3.411	2.916	2.252	1.720	1.359	1.087	0.848	0.719	0.568
125	3.517	2.993	2.369	1.815	1.421	1.135	0.882	0.747	0.592
130	3.623	3.070	2.486	1.909	1.483	1.182	0.916	0.776	0.616
135	3.728	3.147	2.603	2.003	1.555	1.230	0.950	0.805	0.641
140	3.834	3.224	2.719	2.097	1.629	1.277	0.984	0.834	0.665
145	3.939	3.301	2.836	2.192	1.703	1.325	1.019	0.862	0.690
150	4.008	3.378	2.918	2.286	1.777	1.372	1.053	0.891	0.714
155	4.060	3.456	2.977	2.380	1.851	1.420	1.087	0.920	0.739
160	4.112	3.533	3.036	2.474	1.925	1.467	1.121	0.948	0.763
165	4.165	3.610	3.095	2.569	1.999	1.512	1.155	0.977	0.788
170	4.217	3.687	3.154	2.663	2.073	1.554	1.189	1.006	0.812
175	4.269	3.764	3.213	2.757	2.147	1.596	1.223	1.034	0.836
180	4.322	3.841	3.273	2.851	2.221	1.638	1.257	1.063	0.861
185	4.374	3.918	3.332	2.917	2.295	1.680	1.292	1.092	0.885
190	4.426	3.987	3.391	2.968	2.368	1.722	1.326	1.121	0.910
195	4.479	4.037	3.450	3.020	2.442	1.765	1.360	1.149	0.934

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 25 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 12 Continued. HENSOTHERM® 920 KS

I/H Columns 60 minutes (Continued)									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
200	4.531	4.088	3.509	3.072	2.516	1.807	1.394	1.178	0.959
205	4.583	4.138	3.568	3.124	2.590	1.849	1.428	1.207	0.983
210	4.636	4.189	3.628	3.176	2.664	1.891	1.462	1.235	1.008
215	4.688	4.239	3.687	3.228	2.738	1.933	1.498	1.264	1.032
220	4.740	4.290	3.746	3.279	2.812	1.975	1.539	1.293	1.057
225	4.793	4.340	3.805	3.331	2.885	2.017	1.581	1.321	1.081
230	4.845	4.390	3.864	3.383	2.936	2.059	1.623	1.350	1.105
235	4.897	4.441	3.923	3.435	2.988	2.101	1.665	1.379	1.130
240	4.950	4.491	3.981	3.487	3.039	2.143	1.707	1.408	1.154
245	5.002	4.542	4.031	3.539	3.091	2.186	1.749	1.436	1.179
250	5.054	4.592	4.082	3.590	3.142	2.228	1.791	1.465	1.203
255	5.107	4.643	4.132	3.642	3.194	2.270	1.833	1.494	1.228
260	5.159	4.693	4.182	3.694	3.245	2.312	1.875	1.531	1.252
265	5.211	4.744	4.233	3.746	3.297	2.354	1.917	1.569	1.277
270	5.264	4.794	4.283	3.798	3.348	2.396	1.958	1.606	1.301
275	5.316	4.844	4.333	3.849	3.400	2.438	2.000	1.643	1.326
280	5.368	4.895	4.384	3.901	3.451	2.480	2.042	1.680	1.350
285	5.421	4.945	4.434	3.953	3.503	2.522	2.084	1.717	1.374
290	5.473	4.996	4.485	4.004	3.554	2.565	2.126	1.754	1.399
295	5.525	5.046	4.535	4.055	3.606	2.607	2.168	1.791	1.423
300	5.578	5.097	4.585	4.106	3.657	2.649	2.210	1.828	1.448
305	5.630	5.147	4.636	4.156	3.709	2.691	2.252	1.865	1.472
310	5.682	5.198	4.686	4.207	3.760	2.733	2.294	1.902	1.498
315	5.735	5.248	4.736	4.258	3.812	2.775	2.336	1.939	1.528
320	5.787	5.299	4.787	4.309	3.863	2.817	2.377	1.976	1.558
325	5.839	5.349	4.837	4.359	3.915	2.859	2.419	2.013	1.588
330	5.892	5.399	4.888	4.410	3.966	2.944	2.461	2.050	1.618
335	5.944	5.450	4.938	4.461	4.016	3.075	2.503	2.087	1.648
340	6.031	5.500	4.988	4.511	4.066	3.205	2.545	2.124	1.678
345	6.133	5.551	5.039	4.562	4.117	3.336	2.587	2.161	1.708
350	6.235	5.601	5.089	4.613	4.167	3.466	2.629	2.198	1.738
355	6.336	5.652	5.139	4.664	4.217	3.597	2.671	2.235	1.768
360	6.438	5.702	5.190	4.714	4.267	3.727	2.713	2.272	1.799

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 26 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026


CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 13. HENSOTHERM® 920 KS

I/H Columns 75 minutes									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
30	2.001	1.342	1.156	0.395	0.351	0.351	0.351	0.351	0.351
35	2.001	1.342	1.156	0.860	0.438	0.380	0.351	0.351	0.351
40	2.001	1.342	1.156	0.860	0.721	0.611	0.392	0.351	0.351
45	2.001	1.342	1.156	0.860	0.721	0.611	0.515	0.397	0.351
50	2.001	1.403	1.156	0.860	0.721	0.611	0.515	0.447	0.382
55	2.194	1.614	1.271	0.976	0.816	0.688	0.577	0.497	0.418
60	2.436	1.826	1.393	1.092	0.910	0.765	0.639	0.546	0.454
65	2.677	2.037	1.525	1.208	1.004	0.842	0.701	0.596	0.490
70	2.910	2.249	1.697	1.325	1.098	0.919	0.762	0.645	0.525
75	3.098	2.460	1.869	1.441	1.193	0.996	0.824	0.695	0.561
80	3.286	2.671	2.041	1.572	1.287	1.073	0.886	0.745	0.597
85	3.474	2.882	2.213	1.714	1.381	1.149	0.948	0.794	0.633
90	3.663	3.028	2.385	1.856	1.476	1.226	1.010	0.844	0.669
95	3.851	3.174	2.558	1.998	1.591	1.303	1.071	0.894	0.705
100	4.034	3.321	2.730	2.140	1.710	1.380	1.133	0.943	0.741
105	4.209	3.467	2.894	2.281	1.829	1.457	1.195	0.993	0.776
110	4.384	3.613	3.002	2.423	1.948	1.543	1.257	1.042	0.812
115	4.559	3.759	3.110	2.565	2.067	1.637	1.318	1.092	0.848
120	4.734	3.905	3.218	2.707	2.186	1.731	1.380	1.142	0.884
125	4.909	4.016	3.326	2.849	2.305	1.825	1.442	1.191	0.920
130	5.084	4.099	3.433	2.942	2.424	1.918	1.504	1.241	0.956
135	5.259	4.182	3.541	3.021	2.543	2.012	1.568	1.290	0.992
140	5.434	4.265	3.649	3.100	2.662	2.106	1.632	1.340	1.028
145	5.609	4.348	3.757	3.179	2.781	2.200	1.696	1.390	1.063
150	5.784	4.430	3.865	3.258	2.892	2.293	1.759	1.439	1.099
155	5.959	4.513	3.972	3.337	2.958	2.387	1.823	1.489	1.135
160	6.024	4.596	4.024	3.416	3.024	2.481	1.887	1.528	1.171
165	6.089	4.679	4.076	3.495	3.090	2.574	1.951	1.566	1.207
170	6.154	4.762	4.127	3.574	3.156	2.668	2.015	1.604	1.243
175	6.218	4.845	4.179	3.653	3.222	2.762	2.078	1.642	1.279
180	6.283	4.927	4.231	3.732	3.288	2.856	2.142	1.680	1.315
185	6.348	5.010	4.283	3.811	3.354	2.925	2.206	1.718	1.350
190	6.413	5.093	4.335	3.890	3.420	2.985	2.270	1.756	1.386
195	6.478	5.176	4.387	3.969	3.486	3.045	2.333	1.794	1.422

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 27 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 13 Continued. HENSOTHERM® 920 KS

I/H Columns 75 minutes (Continued)									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
200	6.543	5.259	4.439	4.023	3.552	3.105	2.397	1.832	1.458
205	6.607	5.342	4.490	4.076	3.618	3.164	2.461	1.870	1.494
210	6.672	5.424	4.542	4.129	3.684	3.224	2.525	1.909	1.529
215	6.737	5.507	4.594	4.182	3.750	3.284	2.589	1.947	1.564
220	6.802	5.590	4.646	4.236	3.816	3.344	2.652	1.985	1.599
225	6.867	5.673	4.698	4.289	3.882	3.404	2.716	2.023	1.634
230	6.932	5.756	4.750	4.342	3.948	3.464	2.780	2.061	1.670
235	6.996	5.839	4.802	4.395	4.006	3.524	2.844	2.099	1.705
240	7.061	5.921	4.853	4.448	4.060	3.584	2.907	2.137	1.740
245	7.126	6.002	4.905	4.501	4.113	3.644	2.970	2.175	1.775
250	7.191	6.081	4.957	4.554	4.167	3.704	3.033	2.213	1.810
255	7.256	6.160	5.009	4.607	4.221	3.764	3.096	2.252	1.845
260	7.321	6.239	5.061	4.661	4.274	3.824	3.158	2.290	1.881
265	7.385	6.318	5.113	4.714	4.328	3.884	3.221	2.328	1.916
270	7.450	6.397	5.165	4.767	4.382	3.943	3.284	2.366	1.951
275	7.515	6.475	5.216	4.820	4.436	3.999	3.347	2.404	1.986
280	7.580	6.554	5.268	4.873	4.489	4.051	3.410	2.442	2.021
285	7.645	6.633	5.320	4.926	4.543	4.104	3.473	2.480	2.056
290	7.709	6.712	5.372	4.979	4.597	4.156	3.535	2.518	2.091
295	7.774	6.791	5.424	5.032	4.650	4.208	3.598	2.556	2.127
300	7.839	6.870	5.476	5.086	4.704	4.260	3.661	2.594	2.162
305	7.904	6.949	5.528	5.139	4.758	4.312	3.724	2.633	2.197
310	7.969	7.028	5.579	5.192	4.811	4.364	3.787	2.671	2.232
315	8.034	7.107	5.631	5.245	4.865	4.417	3.850	2.709	2.267
320	8.098	7.185	5.683	5.298	4.919	4.469	3.913	2.747	2.302
325	8.163	7.264	5.735	5.351	4.973	4.521	3.974	2.785	2.338
330	8.228	7.343	5.787	5.404	5.026	4.573	4.025	2.823	2.373
335	8.293	7.422	5.839	5.457	5.080	4.625	4.075	2.861	2.408
340	8.358	7.501	5.891	5.511	5.134	4.677	4.125	2.900	2.443
345	8.423	7.580	5.942	5.564	5.187	4.730	4.175	3.187	2.478
350	8.487	7.659	6.036	5.617	5.241	4.782	4.225	3.394	2.513
355	8.552	7.738	6.150	5.670	5.295	4.834	4.275	3.600	2.549
360	8.617	7.817	6.263	5.723	5.349	4.886	4.325	3.807	2.584

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 28 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 14. HENSOTHERM® 920 KS

I/H Columns 90 minutes									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
30	2.593	2.070	1.468	1.238	1.068	0.415	0.351	0.351	0.351
35	2.593	2.070	1.468	1.238	1.068	0.846	0.721	0.387	0.351
40	2.593	2.070	1.468	1.238	1.068	0.846	0.721	0.631	0.388
45	2.593	2.070	1.468	1.238	1.068	0.846	0.721	0.631	0.526
50	2.593	2.070	1.468	1.238	1.068	0.846	0.721	0.631	0.526
55	2.919	2.268	1.696	1.361	1.175	0.953	0.813	0.713	0.596
60	3.297	2.536	1.924	1.489	1.283	1.061	0.904	0.794	0.665
65	3.675	2.803	2.152	1.679	1.391	1.168	0.996	0.875	0.734
70	4.059	3.058	2.381	1.869	1.504	1.276	1.087	0.957	0.804
75	4.465	3.309	2.609	2.059	1.665	1.384	1.179	1.038	0.873
80	4.870	3.559	2.837	2.249	1.827	1.491	1.271	1.120	0.942
85	5.276	3.809	3.024	2.439	1.988	1.621	1.362	1.201	1.011
90	5.682	4.071	3.201	2.629	2.149	1.751	1.454	1.283	1.081
95	5.984	4.353	3.378	2.820	2.311	1.881	1.551	1.364	1.150
100	6.062	4.635	3.555	2.973	2.472	2.011	1.653	1.445	1.219
105	6.141	4.917	3.732	3.109	2.633	2.141	1.754	1.523	1.289
110	6.219	5.199	3.909	3.244	2.795	2.271	1.855	1.597	1.358
115	6.298	5.481	4.056	3.380	2.931	2.401	1.956	1.670	1.427
120	6.376	5.763	4.187	3.515	3.038	2.531	2.057	1.743	1.494
125	6.455	5.978	4.318	3.651	3.145	2.661	2.158	1.817	1.533
130	6.534	6.042	4.449	3.787	3.252	2.791	2.260	1.890	1.572
135	6.612	6.105	4.580	3.922	3.358	2.906	2.361	1.963	1.611
140	6.691	6.169	4.711	4.016	3.465	2.986	2.462	2.037	1.650
145	6.769	6.233	4.842	4.085	3.572	3.067	2.563	2.110	1.689
150	6.848	6.296	4.973	4.154	3.679	3.148	2.664	2.183	1.728
155	6.926	6.360	5.105	4.224	3.786	3.228	2.765	2.256	1.767
160	7.005	6.423	5.236	4.293	3.893	3.309	2.867	2.330	1.806
165	7.083	6.487	5.367	4.363	3.986	3.389	2.940	2.403	1.845
170	7.162	6.550	5.498	4.432	4.041	3.470	3.008	2.476	1.884
175	7.240	6.614	5.629	4.502	4.096	3.550	3.077	2.550	1.923
180	7.319	6.677	5.760	4.571	4.151	3.631	3.145	2.623	1.962
185	7.397	6.741	5.891	4.641	4.206	3.711	3.214	2.696	2.001
190	7.476	6.804	5.993	4.710	4.262	3.792	3.282	2.770	2.040
195	7.554	6.868	6.065	4.780	4.317	3.873	3.351	2.843	2.079

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 29 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 14 Continued. HENSOTHERM® 920 KS

I/H Columns 90 minutes (Continued)									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
200	7.633	6.932	6.136	4.849	4.372	3.953	3.419	2.913	2.118
205	7.711	6.995	6.208	4.919	4.427	4.014	3.488	2.979	2.157
210	7.790	7.059	6.279	4.988	4.482	4.070	3.556	3.045	2.195
215	7.869	7.122	6.350	5.057	4.537	4.125	3.625	3.110	2.234
220	7.947	7.186	6.422	5.127	4.592	4.181	3.693	3.176	2.273
225	8.026	7.249	6.493	5.196	4.647	4.236	3.761	3.242	2.312
230	8.104	7.313	6.565	5.266	4.702	4.292	3.830	3.308	2.351
235	8.183	7.376	6.636	5.335	4.758	4.347	3.898	3.374	2.390
240	8.261	7.440	6.708	5.405	4.813	4.402	3.967	3.440	2.429
245	8.340	7.504	6.779	5.474	4.868	4.458	4.021	3.506	2.468
250	8.418	7.567	6.850	5.544	4.923	4.513	4.074	3.572	2.507
255	8.497	7.631	6.922	5.613	4.978	4.569	4.127	3.637	2.546
260	8.575	7.694	6.993	5.683	5.033	4.624	4.181	3.703	2.585
265	8.654	7.758	7.065	5.752	5.088	4.680	4.234	3.769	2.624
270	8.732	7.821	7.136	5.821	5.143	4.735	4.287	3.835	2.663
275	8.811	7.885	7.208	5.891	5.199	4.791	4.340	3.901	2.702
280	8.889	7.948	7.279	5.961	5.254	4.846	4.393	3.967	2.741
285	8.968	8.012	7.350	6.031	5.309	4.902	4.447	4.033	2.780
290	9.046	8.075	7.422	6.103	5.364	4.957	4.500	4.099	2.819
295	9.125	8.139	7.493	6.175	5.419	5.013	4.553	4.165	2.858
300	9.204	8.203	7.565	6.247	5.474	5.068	4.606	4.231	2.897
305	9.282	8.266	7.636	6.319	5.529	5.123	4.660	4.297	2.936
310	9.361	8.330	7.708	6.391	5.584	5.179	4.713	4.363	2.975
315	-	8.393	7.779	6.463	5.639	5.234	4.766	4.429	3.014
320	-	8.457	7.850	6.535	5.695	5.290	4.819	4.495	3.053
325	-	8.520	7.922	6.607	5.750	5.345	4.872	4.561	3.092
330	-	8.584	7.993	6.679	5.805	5.401	4.926	4.627	3.131
335	-	8.647	8.065	6.751	5.860	5.456	4.979	4.693	3.170
340	-	8.711	8.136	6.823	5.915	5.512	5.032	4.759	3.209
345	-	8.775	8.207	6.895	5.970	5.567	5.085	4.825	3.248
350	-	8.838	8.279	6.967	6.025	5.623	5.138	4.891	3.287
355	-	8.902	8.350	7.039	6.080	5.678	5.192	4.957	3.326
360	-	8.965	8.422	7.111	6.135	5.734	5.245	5.023	3.365

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 30 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 15. HENSOTHERM® 920 KS

I/H Columns 105 minutes									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
30	3.636	2.593	2.069	1.530	1.322	1.171	1.057	0.408	0.351
35	3.636	2.593	2.069	1.530	1.322	1.171	1.057	0.871	0.432
40	3.636	2.593	2.069	1.530	1.322	1.171	1.057	0.871	0.753
45	3.636	2.593	2.069	1.530	1.322	1.171	1.057	0.871	0.753
50	3.636	2.593	2.069	1.530	1.322	1.171	1.057	0.871	0.753
55	4.179	2.920	2.266	1.769	1.453	1.288	1.158	0.986	0.860
60	4.722	3.378	2.543	2.008	1.637	1.404	1.259	1.102	0.967
65	5.264	3.836	2.819	2.246	1.841	1.531	1.359	1.217	1.074
70	5.807	4.317	3.109	2.485	2.045	1.698	1.460	1.333	1.181
75	6.138	4.808	3.403	2.724	2.249	1.864	1.585	1.448	1.288
80	6.388	5.299	3.697	2.950	2.452	2.030	1.720	1.558	1.395
85	6.637	5.790	3.996	3.151	2.656	2.197	1.855	1.665	1.498
90	6.886	6.036	4.364	3.353	2.860	2.363	1.990	1.772	1.571
95	7.135	6.154	4.731	3.555	3.029	2.529	2.125	1.879	1.643
100	7.384	6.272	5.099	3.757	3.194	2.696	2.261	1.986	1.716
105	7.634	6.390	5.467	3.958	3.359	2.862	2.396	2.093	1.788
110	7.883	6.508	5.834	4.155	3.524	2.998	2.531	2.200	1.860
115	8.132	6.626	6.002	4.351	3.689	3.130	2.666	2.307	1.933
120	8.381	6.743	6.068	4.547	3.854	3.262	2.801	2.414	2.005
125	8.630	6.861	6.134	4.743	4.002	3.393	2.922	2.521	2.078
130	8.880	6.979	6.200	4.939	4.107	3.525	3.021	2.628	2.150
135	9.129	7.097	6.265	5.135	4.213	3.657	3.121	2.735	2.223
140	9.378	7.215	6.331	5.331	4.319	3.789	3.220	2.842	2.295
145	9.627	7.333	6.397	5.527	4.425	3.921	3.319	2.927	2.367
150	-	7.450	6.463	5.723	4.530	4.010	3.419	2.999	2.440
155	-	7.568	6.528	5.919	4.636	4.073	3.518	3.071	2.512
160	-	7.686	6.594	6.014	4.742	4.136	3.618	3.143	2.585
165	-	7.804	6.660	6.083	4.848	4.199	3.717	3.215	2.657
170	-	7.922	6.725	6.153	4.953	4.262	3.817	3.287	2.730
175	-	8.040	6.791	6.222	5.059	4.325	3.916	3.359	2.802
180	-	8.158	6.857	6.291	5.165	4.388	3.995	3.431	2.874
185	-	8.275	6.923	6.360	5.271	4.452	4.050	3.503	2.947
190	-	8.393	6.988	6.430	5.377	4.515	4.104	3.575	3.020
195	-	8.511	7.054	6.499	5.482	4.578	4.158	3.647	3.093

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 31 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 15 Continued. HENSOTHERM® 920 KS

I/H Columns 105 minutes (Continued)									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
200	-	8.629	7.120	6.568	5.588	4.641	4.212	3.719	3.166
205	-	8.747	7.186	6.638	5.694	4.704	4.267	3.791	3.239
210	-	8.865	7.251	6.707	5.800	4.767	4.321	3.863	3.311
215	-	8.983	7.317	6.776	5.905	4.830	4.375	3.935	3.384
220	-	9.100	7.383	6.845	5.999	4.893	4.430	3.998	3.457
225	-	9.218	7.449	6.915	6.080	4.956	4.484	4.052	3.530
230	-	9.336	7.514	6.984	6.161	5.019	4.538	4.107	3.603
235	-	9.454	7.580	7.053	6.242	5.082	4.592	4.161	3.676
240	-	-	7.646	7.122	6.323	5.145	4.647	4.215	3.749
245	-	-	7.712	7.192	6.405	5.208	4.701	4.270	3.821
250	-	-	7.777	7.261	6.486	5.271	4.755	4.324	3.894
255	-	-	7.843	7.330	6.567	5.334	4.810	4.378	3.967
260	-	-	7.909	7.399	6.648	5.398	4.864	4.433	4.019
265	-	-	7.974	7.469	6.729	5.461	4.918	4.487	4.069
270	-	-	8.040	7.538	6.810	5.524	4.972	4.541	4.120
275	-	-	8.106	7.607	6.891	5.587	5.027	4.596	4.171
280	-	-	8.172	7.676	6.972	5.650	5.081	4.650	4.221
285	-	-	8.237	7.746	7.054	5.713	5.135	4.704	4.272
290	-	-	8.303	7.815	7.135	5.776	5.189	4.759	4.322
295	-	-	8.369	7.884	7.216	5.839	5.244	4.813	4.373
300	-	-	8.435	7.954	7.297	5.902	5.298	4.867	4.423
305	-	-	8.500	8.023	7.378	5.970	5.352	4.922	4.474
310	-	-	8.566	8.092	7.459	6.079	5.407	4.976	4.525
315	-	-	8.632	8.161	7.540	6.189	5.461	5.030	4.575
320	-	-	8.698	8.231	7.621	6.298	5.515	5.085	4.626
325	-	-	8.763	8.300	7.702	6.408	5.569	5.139	4.676
330	-	-	8.829	8.369	7.784	6.517	5.624	5.193	4.727
335	-	-	8.895	8.438	7.865	6.627	5.678	5.248	4.777
340	-	-	8.960	8.508	7.946	6.737	5.732	5.302	4.828
345	-	-	9.026	8.577	8.027	6.846	5.786	5.356	4.879
350	-	-	9.092	8.646	8.108	6.956	5.841	5.411	4.929
355	-	-	9.158	8.715	8.189	7.065	5.895	5.465	4.980
360	-	-	9.223	8.785	8.270	7.175	5.949	5.519	5.030

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 32 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 16. HENSOTHERM® 920 KS

I/H Columns 120 minutes									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
30	5.054	3.574	2.577	2.076	1.712	1.367	1.277	1.222	1.039
35	5.054	3.574	2.577	2.076	1.712	1.367	1.277	1.222	1.039
40	5.054	3.574	2.577	2.076	1.712	1.367	1.277	1.222	1.039
45	5.054	3.574	2.577	2.076	1.712	1.367	1.277	1.222	1.039
50	5.054	3.574	2.577	2.076	1.712	1.367	1.277	1.222	1.039
55	5.586	4.173	2.824	2.273	1.873	1.570	1.405	1.345	1.186
60	6.088	4.778	3.295	2.554	2.117	1.773	1.542	1.460	1.334
65	6.379	5.382	3.798	2.835	2.361	1.976	1.711	1.594	1.482
70	6.670	5.971	4.321	3.157	2.606	2.178	1.880	1.735	1.591
75	6.961	6.237	4.855	3.487	2.850	2.381	2.049	1.876	1.698
80	7.252	6.503	5.390	3.817	3.082	2.584	2.219	2.017	1.804
85	7.543	6.769	5.924	4.218	3.313	2.787	2.388	2.158	1.911
90	7.834	7.036	6.139	4.682	3.544	2.984	2.557	2.299	2.018
95	8.125	7.302	6.331	5.145	3.775	3.176	2.726	2.440	2.125
100	8.416	7.568	6.523	5.609	4.014	3.368	2.895	2.582	2.232
105	8.708	7.834	6.716	5.977	4.300	3.560	3.052	2.723	2.338
110	8.999	8.100	6.908	6.051	4.586	3.752	3.209	2.864	2.445
115	9.290	8.367	7.100	6.124	4.872	3.944	3.367	2.987	2.552
120	-	8.633	7.293	6.198	5.158	4.095	3.524	3.108	2.659
125	-	8.899	7.485	6.272	5.443	4.240	3.682	3.228	2.765
130	-	9.165	7.677	6.345	5.729	4.385	3.839	3.349	2.872
135	-	9.432	7.869	6.419	5.973	4.530	3.982	3.470	2.957
140	-	9.698	8.062	6.493	6.042	4.675	4.047	3.591	3.040
145	-	-	8.254	6.566	6.111	4.820	4.112	3.711	3.124
150	-	-	8.446	6.640	6.180	4.964	4.177	3.832	3.207
155	-	-	8.639	6.714	6.250	5.109	4.242	3.953	3.290
160	-	-	8.831	6.787	6.319	5.254	4.307	4.016	3.373
165	-	-	9.023	6.861	6.388	5.399	4.372	4.068	3.457
170	-	-	9.216	6.935	6.457	5.544	4.437	4.121	3.540
175	-	-	9.408	7.008	6.527	5.689	4.502	4.173	3.623
180	-	-	9.600	7.082	6.596	5.834	4.567	4.226	3.706
185	-	-	-	7.156	6.665	5.969	4.632	4.278	3.789
190	-	-	-	7.229	6.734	6.044	4.697	4.331	3.873
195	-	-	-	7.303	6.804	6.120	4.762	4.383	3.956

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 33 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 16 Continued. HENSOTHERM® 920 KS

I/H Columns 120 minutes (Continued)									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
200	-	-	-	7.377	6.873	6.195	4.827	4.436	4.014
205	-	-	-	7.450	6.942	6.270	4.892	4.488	4.066
210	-	-	-	7.524	7.012	6.345	4.957	4.541	4.118
215	-	-	-	7.598	7.081	6.420	5.022	4.593	4.170
220	-	-	-	7.671	7.150	6.496	5.087	4.646	4.222
225	-	-	-	7.745	7.219	6.571	5.152	4.698	4.274
230	-	-	-	7.819	7.289	6.646	5.217	4.751	4.326
235	-	-	-	7.892	7.358	6.721	5.282	4.803	4.379
240	-	-	-	7.966	7.427	6.796	5.348	4.856	4.431
245	-	-	-	8.040	7.496	6.872	5.413	4.908	4.483
250	-	-	-	8.113	7.566	6.947	5.478	4.961	4.535
255	-	-	-	8.187	7.635	7.022	5.543	5.013	4.587
260	-	-	-	8.261	7.704	7.097	5.608	5.066	4.639
265	-	-	-	8.334	7.773	7.172	5.673	5.118	4.692
270	-	-	-	8.408	7.843	7.248	5.738	5.171	4.744
275	-	-	-	8.482	7.912	7.323	5.803	5.223	4.796
280	-	-	-	8.555	7.981	7.398	5.868	5.276	4.848
285	-	-	-	8.629	8.050	7.473	5.933	5.328	4.900
290	-	-	-	8.703	8.120	7.548	6.024	5.381	4.952
295	-	-	-	8.776	8.189	7.624	6.132	5.433	5.004
300	-	-	-	8.850	8.258	7.699	6.240	5.486	5.057
305	-	-	-	8.924	8.327	7.774	6.348	5.538	5.109
310	-	-	-	8.997	8.397	7.849	6.456	5.591	5.161
315	-	-	-	9.071	8.466	7.924	6.564	5.643	5.213
320	-	-	-	9.145	8.535	8.000	6.672	5.696	5.265
325	-	-	-	9.218	8.605	8.075	6.781	5.748	5.317
330	-	-	-	9.292	8.674	8.150	6.889	5.801	5.369
335	-	-	-	9.366	8.743	8.225	6.997	5.853	5.422
340	-	-	-	9.439	8.812	8.301	7.105	5.906	5.474
345	-	-	-	-	8.882	8.376	7.213	5.958	5.526
350	-	-	-	-	8.951	8.451	7.321	6.079	5.578
355	-	-	-	-	9.020	8.526	7.429	6.201	5.630
360	-	-	-	-	9.089	8.601	7.537	6.323	5.682

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 34 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 17. HENSOTHERM® 920 KS

I/H Columns 150 minutes									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
30	7.124	5.944	4.645	2.897	2.515	2.137	1.896	1.809	1.719
35	7.124	5.944	4.645	2.897	2.515	2.137	1.896	1.809	1.719
40	7.124	5.944	4.645	2.897	2.515	2.137	1.896	1.809	1.719
45	7.124	5.944	4.645	2.897	2.515	2.137	1.896	1.809	1.719
50	7.124	5.944	4.645	2.897	2.515	2.137	1.896	1.809	1.719
55	7.727	6.371	5.126	3.759	2.756	2.342	2.078	1.985	1.889
60	8.158	6.798	5.860	4.452	3.324	2.614	2.313	2.191	2.061
65	8.589	7.226	6.248	5.089	4.027	2.894	2.547	2.396	2.232
70	9.020	7.653	6.582	5.725	4.575	3.514	2.781	2.602	2.404
75	-	8.080	6.916	6.153	5.122	4.087	3.130	2.807	2.576
80	-	8.507	7.250	6.460	5.670	4.528	3.563	3.060	2.747
85	-	8.934	7.584	6.767	6.086	4.969	3.983	3.340	2.927
90	-	9.361	7.918	7.074	6.356	5.410	4.195	3.620	3.136
95	-	9.789	8.253	7.381	6.626	5.850	4.407	3.900	3.346
100	-	-	8.587	7.687	6.896	6.057	4.619	4.082	3.555
105	-	-	8.921	7.994	7.166	6.186	4.831	4.232	3.764
110	-	-	9.255	8.301	7.436	6.316	5.043	4.381	3.972
115	-	-	9.589	8.608	7.706	6.445	5.254	4.530	4.047
120	-	-	-	8.915	7.976	6.575	5.466	4.679	4.123
125	-	-	-	9.221	8.245	6.704	5.678	4.829	4.199
130	-	-	-	9.528	8.515	6.834	5.890	4.978	4.274
135	-	-	-	-	8.785	6.963	6.008	5.127	4.350
140	-	-	-	-	9.055	7.093	6.082	5.276	4.425
145	-	-	-	-	9.325	7.222	6.155	5.426	4.501
150	-	-	-	-	9.595	7.352	6.229	5.575	4.577
155	-	-	-	-	-	7.481	6.302	5.724	4.652
160	-	-	-	-	-	7.611	6.375	5.873	4.728
165	-	-	-	-	-	7.741	6.449	5.990	4.804
170	-	-	-	-	-	7.870	6.522	6.064	4.879
175	-	-	-	-	-	8.000	6.595	6.137	4.955
180	-	-	-	-	-	8.129	6.669	6.210	5.031
185	-	-	-	-	-	8.259	6.742	6.284	5.106
190	-	-	-	-	-	8.388	6.816	6.357	5.182
195	-	-	-	-	-	8.518	6.889	6.430	5.258

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 35 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994
RUDOLF HENSEL GMBH

Table 17 Continued. HENSOTHERM® 920 KS

I/H Columns 150 minutes (Continued)									
Required Thickness (mm) for a Design Temperature (°C)									
Section Factor (m ⁻¹)	350	400	450	500	550	600	650	700	750
200	-	-	-	-	-	8.647	6.962	6.504	5.333
205	-	-	-	-	-	8.777	7.036	6.577	5.409
210	-	-	-	-	-	8.906	7.109	6.651	5.485
215	-	-	-	-	-	9.036	7.182	6.724	5.560
220	-	-	-	-	-	9.165	7.256	6.797	5.636
225	-	-	-	-	-	9.295	7.329	6.871	5.711
230	-	-	-	-	-	9.424	7.402	6.944	5.787
235	-	-	-	-	-	9.554	7.476	7.017	5.863
240	-	-	-	-	-	-	7.549	7.091	5.938
245	-	-	-	-	-	-	7.623	7.164	6.024
250	-	-	-	-	-	-	7.696	7.238	6.113
255	-	-	-	-	-	-	7.769	7.311	6.202
260	-	-	-	-	-	-	7.843	7.384	6.291
265	-	-	-	-	-	-	7.916	7.458	6.380
270	-	-	-	-	-	-	7.989	7.531	6.469
275	-	-	-	-	-	-	8.063	7.604	6.558
280	-	-	-	-	-	-	8.136	7.678	6.647
285	-	-	-	-	-	-	8.209	7.751	6.736
290	-	-	-	-	-	-	8.283	7.825	6.825
295	-	-	-	-	-	-	8.356	7.898	6.914
300	-	-	-	-	-	-	8.430	7.971	7.003
305	-	-	-	-	-	-	8.503	8.045	7.092
310	-	-	-	-	-	-	8.576	8.118	7.181
315	-	-	-	-	-	-	8.650	8.191	7.270
320	-	-	-	-	-	-	8.723	8.265	7.359
325	-	-	-	-	-	-	8.796	8.338	7.448
330	-	-	-	-	-	-	8.870	8.411	7.537
335	-	-	-	-	-	-	8.943	8.485	7.626
340	-	-	-	-	-	-	9.017	8.558	7.715
345	-	-	-	-	-	-	9.090	8.632	7.804
350	-	-	-	-	-	-	9.163	8.705	7.893
355	-	-	-	-	-	-	9.237	8.778	7.982
360	-	-	-	-	-	-	9.310	8.852	8.071

Thickness is intumescent coating only. Results apply to I/H columns with 4 sided fire exposure.
Results also apply to I/H beams with 4-sided fire exposure limited to a maximum protection thickness of 6.555mm

Signed Page 36 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994
RUDOLF HENSEL GMBH

Table 18. HENSOTHERM® 920 KS

Hollow Columns 15 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
50	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
55	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
60	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
65	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
70	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
75	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
80	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
85	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
90	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
95	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
100	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
105	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
110	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
115	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
120	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
125	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
130	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
135	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
140	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
145	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
150	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
155	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
160	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
165	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
170	0.485	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
175	0.527	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
180	0.570	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
185	0.613	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
190	0.655	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
195	0.698	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
200	0.740	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
205	0.783	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
210	0.826	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
215	0.868	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
220	0.911	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
225	0.954	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
230	0.996	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
235	1.039	0.492	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 37 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 18 Continued. HENSOTHERM® 920 KS

Hollow Columns 15 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
240	1.081	0.534	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
245	1.124	0.577	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
250	1.167	0.619	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
255	1.209	0.662	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
260	1.252	0.704	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
265	1.295	0.747	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
270	1.337	0.789	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
275	1.380	0.831	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
280	1.422	0.874	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
285	1.465	0.916	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
290	1.508	0.959	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
295	1.550	1.001	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
300	1.593	1.044	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
305	1.635	1.086	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
310	1.678	1.129	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
315	1.721	1.171	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
320	1.763	1.214	0.508	0.483	0.483	0.483	0.483	0.483	0.483	0.483
325	1.806	1.256	0.553	0.483	0.483	0.483	0.483	0.483	0.483	0.483
330	1.849	1.299	0.598	0.483	0.483	0.483	0.483	0.483	0.483	0.483
335	1.891	1.341	0.642	0.483	0.483	0.483	0.483	0.483	0.483	0.483
340	1.934	1.384	0.687	0.483	0.483	0.483	0.483	0.483	0.483	0.483
345	1.976	1.426	0.732	0.483	0.483	0.483	0.483	0.483	0.483	0.483
350	2.019	1.469	0.777	0.483	0.483	0.483	0.483	0.483	0.483	0.483
355	2.062	1.511	0.821	0.483	0.483	0.483	0.483	0.483	0.483	0.483
360	2.104	1.554	0.866	0.483	0.483	0.483	0.483	0.483	0.483	0.483
365	2.147	1.596	0.911	0.483	0.483	0.483	0.483	0.483	0.483	0.483
370	2.190	1.639	0.956	0.483	0.483	0.483	0.483	0.483	0.483	0.483
375	2.232	1.681	1.000	0.483	0.483	0.483	0.483	0.483	0.483	0.483
380	2.275	1.724	1.045	0.483	0.483	0.483	0.483	0.483	0.483	0.483
385	-	-	-	0.483	0.483	0.483	0.483	0.483	0.483	0.483
390	-	-	-	0.483	0.483	0.483	0.483	0.483	0.483	0.483
395	-	-	-	0.483	0.483	0.483	0.483	0.483	0.483	0.483
400	-	-	-	0.483	0.483	0.483	0.483	0.483	0.483	0.483
405	-	-	-	0.483	0.483	0.483	0.483	0.483	0.483	0.483
410	-	-	-	0.483	0.483	0.483	0.483	0.483	0.483	0.483
415	-	-	-	0.520	0.483	0.483	0.483	0.483	0.483	0.483
420	-	-	-	0.565	0.483	0.483	0.483	0.483	0.483	0.483

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 38 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 19. HENSOTHERM® 920 KS

Hollow Columns 30 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
50	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
55	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
60	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
65	0.501	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
70	0.577	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
75	0.652	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
80	0.728	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
85	0.803	0.504	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
90	0.879	0.569	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
95	0.954	0.634	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
100	1.030	0.698	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
105	1.106	0.763	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
110	1.181	0.828	0.535	0.483	0.483	0.483	0.483	0.483	0.483	0.483
115	1.257	0.892	0.593	0.483	0.483	0.483	0.483	0.483	0.483	0.483
120	1.332	0.957	0.651	0.483	0.483	0.483	0.483	0.483	0.483	0.483
125	1.408	1.022	0.709	0.483	0.483	0.483	0.483	0.483	0.483	0.483
130	1.483	1.086	0.767	0.483	0.483	0.483	0.483	0.483	0.483	0.483
135	1.559	1.151	0.825	0.501	0.483	0.483	0.483	0.483	0.483	0.483
140	1.634	1.216	0.883	0.555	0.483	0.483	0.483	0.483	0.483	0.483
145	1.710	1.280	0.940	0.609	0.483	0.483	0.483	0.483	0.483	0.483
150	1.786	1.345	0.998	0.663	0.525	0.483	0.483	0.483	0.483	0.483
155	1.861	1.409	1.056	0.717	0.580	0.483	0.483	0.483	0.483	0.483
160	1.937	1.474	1.114	0.772	0.636	0.483	0.483	0.483	0.483	0.483
165	2.012	1.539	1.172	0.826	0.692	0.483	0.483	0.483	0.483	0.483
170	2.088	1.603	1.230	0.880	0.748	0.492	0.483	0.483	0.483	0.483
175	2.163	1.668	1.288	0.934	0.804	0.551	0.483	0.483	0.483	0.483
180	2.239	1.733	1.346	0.988	0.859	0.611	0.483	0.483	0.483	0.483
185	2.314	1.797	1.404	1.043	0.915	0.671	0.483	0.483	0.483	0.483
190	2.390	1.862	1.462	1.097	0.971	0.730	0.483	0.483	0.483	0.483
195	2.466	1.927	1.520	1.151	1.027	0.790	0.483	0.483	0.483	0.483
200	2.543	1.991	1.578	1.205	1.082	0.850	0.483	0.483	0.483	0.483
205	2.621	2.056	1.636	1.259	1.138	0.910	0.483	0.483	0.483	0.483
210	2.699	2.121	1.694	1.314	1.194	0.969	0.524	0.483	0.483	0.483
215	2.777	2.185	1.752	1.368	1.250	1.029	0.586	0.483	0.483	0.483
220	2.855	2.250	1.810	1.422	1.306	1.089	0.647	0.483	0.483	0.483
225	2.933	2.315	1.868	1.476	1.361	1.148	0.708	0.483	0.483	0.483
230	3.011	2.379	1.925	1.530	1.417	1.208	0.770	0.483	0.483	0.483
235	3.089	2.444	1.983	1.585	1.473	1.268	0.831	0.483	0.483	0.483

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 39 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 19 Continued. HENSOTHERM® 920 KS

Hollow Columns 30 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
240	3.166	2.516	2.041	1.639	1.529	1.327	0.893	0.483	0.483	0.483
245	3.244	2.591	2.099	1.693	1.584	1.387	0.954	0.483	0.483	0.483
250	3.322	2.667	2.157	1.747	1.640	1.447	1.015	0.483	0.483	0.483
255	3.400	2.742	2.215	1.801	1.696	1.507	1.077	0.483	0.483	0.483
260	3.478	2.817	2.273	1.856	1.752	1.566	1.138	0.483	0.483	0.483
265	3.556	2.893	2.331	1.910	1.808	1.626	1.199	0.518	0.483	0.483
270	3.634	2.968	2.389	1.964	1.863	1.686	1.261	0.575	0.483	0.483
275	3.712	3.044	2.447	2.018	1.919	1.745	1.322	0.632	0.483	0.483
280	3.789	3.119	2.517	2.072	1.975	1.805	1.384	0.689	0.483	0.483
285	3.867	3.194	2.592	2.127	2.031	1.865	1.445	0.746	0.483	0.483
290	3.945	3.270	2.668	2.181	2.086	1.924	1.506	0.804	0.483	0.483
295	4.029	3.345	2.743	2.235	2.142	1.984	1.568	0.861	0.483	0.483
300	4.114	3.421	2.818	2.289	2.198	2.044	1.629	0.918	0.483	0.483
305	4.199	3.496	2.894	2.343	2.254	2.103	1.691	0.975	0.483	0.483
310	4.283	3.571	2.969	2.398	2.310	2.163	1.752	1.032	0.483	0.483
315	4.368	3.647	3.044	2.452	2.365	2.223	1.813	1.089	0.483	0.483
320	4.453	3.722	3.120	2.519	2.421	2.283	1.875	1.147	0.483	0.483
325	4.538	3.798	3.195	2.590	2.479	2.342	1.936	1.204	0.483	0.483
330	4.622	3.873	3.270	2.662	2.542	2.402	1.997	1.261	0.483	0.483
335	4.707	3.949	3.346	2.733	2.605	2.462	2.059	1.318	0.483	0.483
340	4.792	4.034	3.421	2.804	2.668	2.515	2.120	1.375	0.483	0.483
345	4.876	4.120	3.496	2.875	2.732	2.568	2.182	1.433	0.483	0.483
350	4.961	4.206	3.572	2.947	2.795	2.621	2.243	1.490	0.483	0.483
355	5.046	4.292	3.647	3.018	2.858	2.674	2.304	1.547	0.483	0.483
360	5.131	4.378	3.722	3.089	2.922	2.727	2.366	1.604	0.483	0.483
365	5.215	4.464	3.798	3.161	2.985	2.780	2.427	1.661	0.483	0.483
370	5.300	4.550	3.873	3.232	3.048	2.833	2.481	1.719	0.483	0.483
375	5.385	4.636	3.948	3.303	3.112	2.887	2.523	1.776	0.489	0.483
380	5.469	4.722	4.028	3.375	3.175	2.940	2.565	1.833	0.543	0.483
385	-	-	-	-	-	-	-	-	-	0.483
390	-	-	-	-	-	-	-	-	-	0.483
395	-	-	-	-	-	-	-	-	-	0.483
400	-	-	-	-	-	-	-	-	-	0.483
405	-	-	-	-	-	-	-	-	-	0.483
410	-	-	-	-	-	-	-	-	-	0.483
415	-	-	-	-	-	-	-	-	-	0.483
420	-	-	-	-	-	-	-	-	-	0.483

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 20. HENSOTHERM® 920 KS

Hollow Columns 45 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
50	0.962	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
55	1.126	0.592	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
60	1.289	0.720	0.483	0.483	0.483	0.483	0.483	0.483	0.483	0.483
65	1.453	0.849	0.548	0.483	0.483	0.483	0.483	0.483	0.483	0.483
70	1.616	0.977	0.640	0.483	0.483	0.483	0.483	0.483	0.483	0.483
75	1.779	1.105	0.732	0.513	0.483	0.483	0.483	0.483	0.483	0.483
80	1.943	1.233	0.824	0.592	0.514	0.483	0.483	0.483	0.483	0.483
85	2.106	1.361	0.916	0.670	0.589	0.483	0.483	0.483	0.483	0.483
90	2.270	1.489	1.008	0.749	0.664	0.544	0.483	0.483	0.483	0.483
95	2.433	1.617	1.100	0.828	0.739	0.614	0.483	0.483	0.483	0.483
100	2.543	1.745	1.192	0.907	0.814	0.684	0.483	0.483	0.483	0.483
105	2.640	1.873	1.284	0.985	0.889	0.755	0.534	0.483	0.483	0.483
110	2.738	2.001	1.376	1.064	0.964	0.825	0.597	0.483	0.483	0.483
115	2.835	2.129	1.468	1.143	1.039	0.895	0.660	0.483	0.483	0.483
120	2.932	2.257	1.560	1.221	1.114	0.965	0.724	0.483	0.483	0.483
125	3.029	2.385	1.652	1.300	1.189	1.035	0.787	0.531	0.483	0.483
130	3.126	2.500	1.744	1.379	1.264	1.105	0.850	0.589	0.483	0.483
135	3.223	2.593	1.836	1.458	1.339	1.176	0.913	0.647	0.483	0.483
140	3.321	2.686	1.928	1.536	1.414	1.246	0.977	0.704	0.483	0.483
145	3.418	2.779	2.020	1.615	1.489	1.316	1.040	0.762	0.483	0.483
150	3.515	2.871	2.112	1.694	1.564	1.386	1.103	0.820	0.483	0.483
155	3.612	2.964	2.203	1.772	1.639	1.456	1.166	0.878	0.483	0.483
160	3.709	3.057	2.295	1.851	1.715	1.527	1.230	0.936	0.483	0.483
165	3.806	3.150	2.387	1.930	1.790	1.597	1.293	0.994	0.483	0.483
170	3.904	3.243	2.482	2.009	1.865	1.667	1.356	1.052	0.523	0.483
175	4.011	3.336	2.589	2.087	1.940	1.737	1.419	1.110	0.585	0.483
180	4.129	3.429	2.695	2.166	2.015	1.807	1.483	1.168	0.646	0.483
185	4.247	3.522	2.802	2.245	2.090	1.877	1.546	1.226	0.708	0.483
190	4.365	3.615	2.909	2.323	2.165	1.948	1.609	1.284	0.769	0.483
195	4.482	3.707	3.016	2.402	2.240	2.018	1.672	1.342	0.831	0.483
200	4.600	3.800	3.123	2.486	2.315	2.088	1.736	1.400	0.893	0.483
205	4.718	3.893	3.230	2.592	2.390	2.158	1.799	1.457	0.954	0.483
210	4.836	3.996	3.337	2.698	2.465	2.228	1.862	1.515	1.016	0.483
215	4.954	4.117	3.443	2.803	2.568	2.298	1.925	1.573	1.078	0.483
220	5.071	4.238	3.550	2.909	2.671	2.369	1.989	1.631	1.139	0.483
225	5.189	4.358	3.657	3.014	2.774	2.439	2.052	1.689	1.201	0.530
230	5.307	4.479	3.764	3.120	2.877	2.528	2.115	1.747	1.263	0.590
235	5.425	4.600	3.871	3.225	2.980	2.627	2.178	1.805	1.324	0.650

Thickness is intumescent coating only.
Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 41 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



**CERTIFICATE No CF 5994
RUDOLF HENSEL GMBH**

Table 20 Continued. HENSOTHERM® 920 KS

Hollow Columns 45 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
240	5.543	4.720	3.980	3.331	3.083	2.727	2.242	1.863	1.386	0.711
245	5.660	4.841	4.094	3.437	3.186	2.827	2.305	1.921	1.448	0.771
250	5.778	4.962	4.209	3.542	3.290	2.927	2.368	1.979	1.509	0.831
255	5.896	5.082	4.323	3.648	3.393	3.027	2.431	2.037	1.571	0.891
260	6.027	5.203	4.438	3.753	3.496	3.127	2.510	2.095	1.633	0.952
265	6.168	5.324	4.552	3.859	3.599	3.226	2.605	2.153	1.694	1.012
270	6.308	5.444	4.667	3.966	3.702	3.326	2.700	2.210	1.756	1.072
275	6.448	5.565	4.781	4.080	3.805	3.426	2.795	2.268	1.817	1.132
280	6.588	5.686	4.895	4.194	3.908	3.526	2.890	2.326	1.879	1.193
285	6.728	5.806	5.010	4.309	4.017	3.626	2.985	2.384	1.941	1.253
290	6.869	5.927	5.124	4.423	4.132	3.726	3.080	2.442	2.002	1.313
295	7.009	6.065	5.239	4.538	4.246	3.825	3.175	2.516	2.064	1.373
300	7.149	6.205	5.353	4.652	4.360	3.925	3.270	2.601	2.126	1.434
305	7.289	6.345	5.468	4.766	4.474	4.034	3.365	2.686	2.187	1.494
310	7.429	6.486	5.582	4.881	4.588	4.146	3.460	2.771	2.249	1.554
315	7.570	6.626	5.697	4.995	4.702	4.258	3.555	2.856	2.311	1.614
320	7.710	6.766	5.811	5.109	4.816	4.370	3.650	2.941	2.372	1.675
325	7.850	6.906	5.926	5.224	4.930	4.481	3.745	3.026	2.434	1.735
330	7.990	7.047	6.067	5.338	5.045	4.593	3.840	3.111	2.496	1.795
335	8.130	7.187	6.213	5.452	5.159	4.705	3.936	3.196	2.559	1.855
340	8.271	7.327	6.359	5.567	5.273	4.817	4.038	3.281	2.622	1.916
345	8.411	7.467	6.504	5.681	5.387	4.929	4.143	3.366	2.685	1.976
350	8.551	7.607	6.650	5.795	5.501	5.041	4.247	3.451	2.748	2.036
355	8.691	7.748	6.796	5.910	5.615	5.152	4.352	3.536	2.811	2.096
360	8.831	7.888	6.942	6.042	5.729	5.264	4.456	3.621	2.873	2.157
365	8.972	8.028	7.087	6.180	5.844	5.376	4.561	3.706	2.936	2.217
370	9.112	8.168	7.233	6.319	5.960	5.488	4.665	3.791	2.999	2.277
375	9.252	8.309	7.379	6.458	6.095	5.600	4.769	3.876	3.062	2.337
380	9.392	8.449	7.525	6.596	6.230	5.712	4.874	3.962	3.125	2.398
385	-	-	-	-	-	-	-	-	-	-
390	-	-	-	-	-	-	-	-	-	-
395	-	-	-	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-	-	-	-
405	-	-	-	-	-	-	-	-	-	-
410	-	-	-	-	-	-	-	-	-	-
415	-	-	-	-	-	-	-	-	-	-
420	-	-	-	-	-	-	-	-	-	-

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 42 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 21. HENSOTHERM® 920 KS

Hollow Columns 60 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
50	1.857	1.266	0.804	0.483	0.483	0.483	0.483	0.483	0.483	0.483
55	2.109	1.474	0.975	0.595	0.514	0.483	0.483	0.483	0.483	0.483
60	2.361	1.682	1.150	0.737	0.641	0.531	0.483	0.483	0.483	0.483
65	2.581	1.891	1.324	0.879	0.767	0.637	0.483	0.483	0.483	0.483
70	2.778	2.099	1.499	1.021	0.894	0.742	0.562	0.483	0.483	0.483
75	2.976	2.308	1.673	1.164	1.020	0.848	0.645	0.486	0.483	0.483
80	3.173	2.500	1.848	1.306	1.147	0.954	0.727	0.561	0.483	0.483
85	3.371	2.640	2.022	1.448	1.273	1.060	0.809	0.635	0.483	0.483
90	3.568	2.780	2.196	1.590	1.400	1.166	0.892	0.709	0.483	0.483
95	3.765	2.921	2.371	1.732	1.526	1.272	0.974	0.783	0.534	0.483
100	3.958	3.061	2.512	1.874	1.653	1.378	1.057	0.857	0.602	0.483
105	4.080	3.202	2.614	2.016	1.779	1.484	1.139	0.932	0.670	0.483
110	4.201	3.342	2.716	2.158	1.906	1.590	1.221	1.006	0.738	0.483
115	4.323	3.483	2.818	2.300	2.032	1.696	1.304	1.080	0.807	0.483
120	4.444	3.623	2.920	2.442	2.159	1.802	1.386	1.154	0.875	0.483
125	4.565	3.763	3.022	2.546	2.285	1.908	1.468	1.229	0.943	0.542
130	4.687	3.904	3.124	2.643	2.411	2.014	1.551	1.303	1.011	0.608
135	4.808	4.039	3.226	2.740	2.522	2.120	1.633	1.377	1.079	0.673
140	4.930	4.172	3.328	2.837	2.621	2.226	1.716	1.451	1.147	0.738
145	5.051	4.304	3.430	2.934	2.720	2.332	1.798	1.525	1.215	0.803
150	5.172	4.437	3.532	3.031	2.819	2.437	1.880	1.600	1.284	0.868
155	5.294	4.569	3.634	3.128	2.918	2.543	1.963	1.674	1.352	0.934
160	5.415	4.702	3.736	3.225	3.017	2.648	2.045	1.748	1.420	0.999
165	5.537	4.834	3.838	3.321	3.116	2.754	2.128	1.822	1.488	1.064
170	5.658	4.967	3.940	3.418	3.215	2.859	2.210	1.897	1.556	1.129
175	5.779	5.099	4.098	3.515	3.314	2.964	2.292	1.971	1.624	1.195
180	5.901	5.232	4.262	3.612	3.413	3.069	2.375	2.045	1.693	1.260
185	6.060	5.364	4.426	3.709	3.512	3.175	2.457	2.119	1.761	1.325
190	6.239	5.497	4.590	3.806	3.611	3.280	2.573	2.193	1.829	1.390
195	6.417	5.629	4.754	3.903	3.710	3.385	2.693	2.268	1.897	1.455
200	6.596	5.762	4.918	4.037	3.809	3.491	2.812	2.342	1.965	1.521
205	6.774	5.894	5.082	4.207	3.908	3.596	2.932	2.416	2.033	1.586
210	6.953	6.050	5.246	4.378	4.046	3.701	3.051	2.503	2.102	1.651
215	7.131	6.219	5.410	4.548	4.215	3.806	3.171	2.615	2.170	1.716
220	7.310	6.388	5.574	4.719	4.385	3.912	3.291	2.726	2.238	1.782
225	7.488	6.558	5.738	4.889	4.554	4.055	3.410	2.838	2.306	1.847
230	7.667	6.727	5.902	5.060	4.723	4.221	3.530	2.949	2.374	1.912
235	7.846	6.896	6.074	5.230	4.892	4.387	3.649	3.061	2.442	1.977

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 43 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 21 Continued. HENSOTHERM® 920 KS

Hollow Columns 60 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
240	8.024	7.065	6.247	5.401	5.061	4.553	3.769	3.172	2.533	2.042
245	8.203	7.234	6.421	5.571	5.230	4.719	3.889	3.284	2.635	2.108
250	8.381	7.403	6.595	5.742	5.399	4.885	4.026	3.396	2.737	2.173
255	8.560	7.573	6.769	5.912	5.568	5.051	4.185	3.507	2.840	2.238
260	8.738	7.742	6.942	6.085	5.737	5.217	4.343	3.619	2.942	2.303
265	8.917	7.911	7.116	6.258	5.906	5.383	4.501	3.730	3.044	2.369
270	9.095	8.080	7.290	6.432	6.077	5.550	4.659	3.842	3.146	2.434
275	9.274	8.249	7.464	6.605	6.249	5.716	4.817	3.954	3.248	2.508
280	9.452	8.418	7.637	6.779	6.421	5.882	4.975	4.101	3.350	2.589
285	9.631	8.588	7.811	6.952	6.593	6.049	5.133	4.248	3.452	2.671
290	-	8.757	7.985	7.126	6.765	6.217	5.291	4.394	3.554	2.752
295	-	8.926	8.159	7.299	6.937	6.386	5.449	4.541	3.657	2.834
300	-	9.095	8.332	7.473	7.109	6.554	5.607	4.688	3.759	2.916
305	-	9.264	8.506	7.646	7.281	6.722	5.765	4.834	3.861	2.997
310	-	9.433	8.680	7.820	7.453	6.891	5.923	4.981	3.966	3.079
315	-	9.603	8.854	7.993	7.625	7.059	6.078	5.128	4.090	3.161
320	-	9.772	9.027	8.167	7.797	7.227	6.234	5.274	4.215	3.242
325	-	-	9.201	8.340	7.968	7.395	6.389	5.421	4.340	3.324
330	-	-	9.375	8.514	8.140	7.564	6.545	5.568	4.465	3.406
335	-	-	9.549	8.687	8.312	7.732	6.700	5.714	4.590	3.487
340	-	-	9.722	8.861	8.484	7.900	6.856	5.861	4.715	3.569
345	-	-	-	9.034	8.656	8.069	7.011	6.005	4.840	3.650
350	-	-	-	9.208	8.828	8.237	7.167	6.147	4.965	3.732
355	-	-	-	9.381	9.000	8.405	7.323	6.289	5.090	3.814
360	-	-	-	9.555	9.172	8.573	7.478	6.431	5.215	3.895
365	-	-	-	9.728	9.344	8.742	7.634	6.573	5.340	3.985
370	-	-	-	-	9.516	8.910	7.789	6.714	5.464	4.093
375	-	-	-	-	9.688	9.078	7.945	6.856	5.589	4.201
380	-	-	-	-	-	9.247	8.100	6.998	5.714	4.309
385	-	-	-	-	-	-	-	-	-	-
390	-	-	-	-	-	-	-	-	-	-
395	-	-	-	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-	-	-	-
405	-	-	-	-	-	-	-	-	-	-
410	-	-	-	-	-	-	-	-	-	-
415	-	-	-	-	-	-	-	-	-	-
420	-	-	-	-	-	-	-	-	-	-

Thickness is intumescent coating only.
Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 44 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 22. HENSOTHERM® 920 KS

Hollow Columns 75 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
50	2.763	2.069	1.540	1.120	0.979	0.801	0.514	0.483	0.483	0.483
55	3.059	2.357	1.788	1.329	1.173	0.971	0.659	0.490	0.483	0.483
60	3.354	2.607	2.036	1.538	1.367	1.144	0.804	0.604	0.483	0.483
65	3.649	2.834	2.283	1.748	1.561	1.318	0.949	0.718	0.521	0.483
70	3.944	3.062	2.511	1.957	1.755	1.491	1.094	0.832	0.604	0.483
75	4.184	3.289	2.685	2.166	1.949	1.664	1.239	0.946	0.688	0.483
80	4.423	3.516	2.859	2.376	2.143	1.837	1.384	1.059	0.771	0.490
85	4.662	3.743	3.033	2.541	2.337	2.010	1.529	1.173	0.855	0.571
90	4.900	3.966	3.207	2.674	2.506	2.183	1.674	1.287	0.938	0.651
95	5.139	4.141	3.381	2.807	2.625	2.357	1.819	1.401	1.022	0.732
100	5.378	4.316	3.556	2.940	2.743	2.502	1.964	1.515	1.105	0.813
105	5.617	4.490	3.730	3.073	2.862	2.601	2.109	1.629	1.189	0.894
110	5.855	4.665	3.904	3.206	2.981	2.699	2.254	1.743	1.272	0.975
115	6.047	4.840	4.058	3.339	3.100	2.798	2.399	1.857	1.356	1.055
120	6.213	5.015	4.205	3.472	3.219	2.897	2.516	1.970	1.439	1.136
125	6.379	5.190	4.352	3.605	3.337	2.996	2.610	2.084	1.523	1.217
130	6.544	5.365	4.499	3.738	3.456	3.094	2.704	2.198	1.606	1.298
135	6.710	5.540	4.646	3.871	3.575	3.193	2.798	2.312	1.690	1.379
140	6.875	5.715	4.792	4.018	3.694	3.292	2.892	2.426	1.773	1.459
145	7.041	5.890	4.939	4.183	3.813	3.391	2.986	2.529	1.857	1.540
150	7.206	6.073	5.086	4.349	3.931	3.489	3.079	2.626	1.940	1.621
155	7.372	6.260	5.233	4.515	4.102	3.588	3.173	2.724	2.024	1.702
160	7.537	6.446	5.380	4.681	4.283	3.687	3.267	2.821	2.107	1.783
165	7.703	6.633	5.527	4.847	4.463	3.786	3.361	2.919	2.190	1.863
170	7.868	6.820	5.674	5.013	4.644	3.884	3.455	3.016	2.274	1.944
175	8.034	7.006	5.821	5.178	4.825	4.024	3.549	3.113	2.357	2.025
180	8.199	7.193	5.980	5.344	5.006	4.248	3.643	3.211	2.441	2.106
185	8.365	7.380	6.198	5.510	5.186	4.472	3.736	3.308	2.522	2.187
190	8.530	7.566	6.416	5.676	5.367	4.696	3.830	3.406	2.674	2.267
195	8.696	7.753	6.634	5.842	5.548	4.920	3.924	3.503	2.796	2.348
200	8.862	7.939	6.852	6.025	5.729	5.144	4.119	3.600	2.918	2.429
205	9.027	8.126	7.070	6.236	5.909	5.368	4.353	3.698	3.040	2.524
210	9.193	8.313	7.287	6.446	6.112	5.592	4.588	3.795	3.161	2.631
215	9.358	8.499	7.505	6.657	6.319	5.816	4.823	3.893	3.283	2.738
220	9.524	8.686	7.723	6.867	6.527	6.030	5.058	4.043	3.405	2.844
225	9.689	8.873	7.941	7.078	6.734	6.232	5.292	4.273	3.527	2.951
230	-	9.059	8.159	7.288	6.942	6.434	5.527	4.502	3.649	3.057
235	-	9.246	8.377	7.499	7.149	6.636	5.762	4.732	3.771	3.164

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 45 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 22 Continued. HENSOTHERM® 920 KS

Hollow Columns 75 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
240	-	9.432	8.595	7.709	7.356	6.838	5.986	4.962	3.893	3.271
245	-	9.619	8.813	7.920	7.564	7.040	6.173	5.192	4.053	3.377
250	-	-	9.031	8.130	7.771	7.242	6.361	5.421	4.246	3.484
255	-	-	9.248	8.341	7.979	7.443	6.549	5.651	4.439	3.591
260	-	-	9.466	8.551	8.186	7.645	6.737	5.881	4.632	3.697
265	-	-	9.684	8.762	8.394	7.847	6.925	6.069	4.825	3.804
270	-	-	-	8.972	8.601	8.049	7.113	6.243	5.018	3.911
275	-	-	-	9.183	8.809	8.251	7.300	6.417	5.211	4.043
280	-	-	-	9.393	9.016	8.453	7.488	6.590	5.405	4.190
285	-	-	-	9.604	9.223	8.655	7.676	6.764	5.598	4.337
290	-	-	-	-	9.431	8.856	7.864	6.938	5.791	4.485
295	-	-	-	-	9.638	9.058	8.052	7.111	5.976	4.632
300	-	-	-	-	-	9.260	8.239	7.285	6.134	4.779
305	-	-	-	-	-	9.462	8.427	7.459	6.291	4.926
310	-	-	-	-	-	9.664	8.615	7.632	6.449	5.074
315	-	-	-	-	-	-	8.803	7.806	6.606	5.221
320	-	-	-	-	-	-	8.991	7.979	6.764	5.368
325	-	-	-	-	-	-	9.178	8.153	6.921	5.516
330	-	-	-	-	-	-	9.366	8.327	7.079	5.663
335	-	-	-	-	-	-	9.554	8.500	7.237	5.810
340	-	-	-	-	-	-	-	8.674	7.394	5.956
345	-	-	-	-	-	-	-	8.848	7.552	6.084
350	-	-	-	-	-	-	-	9.021	7.709	6.213
355	-	-	-	-	-	-	-	9.195	7.867	6.341
360	-	-	-	-	-	-	-	9.369	8.024	6.470
365	-	-	-	-	-	-	-	9.542	8.182	6.599
370	-	-	-	-	-	-	-	9.716	8.339	6.727
375	-	-	-	-	-	-	-	-	8.497	6.856
380	-	-	-	-	-	-	-	-	8.654	6.984
385	-	-	-	-	-	-	-	-	-	-
390	-	-	-	-	-	-	-	-	-	-
395	-	-	-	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-	-	-	-
405	-	-	-	-	-	-	-	-	-	-
410	-	-	-	-	-	-	-	-	-	-
415	-	-	-	-	-	-	-	-	-	-
420	-	-	-	-	-	-	-	-	-	-

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 46 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 23. HENSOTHERM® 920 KS

Hollow Columns 90 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
50	3.638	2.857	2.276	1.791	1.624	1.409	1.121	0.882	0.520	0.483
55	4.025	3.163	2.568	2.067	1.882	1.642	1.321	1.062	0.680	0.483
60	4.426	3.469	2.818	2.343	2.140	1.876	1.521	1.242	0.840	0.483
65	4.828	3.775	3.068	2.576	2.398	2.109	1.722	1.422	1.000	0.612
70	5.229	4.077	3.317	2.774	2.599	2.343	1.922	1.603	1.160	0.746
75	5.630	4.376	3.567	2.973	2.781	2.540	2.123	1.783	1.320	0.880
80	5.982	4.674	3.817	3.171	2.962	2.698	2.323	1.963	1.480	1.014
85	6.159	4.972	4.062	3.370	3.143	2.856	2.500	2.143	1.641	1.148
90	6.336	5.271	4.300	3.568	3.324	3.014	2.620	2.324	1.801	1.282
95	6.513	5.569	4.538	3.767	3.506	3.172	2.740	2.484	1.961	1.416
100	6.691	5.867	4.776	3.965	3.687	3.330	2.859	2.569	2.121	1.550
105	6.868	6.078	5.014	4.162	3.868	3.487	2.979	2.655	2.281	1.685
110	7.045	6.259	5.253	4.359	4.050	3.645	3.099	2.741	2.441	1.819
115	7.222	6.440	5.491	4.556	4.233	3.803	3.219	2.826	2.537	1.953
120	7.400	6.621	5.729	4.753	4.416	3.962	3.338	2.912	2.621	2.087
125	7.577	6.803	5.962	4.950	4.598	4.134	3.458	2.998	2.705	2.221
130	7.754	6.984	6.155	5.148	4.781	4.306	3.578	3.083	2.789	2.355
135	7.931	7.165	6.348	5.345	4.964	4.478	3.698	3.169	2.873	2.481
140	8.109	7.346	6.541	5.542	5.146	4.651	3.817	3.255	2.957	2.570
145	8.286	7.528	6.734	5.739	5.329	4.823	3.937	3.341	3.040	2.659
150	8.463	7.709	6.927	5.936	5.512	4.995	4.133	3.426	3.124	2.748
155	8.640	7.890	7.120	6.149	5.694	5.167	4.338	3.512	3.208	2.837
160	8.818	8.071	7.313	6.364	5.877	5.339	4.544	3.598	3.292	2.926
165	8.995	8.253	7.506	6.578	6.089	5.512	4.749	3.683	3.376	3.015
170	9.172	8.434	7.699	6.792	6.317	5.684	4.955	3.769	3.460	3.104
175	9.349	8.615	7.892	7.006	6.545	5.856	5.161	3.855	3.544	3.193
180	9.527	8.796	8.085	7.221	6.773	6.064	5.366	3.940	3.628	3.282
185	-	8.977	8.278	7.435	7.001	6.309	5.572	4.243	3.712	3.371
190	-	9.159	8.471	7.649	7.229	6.554	5.777	4.577	3.796	3.460
195	-	9.340	8.664	7.863	7.457	6.799	5.987	4.911	3.880	3.549
200	-	9.521	8.857	8.077	7.685	7.044	6.215	5.244	3.999	3.638
205	-	-	9.050	8.292	7.912	7.289	6.443	5.578	4.298	3.727
210	-	-	9.243	8.506	8.140	7.534	6.671	5.911	4.598	3.816
215	-	-	9.436	8.720	8.368	7.779	6.898	6.130	4.897	3.905
220	-	-	9.629	8.934	8.596	8.023	7.126	6.337	5.197	4.060
225	-	-	-	9.149	8.824	8.268	7.354	6.544	5.496	4.288
230	-	-	-	9.363	9.052	8.513	7.582	6.750	5.796	4.516
235	-	-	-	9.577	9.280	8.758	7.810	6.957	6.035	4.744

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 47 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994
RUDOLF HENSEL GMBH

Table 23 Continued. HENSOTHERM® 920 KS

Hollow Columns 90 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
240	-	-	-	9.791	9.508	9.003	8.037	7.164	6.218	4.972
245	-	-	-	-	-	9.248	8.265	7.371	6.400	5.199
250	-	-	-	-	-	9.493	8.493	7.578	6.583	5.427
255	-	-	-	-	-	-	8.721	7.785	6.765	5.655
260	-	-	-	-	-	-	8.948	7.991	6.948	5.883
265	-	-	-	-	-	-	9.176	8.198	7.130	6.051
270	-	-	-	-	-	-	9.404	8.405	7.312	6.198
275	-	-	-	-	-	-	9.632	8.612	7.495	6.345
280	-	-	-	-	-	-	-	8.819	7.677	6.492
285	-	-	-	-	-	-	-	9.026	7.860	6.639
290	-	-	-	-	-	-	-	9.233	8.042	6.786
295	-	-	-	-	-	-	-	9.439	8.225	6.933
300	-	-	-	-	-	-	-	9.646	8.407	7.080
305	-	-	-	-	-	-	-	-	8.589	7.227
310	-	-	-	-	-	-	-	-	8.772	7.374
315	-	-	-	-	-	-	-	-	8.954	7.521
320	-	-	-	-	-	-	-	-	9.137	7.668
325	-	-	-	-	-	-	-	-	9.319	7.815
330	-	-	-	-	-	-	-	-	9.501	7.962
335	-	-	-	-	-	-	-	-	9.684	8.109
340	-	-	-	-	-	-	-	-	-	8.256
345	-	-	-	-	-	-	-	-	-	8.403
350	-	-	-	-	-	-	-	-	-	8.550
355	-	-	-	-	-	-	-	-	-	8.697
360	-	-	-	-	-	-	-	-	-	8.844
365	-	-	-	-	-	-	-	-	-	8.991
370	-	-	-	-	-	-	-	-	-	9.138
375	-	-	-	-	-	-	-	-	-	9.285
380	-	-	-	-	-	-	-	-	-	9.432
385	-	-	-	-	-	-	-	-	-	-
390	-	-	-	-	-	-	-	-	-	-
395	-	-	-	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-	-	-	-
405	-	-	-	-	-	-	-	-	-	-
410	-	-	-	-	-	-	-	-	-	-
415	-	-	-	-	-	-	-	-	-	-
420	-	-	-	-	-	-	-	-	-	-

Thickness is intumescent coating only.
Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 48 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 24. HENSOTHERM® 920 KS

Hollow Columns 105 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
50	4.792	3.597	2.959	2.461	2.267	2.017	1.698	1.492	1.217	0.547
55	5.318	3.982	3.274	2.728	2.560	2.311	1.956	1.732	1.438	0.802
60	5.844	4.420	3.589	2.994	2.806	2.569	2.214	1.973	1.659	1.057
65	6.370	4.859	3.904	3.260	3.052	2.790	2.469	2.213	1.880	1.312
70	-	5.297	4.251	3.527	3.299	3.010	2.649	2.454	2.100	1.567
75	-	5.735	4.604	3.793	3.545	3.230	2.829	2.595	2.321	1.821
80	-	6.223	4.956	4.071	3.791	3.450	3.010	2.731	2.499	2.076
85	-	6.756	5.309	4.366	4.047	3.670	3.190	2.867	2.597	2.331
90	-	7.288	5.661	4.661	4.323	3.890	3.370	3.003	2.695	2.503
95	-	7.821	5.982	4.956	4.598	4.131	3.550	3.139	2.793	2.582
100	-	8.354	6.177	5.251	4.873	4.379	3.730	3.275	2.891	2.661
105	-	8.887	6.373	5.546	5.149	4.628	3.910	3.411	2.989	2.740
110	-	9.419	6.568	5.841	5.424	4.876	4.112	3.547	3.087	2.820
115	-	-	6.764	6.075	5.699	5.125	4.322	3.683	3.185	2.899
120	-	-	6.959	6.276	5.966	5.374	4.531	3.819	3.283	2.978
125	-	-	7.155	6.478	6.172	5.622	4.740	3.957	3.381	3.057
130	-	-	7.350	6.679	6.377	5.871	4.950	4.151	3.479	3.137
135	-	-	7.546	6.881	6.582	6.094	5.159	4.345	3.577	3.216
140	-	-	7.741	7.082	6.788	6.307	5.368	4.539	3.675	3.295
145	-	-	7.937	7.284	6.993	6.521	5.577	4.733	3.773	3.374
150	-	-	8.132	7.485	7.199	6.734	5.787	4.927	3.871	3.453
155	-	-	8.328	7.687	7.404	6.948	6.002	5.121	3.998	3.533
160	-	-	8.523	7.888	7.609	7.161	6.233	5.315	4.259	3.612
165	-	-	8.719	8.090	7.815	7.374	6.464	5.509	4.520	3.691
170	-	-	8.914	8.291	8.020	7.588	6.696	5.703	4.781	3.770
175	-	-	9.110	8.492	8.226	7.801	6.927	5.897	5.042	3.850
180	-	-	9.305	8.694	8.431	8.014	7.158	6.133	5.303	3.929
185	-	-	9.501	8.895	8.636	8.228	7.390	6.382	5.564	4.193
190	-	-	9.696	9.097	8.842	8.441	7.621	6.630	5.825	4.529
195	-	-	-	9.298	9.047	8.654	7.852	6.879	6.062	4.865
200	-	-	-	9.500	9.253	8.868	8.084	7.128	6.279	5.200
205	-	-	-	9.701	9.458	9.081	8.315	7.376	6.495	5.536
210	-	-	-	-	9.663	9.294	8.546	7.625	6.712	5.872
215	-	-	-	-	-	9.508	8.778	7.874	6.929	6.073
220	-	-	-	-	-	9.721	9.009	8.123	7.145	6.238
225	-	-	-	-	-	-	9.240	8.371	7.362	6.403
230	-	-	-	-	-	-	9.472	8.620	7.579	6.568
235	-	-	-	-	-	-	-	8.869	7.795	6.733

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 49 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994
RUDOLF HENSEL GMBH

Table 24 Continued. HENSOTHERM® 920 KS

Hollow Columns 105 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
240	-	-	-	-	-	-	-	9.118	8.012	6.898
245	-	-	-	-	-	-	-	9.366	8.229	7.063
250	-	-	-	-	-	-	-	9.615	8.445	7.228
255	-	-	-	-	-	-	-	-	8.662	7.393
260	-	-	-	-	-	-	-	-	8.878	7.558
265	-	-	-	-	-	-	-	-	9.095	7.723
270	-	-	-	-	-	-	-	-	9.312	7.888
275	-	-	-	-	-	-	-	-	9.528	8.054
280	-	-	-	-	-	-	-	-	9.745	8.219
285	-	-	-	-	-	-	-	-	-	8.384
290	-	-	-	-	-	-	-	-	-	8.549
295	-	-	-	-	-	-	-	-	-	8.714
300	-	-	-	-	-	-	-	-	-	8.879
305	-	-	-	-	-	-	-	-	-	9.044
310	-	-	-	-	-	-	-	-	-	9.209
315	-	-	-	-	-	-	-	-	-	9.374
320	-	-	-	-	-	-	-	-	-	9.539
325	-	-	-	-	-	-	-	-	-	9.704
330	-	-	-	-	-	-	-	-	-	-
335	-	-	-	-	-	-	-	-	-	-
340	-	-	-	-	-	-	-	-	-	-
345	-	-	-	-	-	-	-	-	-	-
350	-	-	-	-	-	-	-	-	-	-
355	-	-	-	-	-	-	-	-	-	-
360	-	-	-	-	-	-	-	-	-	-
365	-	-	-	-	-	-	-	-	-	-
370	-	-	-	-	-	-	-	-	-	-
375	-	-	-	-	-	-	-	-	-	-
380	-	-	-	-	-	-	-	-	-	-
385	-	-	-	-	-	-	-	-	-	-
390	-	-	-	-	-	-	-	-	-	-
395	-	-	-	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-	-	-	-
405	-	-	-	-	-	-	-	-	-	-
410	-	-	-	-	-	-	-	-	-	-
415	-	-	-	-	-	-	-	-	-	-
420	-	-	-	-	-	-	-	-	-	-

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 50 of 54
C/009

Issued: 11th May 2021
Valid to: 10th May 2026



CERTIFICATE No CF 5994

RUDOLF HENSEL GMBH

Table 25. HENSOTHERM® 920 KS

Hollow Columns 120 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
50	6.052	4.558	3.603	3.048	2.862	2.592	2.274	2.099	1.866	1.499
55	7.573	5.107	3.992	3.370	3.164	2.876	2.561	2.400	2.151	1.810
60	-	5.657	4.468	3.691	3.467	3.160	2.805	2.619	2.436	2.135
65	-	6.206	4.944	4.028	3.769	3.445	3.048	2.816	2.604	2.460
70	-	-	5.419	4.428	4.100	3.729	3.292	3.013	2.759	2.589
75	-	-	5.895	4.828	4.474	4.025	3.536	3.209	2.914	2.716
80	-	-	6.371	5.228	4.848	4.363	3.779	3.406	3.069	2.842
85	-	-	-	5.628	5.222	4.701	4.035	3.603	3.223	2.968
90	-	-	-	6.000	5.596	5.039	4.316	3.800	3.378	3.094
95	-	-	-	6.272	5.958	5.377	4.598	4.008	3.533	3.220
100	-	-	-	6.544	6.166	5.715	4.880	4.253	3.688	3.347
105	-	-	-	6.816	6.374	6.011	5.162	4.498	3.843	3.473
110	-	-	-	7.088	6.582	6.221	5.443	4.743	4.016	3.599
115	-	-	-	7.360	6.790	6.432	5.725	4.988	4.231	3.725
120	-	-	-	7.632	6.998	6.642	5.992	5.233	4.446	3.851
125	-	-	-	7.904	7.206	6.852	6.207	5.478	4.662	3.991
130	-	-	-	8.176	7.414	7.063	6.422	5.723	4.877	4.178
135	-	-	-	8.448	7.622	7.273	6.637	5.965	5.092	4.366
140	-	-	-	8.720	7.830	7.483	6.853	6.184	5.307	4.553
145	-	-	-	8.992	8.038	7.694	7.068	6.403	5.522	4.741
150	-	-	-	9.264	8.246	7.904	7.283	6.622	5.737	4.929
155	-	-	-	9.536	8.455	8.114	7.499	6.841	5.953	5.116
160	-	-	-	-	8.663	8.325	7.714	7.060	6.173	5.304
165	-	-	-	-	8.871	8.535	7.929	7.279	6.394	5.492
170	-	-	-	-	9.079	8.745	8.145	7.498	6.615	5.679
175	-	-	-	-	9.287	8.956	8.360	7.717	6.836	5.867
180	-	-	-	-	9.495	9.166	8.575	7.936	7.057	6.062
185	-	-	-	-	9.703	9.377	8.791	8.155	7.277	6.262
190	-	-	-	-	-	9.587	9.006	8.374	7.498	6.461
195	-	-	-	-	-	9.797	9.221	8.593	7.719	6.661
200	-	-	-	-	-	-	9.437	8.812	7.940	6.861
205	-	-	-	-	-	-	9.652	9.031	8.161	7.061
210	-	-	-	-	-	-	-	9.250	8.381	7.260
215	-	-	-	-	-	-	-	9.469	8.602	7.460
220	-	-	-	-	-	-	-	9.688	8.823	7.660
225	-	-	-	-	-	-	-	-	9.044	7.860
230	-	-	-	-	-	-	-	-	9.265	8.060
235	-	-	-	-	-	-	-	-	9.485	8.259

Thickness is intumescent coating only.
Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 51 of 54
C/009


Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 25 Continued. HENSOTHERM® 920 KS

Hollow Columns 120 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
240	-	-	-	-	-	-	-	-	-	8.459
245	-	-	-	-	-	-	-	-	-	8.659
250	-	-	-	-	-	-	-	-	-	8.859
255	-	-	-	-	-	-	-	-	-	9.058
260	-	-	-	-	-	-	-	-	-	9.258
265	-	-	-	-	-	-	-	-	-	9.458
270	-	-	-	-	-	-	-	-	-	9.658
275	-	-	-	-	-	-	-	-	-	-
280	-	-	-	-	-	-	-	-	-	-
285	-	-	-	-	-	-	-	-	-	-
290	-	-	-	-	-	-	-	-	-	-
295	-	-	-	-	-	-	-	-	-	-
300	-	-	-	-	-	-	-	-	-	-
305	-	-	-	-	-	-	-	-	-	-
310	-	-	-	-	-	-	-	-	-	-
315	-	-	-	-	-	-	-	-	-	-
320	-	-	-	-	-	-	-	-	-	-
325	-	-	-	-	-	-	-	-	-	-
330	-	-	-	-	-	-	-	-	-	-
335	-	-	-	-	-	-	-	-	-	-
340	-	-	-	-	-	-	-	-	-	-
345	-	-	-	-	-	-	-	-	-	-
350	-	-	-	-	-	-	-	-	-	-
355	-	-	-	-	-	-	-	-	-	-
360	-	-	-	-	-	-	-	-	-	-
365	-	-	-	-	-	-	-	-	-	-
370	-	-	-	-	-	-	-	-	-	-
375	-	-	-	-	-	-	-	-	-	-
380	-	-	-	-	-	-	-	-	-	-
385	-	-	-	-	-	-	-	-	-	-
390	-	-	-	-	-	-	-	-	-	-
395	-	-	-	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-	-	-	-
405	-	-	-	-	-	-	-	-	-	-
410	-	-	-	-	-	-	-	-	-	-
415	-	-	-	-	-	-	-	-	-	-
420	-	-	-	-	-	-	-	-	-	-

Thickness is intumescent coating only.
Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 52 of 54
C/009 

Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH


Table 26. HENSOTHERM® 920 KS

Hollow Columns 150 minutes										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
50	-	6.786	5.385	4.890	4.030	3.684	3.353	3.186	3.008	2.882
55	-	8.438	6.413	6.556	5.899	4.646	3.703	3.487	3.268	3.113
60	-	-	-	8.223	7.768	6.903	4.332	3.789	3.528	3.345
65	-	-	-	-	-	-	5.653	4.116	3.788	3.576
70	-	-	-	-	-	-	6.973	4.475	4.067	3.807
75	-	-	-	-	-	-	8.294	4.833	4.378	4.056
80	-	-	-	-	-	-	-	5.192	4.690	4.334
85	-	-	-	-	-	-	-	5.550	5.001	4.613
90	-	-	-	-	-	-	-	5.908	5.313	4.891
95	-	-	-	-	-	-	-	6.434	5.624	5.170
100	-	-	-	-	-	-	-	6.978	5.936	5.449
105	-	-	-	-	-	-	-	7.521	6.147	5.727
110	-	-	-	-	-	-	-	8.064	6.357	5.985
115	-	-	-	-	-	-	-	8.607	6.566	6.173
120	-	-	-	-	-	-	-	9.150	6.776	6.362
125	-	-	-	-	-	-	-	-	6.985	6.550
130	-	-	-	-	-	-	-	-	7.195	6.738
135	-	-	-	-	-	-	-	-	7.405	6.926
140	-	-	-	-	-	-	-	-	7.614	7.115
145	-	-	-	-	-	-	-	-	7.824	7.303
150	-	-	-	-	-	-	-	-	8.033	7.491
155	-	-	-	-	-	-	-	-	8.243	7.679
160	-	-	-	-	-	-	-	-	8.452	7.868
165	-	-	-	-	-	-	-	-	8.662	8.056
170	-	-	-	-	-	-	-	-	8.872	8.244
175	-	-	-	-	-	-	-	-	9.081	8.432
180	-	-	-	-	-	-	-	-	9.291	8.621
185	-	-	-	-	-	-	-	-	9.500	8.809
190	-	-	-	-	-	-	-	-	9.710	8.997
195	-	-	-	-	-	-	-	-	-	9.185
200	-	-	-	-	-	-	-	-	-	9.373
205	-	-	-	-	-	-	-	-	-	9.562
210	-	-	-	-	-	-	-	-	-	-
215	-	-	-	-	-	-	-	-	-	-
220	-	-	-	-	-	-	-	-	-	-
225	-	-	-	-	-	-	-	-	-	-
230	-	-	-	-	-	-	-	-	-	-
235	-	-	-	-	-	-	-	-	-	-

Thickness is intumescent coating only.

Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 53 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026

CERTIFICATE No CF 5994 RUDOLF HENSEL GMBH

Table 26 Continued. HENSOTHERM® 920 KS

Hollow Columns 150 minutes (Continued)										
Required Thickness (mm) for a Design Temperature (°C)										
Section Factor (m ⁻¹)	350	400	450	500	520	550	600	650	700	750
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	-	-	-	-	-	-	-	-	-	-
370	-	-	-	-	-	-	-	-	-	-
375	-	-	-	-	-	-	-	-	-	-
380	-	-	-	-	-	-	-	-	-	-
385	-	-	-	-	-	-	-	-	-	-
390	-	-	-	-	-	-	-	-	-	-
395	-	-	-	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-	-	-	-
405	-	-	-	-	-	-	-	-	-	-
410	-	-	-	-	-	-	-	-	-	-
415	-	-	-	-	-	-	-	-	-	-
420	-	-	-	-	-	-	-	-	-	-

Thickness is intumescent coating only.
Results apply to Rectangular/Square and Circular hollow columns on all sides

Signed Page 54 of 54
C/009



Issued: 11th May 2021
Valid to: 10th May 2026