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## CERTIFICATE OF APPROVAL

### No CF 653

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

## PROMAT (MALAYSIA) SDN BHD

Unit 19-02-01, Level 2, PNB Damansara, No. 19 Lorong Dungun,  
Damansara Heights, 50490, Kuala Lumpur, Malaysia.

Tel: +603 2095 5111 Fax: +603 2095 6111

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

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#### CERTIFIED PRODUCT

**Cafco SPRAYFILM WB3**

#### TECHNICAL SCHEDULE

**TS15 Intumescent Coatings  
for Steelwork**

Signed and sealed for and on behalf of CERTIFIRE



Sir Ken Knight  
Chairman - Management Council

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Issued: 21<sup>st</sup> November 2008  
Reissued: 14<sup>th</sup> April 2014  
Valid to: 13<sup>th</sup> April 2019



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## CERTIFICATE No CF 653 PROMAT (MALAYSIA) SDN BHD

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### Cafco SPRAYFILM WB3

1. This approval relates to the use of Cafco SPRAYFILM WB3 for the fire protection of I-shaped steel sections. The precise scope is given in Tables 1 to 8 which show the total dry film thickness of Cafco SPRAYFILM WB3 (excluding primer and top sealer) required to provide fire resistance periods in accordance with BS476: Part 21: 1987 of up to 120 minutes for differing sections and section factors ( $H_p/A$ ), at critical steel temperatures of 500°C, 550°C, 620°C and 700°C.
2. The products are approved on the basis of:
  - i) Initial type testing.
  - ii) A design appraisal against TS15.
  - iii) Production surveillance under ISO 9001: 2008.
  - iv) Audit testing at the frequency specified in TS15
  - v) Inspection and surveillance of factory production control
  - vi) Certification of quality management systems to ISO 9001: 2008
3. The data shown are applicable to steel sections blast cleaned to Swedish Standard SA2.5 or equivalent and primed with a suitable and compatible primer. Specifications of surface preparations, primers and top sealers is available from Promat International (Asia Pacific) Ltd whose responsibility is to ensure that Cafco SPRAYFILM WB3 is compatible for use in respect of both ambient and fire conditions. The total dry film thickness of primer should not exceed 0.10mm.
4. The data shown is applicable to Cafco SPRAYFILM WB3 applied by spray to horizontal, vertical, flexural and compression members supporting loads up to the maximum calculated in accordance with BS 5950 for the critical steel temperature being utilised.
5. The approval relates to on-going production. Product and/or its immediate packaging is identified with the manufacturers' name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number and application where appropriate.


**CERTIFICATE No CF 653  
PROMAT (MALAYSIA) SDN BHD**

**Caeco SPRAYFILM WB3**

**Table 1 I-section beams at 500°C critical temperature**

Section factor – m <sup>-1</sup>	Coating thickness - mm				Section factor – m <sup>-1</sup>	Coating thickness - mm			
	30 minutes	60 minutes	90 minutes	120 minutes		30 minutes	60 minutes	90 minutes	120 minutes
40	0.23	0.57	1.20	1.50	205	0.32	1.17	3.10	6.19
45	0.23	0.57	1.20	1.50	210	0.34	1.19	3.20	6.38
50	0.23	0.57	1.20	1.50	215	0.35	1.21	3.30	6.57
55	0.23	0.57	1.20	1.69	220	0.36	1.26	3.40	-
60	0.23	0.57	1.20	1.88	225	0.37	1.30	3.50	-
65	0.23	0.57	1.20	2.04	230	0.38	1.34	3.60	-
70	0.23	0.57	1.20	2.15	235	0.39	1.38	3.70	-
75	0.23	0.57	1.20	2.26	240	0.40	1.42	3.80	-
80	0.23	0.57	1.25	2.37	245	0.41	1.46	3.90	-
85	0.23	0.57	1.29	2.48	250	0.42	1.50	4.00	-
90	0.23	0.57	1.34	2.59	255	0.43	1.55	4.28	-
95	0.23	0.57	1.38	2.70	260	0.44	1.59	4.56	-
100	0.23	0.57	1.43	2.80	265	0.45	1.64	4.83	-
105	0.23	0.61	1.47	2.91	270	0.46	1.68	5.11	-
110	0.23	0.66	1.52	3.02	275	0.47	1.73	5.39	-
115	0.23	0.70	1.73	3.16	280	0.48	1.77	5.67	-
120	0.23	0.74	1.90	3.29	285	0.50	1.82	5.94	-
125	0.24	0.78	2.03	3.42	290	0.51	1.86	6.22	-
130	0.24	0.83	2.09	3.55	295	0.52	1.91	6.50	-
135	0.24	0.87	2.16	3.68	300	0.53	1.95	-	-
140	0.24	0.89	2.22	3.82	305	0.54	2.00	-	-
145	0.24	0.92	2.29	3.95	310	0.55	2.05	-	-
150	0.25	0.94	2.35	4.08	315	0.56	2.09	-	-
155	0.25	0.96	2.42	4.30	320	0.57	2.14	-	-
160	0.25	0.98	2.48	4.49					
165	0.25	1.00	2.55	4.68					
170	0.25	1.02	2.61	4.87					
175	0.26	1.04	2.68	5.06					
180	0.27	1.06	2.74	5.25					
185	0.28	1.08	2.81	5.43					
190	0.29	1.11	2.87	5.62					
195	0.30	1.13	2.94	5.81					
200	0.31	1.15	3.00	6.00					

Thickness is intumescent only.



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**Caeco SPRAYFILM WB3**

**Table 2 I-section columns at 500°C critical temperature**

Section factor – m <sup>-1</sup>	Coating thickness - mm				Section factor – m <sup>-1</sup>	Coating thickness - mm			
	30 minutes	60 minutes	90 minutes	120 minutes		30 minutes	60 minutes	90 minutes	120 minutes
40	0.23	0.60	1.00	2.00	205	0.30	1.26	2.97	5.91
45	0.23	0.60	1.00	2.00	210	0.31	1.29	3.02	6.06
50	0.23	0.60	1.00	2.00	215	0.32	1.31	3.13	6.22
55	0.23	0.60	1.02	2.00	220	0.32	1.33	3.22	6.37
60	0.23	0.60	1.12	2.05	225	0.33	1.36	3.31	6.52
65	0.23	0.60	1.21	2.13	230	0.33	1.38	3.40	-
70	0.23	0.60	1.31	2.21	235	0.34	1.40	3.49	-
75	0.23	0.60	1.40	2.30	240	0.34	1.43	3.58	-
80	0.23	0.60	1.50	2.38	245	0.35	1.45	3.67	-
85	0.23	0.60	1.57	2.46	250	0.36	1.48	3.76	-
90	0.23	0.65	1.63	2.54	255	0.36	1.50	3.85	-
95	0.23	0.71	1.70	2.62	260	0.37	1.52	3.95	-
100	0.23	0.76	1.76	2.70	265	0.37	1.54	4.04	-
105	0.23	0.82	1.83	2.79	270	0.38	1.57	4.61	-
110	0.23	0.87	1.89	2.87	275	0.39	1.59	5.04	-
115	0.24	0.89	1.96	2.95	280	0.39	1.61	5.48	-
120	0.24	0.90	2.03	3.03	285	0.40	1.63	5.91	-
125	0.24	0.92	2.08	3.28	290	0.40	1.65	6.35	-
130	0.24	0.94	2.13	3.48	295	0.41	1.67	-	-
135	0.24	0.95	2.19	3.68	300	0.42	1.70	-	-
140	0.25	0.97	2.24	3.88	305	0.42	1.72	-	-
145	0.25	0.98	2.30	4.08	310	0.43	1.74	-	-
150	0.25	1.00	2.36	4.22	315	0.43	1.76	-	-
155	0.25	1.02	2.41	4.37	320	0.44	1.78	-	-
160	0.25	1.05	2.47	4.52					
165	0.26	1.07	2.52	4.68					
170	0.26	1.10	2.58	4.83					
175	0.27	1.12	2.63	4.98					
180	0.27	1.14	2.69	5.14					
185	0.28	1.17	2.74	5.29					
190	0.29	1.19	2.80	5.45					
195	0.29	1.21	2.86	5.60					
200	0.30	1.24	2.91	5.75					

Thickness is intumescent only.



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**Caeco SPRAYFILM WB3**

**Table 3 I-section beams at 550°C critical temperature**

Section factor – m <sup>-1</sup>	Coating thickness - mm			
	30 minutes	60 minutes	90 minutes	120 minutes
40	0.23	0.57	1.20	1.20
45	0.23	0.57	1.20	1.20
50	0.23	0.57	1.20	1.20
55	0.23	0.57	1.20	1.22
60	0.23	0.57	1.20	1.33
65	0.23	0.57	1.20	1.44
70	0.23	0.57	1.20	1.53
75	0.23	0.57	1.20	1.82
80	0.23	0.57	1.20	2.05
85	0.23	0.57	1.20	2.09
90	0.23	0.57	1.20	2.17
95	0.23	0.57	1.20	2.25
100	0.23	0.57	1.20	2.33
105	0.23	0.57	1.21	2.41
110	0.23	0.57	1.27	2.48
115	0.23	0.57	1.33	2.56
120	0.23	0.57	1.38	2.64
125	0.23	0.57	1.44	2.72
130	0.23	0.63	1.50	2.80
135	0.23	0.68	1.63	2.88
140	0.23	0.74	1.76	2.95
145	0.23	0.79	1.89	3.03
150	0.23	0.85	2.03	3.24
155	0.23	0.88	2.06	3.41
160	0.23	0.90	2.12	3.59
165	0.23	0.91	2.17	3.76
170	0.23	0.93	2.22	3.93
175	0.24	0.95	2.27	4.13
180	0.24	0.96	2.33	4.36
185	0.24	0.98	2.38	4.58
190	0.24	1.00	2.43	4.80
195	0.24	1.01	2.48	5.02
200	0.25	1.03	2.54	5.24

Section factor – m <sup>-1</sup>	Coating thickness - mm			
	30 minutes	60 minutes	90 minutes	120 minutes
205	0.25	1.05	2.59	5.47
210	0.25	1.07	2.64	5.69
215	0.25	1.08	2.69	5.91
220	0.26	1.10	2.75	6.13
225	0.27	1.12	2.80	6.36
230	0.27	1.13	2.85	6.58
235	0.28	1.15	2.91	-
240	0.29	1.17	2.96	-
245	0.30	1.18	3.01	-
250	0.30	1.20	3.18	-
255	0.31	1.22	3.32	-
260	0.32	1.25	3.47	-
265	0.32	1.27	3.62	-
270	0.33	1.30	3.76	-
275	0.34	1.32	3.91	-
280	0.35	1.34	4.06	-
285	0.35	1.37	4.18	-
290	0.36	1.39	4.30	-
295	0.37	1.41	4.43	-
300	0.38	1.44	4.56	-
305	0.38	1.46	4.68	-
310	0.39	1.49	4.81	-
315	0.40	1.51	4.94	-
320	0.40	1.54	5.06	-

Thickness is intumescent only.



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**Caico SPRAYFILM WB3**

**Table 4 I-section columns at 550°C critical temperature**

Section factor – m <sup>-1</sup>	Coating thickness - mm			
	30 minutes	60 minutes	90 minutes	120 minutes
40	0.23	0.60	1.00	1.50
45	0.23	0.60	1.00	1.50
50	0.23	0.60	1.00	1.50
55	0.23	0.60	1.00	1.50
60	0.23	0.60	1.00	1.50
65	0.23	0.60	1.00	1.50
70	0.23	0.60	1.00	1.75
75	0.23	0.60	1.00	2.00
80	0.23	0.60	1.00	2.07
85	0.23	0.60	1.00	2.14
90	0.23	0.60	1.01	2.21
95	0.23	0.60	1.10	2.29
100	0.23	0.60	1.19	2.36
105	0.23	0.60	1.28	2.43
110	0.23	0.60	1.36	2.50
115	0.23	0.60	1.45	2.57
120	0.23	0.60	1.53	2.64
125	0.23	0.66	1.61	2.71
130	0.23	0.71	1.69	2.79
135	0.23	0.75	1.77	2.86
140	0.23	0.80	1.85	2.93
145	0.23	0.85	1.94	3.00
150	0.23	0.87	2.02	3.19
155	0.23	0.88	2.05	3.37
160	0.24	0.89	2.10	3.56
165	0.24	0.90	2.14	3.74
170	0.24	0.90	2.18	3.93
175	0.24	0.91	2.23	4.13
180	0.24	0.92	2.27	4.36
185	0.25	0.92	2.32	4.58
190	0.25	0.93	2.36	4.80
195	0.25	0.94	2.40	5.02
200	0.25	0.95	2.45	5.24

Section factor – m <sup>-1</sup>	Coating thickness - mm			
	30 minutes	60 minutes	90 minutes	120 minutes
205	0.25	0.95	2.49	5.47
210	0.26	0.96	2.54	5.69
215	0.26	0.97	2.58	5.91
220	0.27	0.97	2.62	6.13
225	0.27	0.98	2.67	6.36
230	0.28	0.99	2.71	6.58
235	0.28	1.00	2.75	-
240	0.29	1.00	2.80	-
245	0.29	1.04	2.84	-
250	0.30	1.06	2.89	-
255	0.30	1.09	2.93	-
260	0.31	1.12	2.97	-
265	0.31	1.14	3.02	-
270	0.32	1.17	3.14	-
275	0.32	1.19	3.24	-
280	0.33	1.22	3.34	-
285	0.33	1.25	3.44	-
290	0.34	1.27	3.54	-
295	0.34	1.30	3.64	-
300	0.35	1.33	3.74	-
305	0.35	1.35	3.84	-
310	0.36	1.38	3.94	-
315	0.36	1.41	4.04	-
320	0.37	1.43	4.32	-

Thickness is intumescent only.



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**PROMAT (MALAYSIA) SDN BHD**

**Caeco SPRAYFILM WB3**

**Table 5 I-section beams at 620°C critical temperature**

Section factor – m <sup>-1</sup>	Coating thickness - mm				Section factor – m <sup>-1</sup>	Coating thickness - mm			
	30 minutes	60 minutes	90 minutes	120 minutes		30 minutes	60 minutes	90 minutes	120 minutes
40	0.23	0.25	1.20	1.20	205	0.23	0.80	2.11	4.07
45	0.23	0.25	1.20	1.20	210	0.23	0.83	2.15	4.26
50	0.23	0.25	1.20	1.20	215	0.24	0.86	2.19	4.48
55	0.23	0.25	1.20	1.20	220	0.24	0.88	2.23	4.70
60	0.23	0.25	1.20	1.20	225	0.24	0.89	2.27	4.91
65	0.23	0.25	1.20	1.20	230	0.24	0.91	2.31	5.13
70	0.23	0.25	1.20	1.20	235	0.24	0.93	2.36	5.35
75	0.23	0.25	1.20	1.20	240	0.25	0.94	2.40	5.57
80	0.23	0.27	1.20	1.23	245	0.25	0.96	2.44	5.78
85	0.23	0.28	1.20	1.32	250	0.25	0.97	2.48	6.00
90	0.23	0.30	1.20	1.40	255	0.25	0.99	2.52	6.22
95	0.23	0.32	1.20	1.48	260	0.25	1.00	2.56	6.43
100	0.23	0.34	1.20	1.70	265	0.26	1.02	2.60	-
105	0.23	0.36	1.20	1.95	270	0.26	1.04	2.64	-
110	0.23	0.38	1.20	2.05	275	0.27	1.05	2.69	-
115	0.23	0.40	1.20	2.11	280	0.28	1.07	2.73	-
120	0.23	0.42	1.20	2.17	285	0.28	1.08	2.77	-
125	0.23	0.44	1.20	2.23	290	0.29	1.10	2.81	-
130	0.23	0.46	1.20	2.29	295	0.29	1.11	2.85	-
135	0.23	0.48	1.20	2.35	300	0.30	1.13	2.89	-
140	0.23	0.50	1.20	2.41	305	0.30	1.14	2.93	-
145	0.23	0.52	1.20	2.47	310	0.31	1.16	2.98	-
150	0.23	0.54	1.26	2.53	315	0.31	1.18	3.02	-
155	0.23	0.56	1.31	2.59	320	0.32	1.19	3.22	-
160	0.23	0.57	1.37	2.65					
165	0.23	0.57	1.42	2.71					
170	0.23	0.57	1.48	2.77					
175	0.23	0.61	1.58	2.83					
180	0.23	0.64	1.70	2.89					
185	0.23	0.67	1.83	2.95					
190	0.23	0.70	1.95	3.01					
195	0.23	0.73	2.02	3.40					
200	0.23	0.76	2.07	3.73					

Thickness is intumescent only.



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**Caico SPRAYFILM WB3**

**Table 6 I-section columns at 620°C critical temperature**

Section factor – m <sup>-1</sup>	Coating thickness - mm			
	30 minutes	60 minutes	90 minutes	120 minutes
40	0.25	0.25	1.00	1.00
45	0.23	0.25	1.00	1.00
50	0.23	0.25	1.00	1.00
55	0.23	0.25	1.00	1.03
60	0.23	0.25	1.00	1.10
65	0.23	0.25	1.00	1.17
70	0.23	0.25	1.00	1.24
75	0.23	0.25	1.00	1.31
80	0.23	0.25	1.00	1.39
85	0.23	0.25	1.00	1.46
90	0.23	0.25	1.00	1.53
95	0.23	0.25	1.00	1.75
100	0.23	0.28	1.01	1.93
105	0.23	0.30	1.04	2.03
110	0.23	0.32	1.07	2.09
115	0.23	0.34	1.10	2.15
120	0.23	0.37	1.14	2.21
125	0.23	0.39	1.17	2.26
130	0.23	0.41	1.20	2.32
135	0.23	0.43	1.23	2.38
140	0.23	0.46	1.26	2.44
145	0.23	0.48	1.29	2.49
150	0.23	0.50	1.32	2.55
155	0.23	0.52	1.35	2.61
160	0.23	0.55	1.38	2.67
165	0.23	0.57	1.41	2.72
170	0.23	0.59	1.44	2.78
175	0.23	0.61	1.48	2.84
180	0.23	0.64	1.51	2.90
185	0.23	0.66	1.60	2.95
190	0.23	0.68	1.69	3.01
195	0.23	0.70	1.78	3.40
200	0.23	0.72	1.86	3.73

Section factor – m <sup>-1</sup>	Coating thickness - mm			
	30 minutes	60 minutes	90 minutes	120 minutes
205	0.24	0.75	1.95	4.07
210	0.24	0.77	2.03	4.26
215	0.24	0.79	2.07	4.48
220	0.24	0.81	2.13	4.70
225	0.24	0.83	2.18	4.91
230	0.25	0.86	2.23	5.13
235	0.25	0.88	2.28	5.35
240	0.25	0.88	2.34	5.57
245	0.25	0.89	2.39	5.78
250	0.25	0.89	2.44	6.00
255	0.26	0.90	2.49	6.22
260	0.26	0.91	2.55	6.43
265	0.27	0.92	2.60	-
270	0.27	0.92	2.65	-
275	0.27	0.93	2.71	-
280	0.28	0.94	2.76	-
285	0.28	0.95	2.81	-
290	0.28	0.95	2.86	-
295	0.29	0.96	2.92	-
300	0.29	0.97	2.97	-
305	0.30	0.97	3.02	-
310	0.30	0.98	3.17	-
315	0.30	0.99	3.29	-
320	0.31	1.00	3.40	-

Thickness is intumescent only.



A handwritten signature in black ink, appearing to be "K. S. S.", located below the text "Page 8 of 10 Signed".





