	INTUMESCENT COATING FIRE PROTECTION SYSTEM CERTIFICATE.	IP2 Version 1
	WARNING: This certificate may only be reproduced in full	
	SYSTEM NAME: INTERCHAR 963 Intumescent Coating	DATE ISSUED: 20th February 2008 EXPIRY DATE: 20th February 2009
PO Box 6825 St Kilda Road Central, Vic, 8008 Tel: +61 3 9865 8644 Fax: +61 3 9865 8615 www.certifire.com.au info@certifire.com.au	SUPPLIER: International Paint Ltd Stoneygate Lane Felling, Gateshead TYNE & WEAR NE10 OJY UNITED KINGDOM	

1. SCOPE

This certificate relates to the use of Interchar 963 intumescent coating systems for the fire protection of structural steel sections that have been appraised against Certifire schedules [CA001](#), [CA002](#), and [CA033](#). These schedules require that the fire resistance of the system has been established in accordance with the BCA provisions and that the products are manufactured/supplied under an independently audited quality management system.

The Interchar 963 intumescent coating system consists of primer, intumescent coating and optional sealer coat. The primer is International Paint Interplate 180. The intumescent coating is Interchar 963 and the optional sealer coat is International Paint Interthane 990.

2. FIELD OF APPLICATION

This certificate relates to the use of Interchar 963 intumescent coating system fire protection systems for structural steel "I" shaped (UB + UC) Beam and Column sections.

- The different thicknesses of the Interchar 963 intumescent coating fire protection systems have been established for different steel sections and for Fire Resistance Levels (FRLs) in accordance with the BCA provisions and relevant Certifire schedules and are given in the Tables below (1 to 4) and figure 1 and 2.
- Beams shall have top flange in contact with a concrete slab above and exposed on three sides only.
- Column shall be exposed on 3 or 4 sides.
- The data shown is applicable to Interchar 963 applied by spray applied to horizontal, vertical or flexural and compression members supporting loads up to the maximum design loads specified in AS4100 - 1998.
- The range of Interchar 963 coating system thickness is as summarised in Section 4 of this certificate.

Figure 1: Beams exposed on three sides for a PSA of 60 minutes (60/-/-)

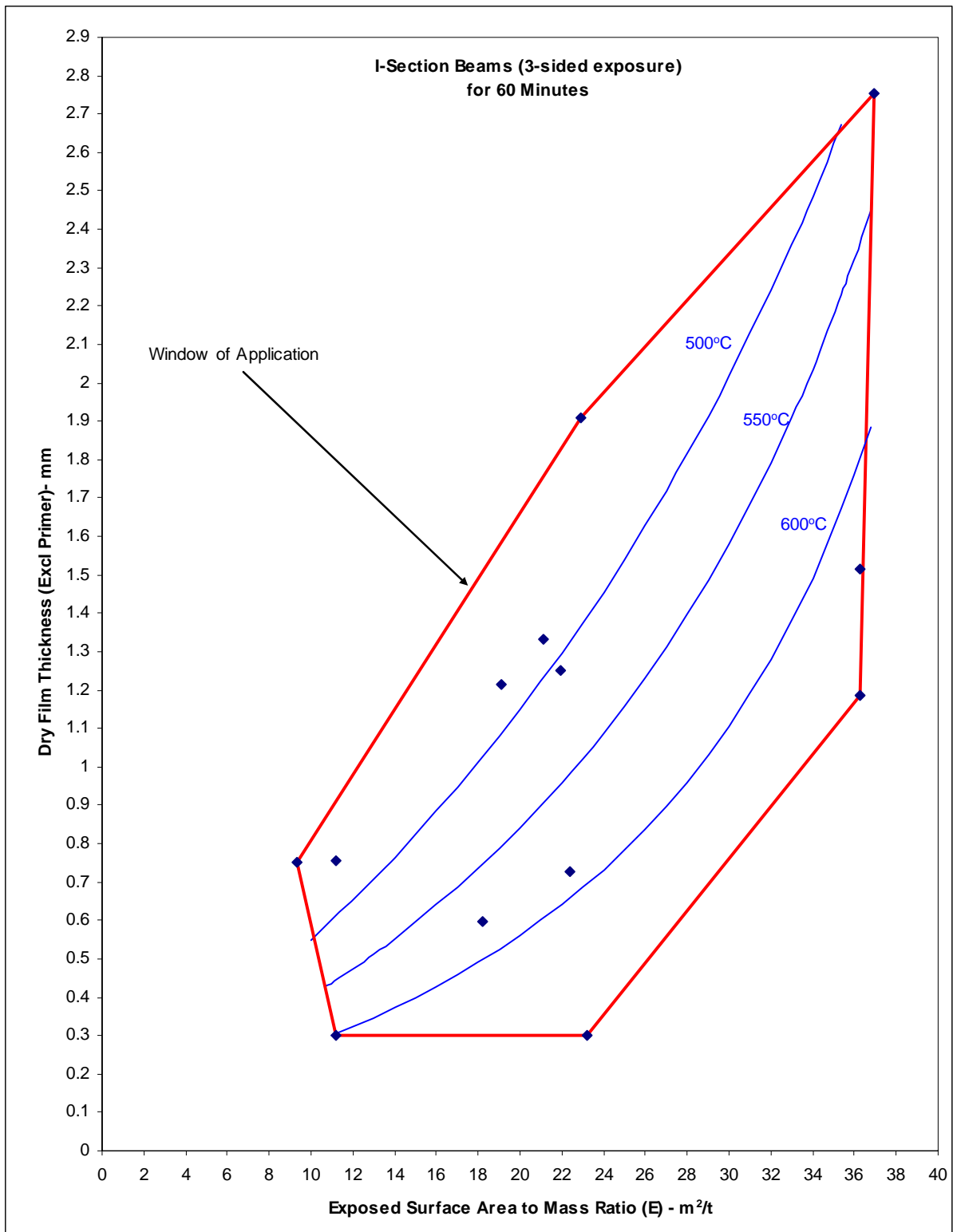


Table 1: Thickness of Intumescent Coating (DFT Excl Primer) for beams exposed on three sides for a PSA of 60 minutes (60/-/-)

Section Designation	E (m ² /t)	Structurally Critical Temperature °C		
		500	550	600
760UB244	9.5	0.55*	0.42*	0.30*
760UB220	10.4	0.57	0.42*	0.30*
760UB197	11.6	0.63	0.46	0.31
760UB173	13.1	0.71	0.52	0.35
760UB147	15.2	0.84	0.60	0.41
690UB140	14.8	0.81	0.59	0.39
690UB125	16.5	0.92	0.66	0.44
610UB125	14.9	0.82	0.59	0.40
610UB113	16.4	0.91	0.66	0.44
610UB101	18.2	1.03	0.75	0.50
530UB92	17.9	1.01	0.73	0.49
530UB82	20.0	1.15	0.84	0.56
460UB82	17.8	1.00	0.73	0.48
460UB74	19.4	1.11	0.81	0.54
460UB67	21.5	1.26	0.93	0.62
410UB60	22.0	1.30	0.96	0.64
410UB54	24.3	1.48	1.11	0.75
360UB57	21.1	1.23	0.90	0.60
360UB51	23.4	1.41	1.05	0.70
360UB45	26.6	1.68	1.28	0.87
310UC97	15.3	0.84	0.61	0.41
310UC283	5.7	0.55*	0.42*	0.30*
310UC240	6.6	0.55*	0.42*	0.30*
310UC198	7.9	0.55*	0.42*	0.30*
310UC158	9.7	0.55*	0.42*	0.30*
310UC137	11.0	0.60	0.44	0.30
310UC118	12.7	0.69	0.50	0.34
310UB46	23.5	1.41	1.05	0.71
310UB40	26.6	1.68	1.28	0.87
250UC89	13.9	0.76	0.55	0.37
250UC73	16.8	0.93	0.68	0.45
250UB37	24.8	1.52	1.14	0.77
250UB31	29.1	1.92	1.49	1.04
200UC60	16.7	0.93	0.67	0.45
200UC52	18.9	1.07	0.78	0.52
200UC46	21.4	1.25	0.92	0.62
200UB30	26.5	1.67	1.27	0.87
200UB25	30.8	2.10	1.66	1.17
180UB22	27.1	1.73	1.32	0.90
180UB18	32.9	2.35	1.90	1.37
150UC38	19.8	1.13	0.83	0.55
150UC37	20.4	1.18	0.86	0.58
150UC30	24.9	1.53	1.15	0.78
150UC23	31.5	2.18	1.74	1.23
150UB18	28.3	1.84	1.42	0.98
150UB14	35.8	-	2.29	1.73
100UC15	31.4	2.17	1.73	1.22

Table 2: Thickness of Intumescent Coating (DFT Excl Primer) for beams exposed on three sides for a PSA of 60 minutes (60/-/-)

E (m ² /t)	Structurally Critical Temperature °C		
	500	550	600
5	0.55*	0.42*	0.30*
6	0.55*	0.42*	0.30*
7	0.55*	0.42*	0.30*
8	0.55*	0.42*	0.30*
9	0.55*	0.42*	0.30*
10	0.55	0.42*	0.30*
11	0.58	0.42	0.30*
11	0.60	0.44	0.30
13	0.71	0.51	0.35
14	0.77	0.55	0.37
15	0.82	0.60	0.40
16	0.88	0.64	0.43
17	0.95	0.69	0.46
18	1.01	0.74	0.49
19	1.08	0.79	0.53
20	1.15	0.84	0.56
21	1.22	0.90	0.60
22	1.30	0.96	0.64
23	1.37	1.02	0.69
24	1.46	1.09	0.73
25	1.54	1.16	0.78
26	1.63	1.23	0.84
27	1.72	1.31	0.90
28	1.81	1.40	0.96
29	1.91	1.48	1.03
30	2.02	1.58	1.11
31	2.13	1.68	1.19
32	2.24	1.79	1.28
33	2.36	1.91	1.38
34	2.49	2.04	1.49
35	2.67	2.23	1.67
36	-	2.32	1.76
37	-	2.45	1.88

Figure 2: Columns Exposed on four sides for a PSA of 60 minutes (60/-/-)

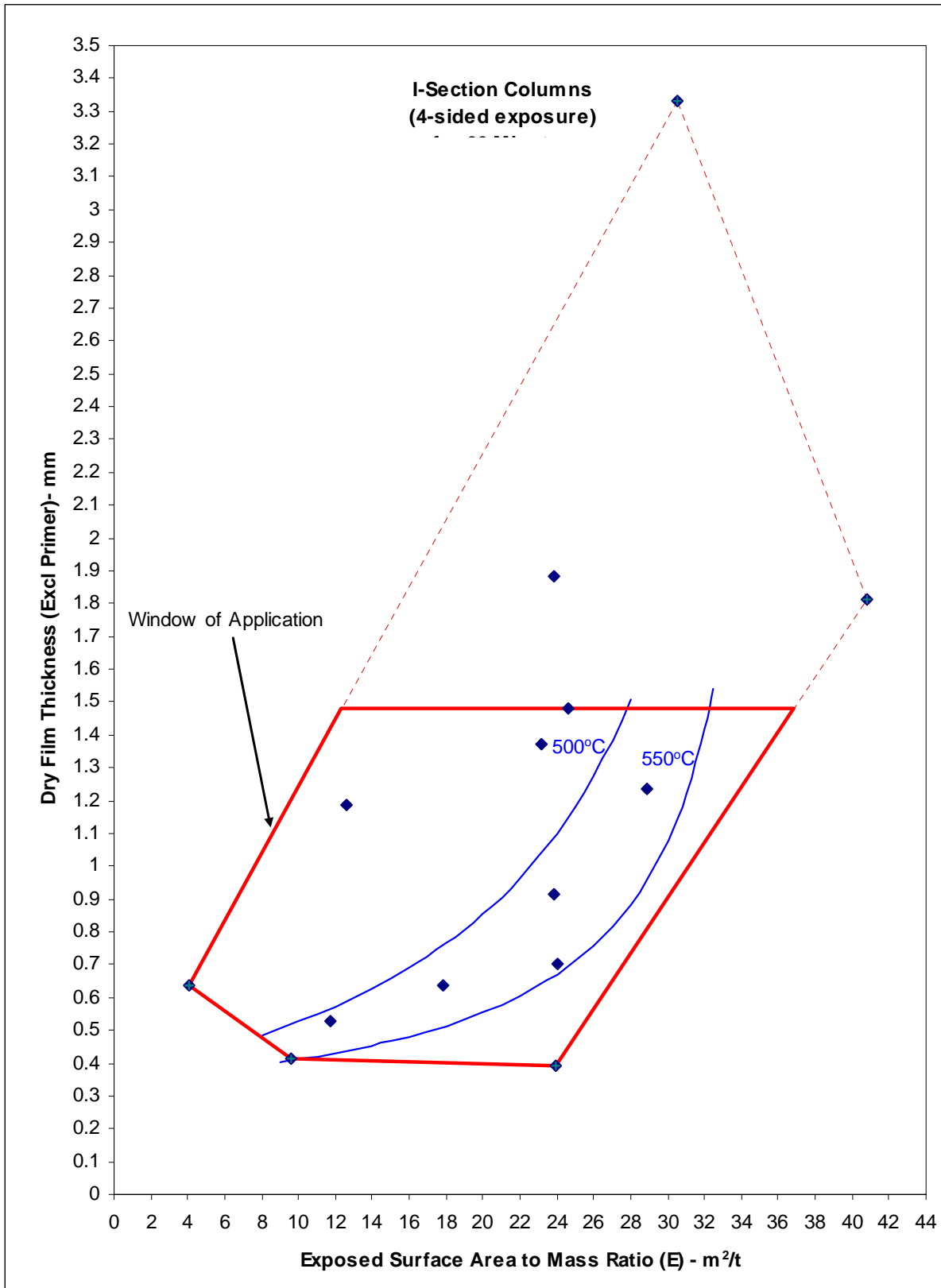


Table 3: Thickness of Intumescent Coating (DFT Excl Primer) for columns exposed on four sides for a PSA of 60 minutes (60/-)

Section Designation	E (m ² /t)	Structurally Critical Temperature °C	
		500	550
760UB244	10.6	0.54	0.42
760UB220	11.7	0.57	0.43
760UB197	12.9	0.60	0.44
760UB173	14.6	0.65	0.46
760UB147	17	0.73	0.50
690UB140	16.6	0.71	0.49
690UB125	18.6	0.79	0.52
610UB125	16.7	0.72	0.49
610UB113	18.4	0.78	0.52
610UB101	20.5	0.88	0.57
530UB92	20.1	0.86	0.56
530UB82	22.6	1.00	0.62
460UB82	20.1	0.86	0.56
460UB74	22	0.96	0.60
460UB67	24.3	1.12	0.68
410UB60	25	1.18	0.71
410UB54	27.6	1.45	0.85
360UB57	24.2	1.11	0.68
360UB51	26.8	1.36	0.80
360UB45	30.4	-	1.13
310UB46	27.1	1.39	0.82
310UB40	30.7	-	1.17
250UB37	28.7	-	0.94
250UB31	33.8	-	-
200UB30	31	-	1.22
200UB25	36	-	-
180UB22	31.1	-	1.24
180UB18	37.8	-	-
150UB18	32.4	-	-
150UB14	41.1	-	-
310UC283	6.9	0.49*	0.40*
310UC240	7.9	0.49*	0.40*
310UC198	9.4	0.51	0.41
310UC158	11.6	0.56	0.43
310UC137	13.3	0.61	0.45
310UC118	15.3	0.67	0.47
310UC97	18.5	0.79	0.52
250UC89	16.8	0.72	0.49
250UC73	20.3	0.87	0.56
200UC60	20.2	0.86	0.56
200UC52	22.8	1.01	0.63
200UC46	25.8	1.25	0.75
150UC38	23.8	1.08	0.66
150UC37	24.5	1.14	0.69
150UC30	30	-	1.08
150UC23	38	-	-
100UC15	38	-	-

* This result is outside the window of applicability so the value at the intersection of the window is conservatively adopted for a lower E value.

Table 4: Thickness of Intumescent Coating (DFT Excl Primer) for columns exposed on four sides for a PSA of 60 minutes (60/-/-)

E (m ² /t)	Structurally Critical Temperature °C	
	500	550
4	0.49*	0.40*
5	0.49*	0.40*
6	0.49*	0.40*
7	0.49*	0.40*
8	0.49	0.40*
9	0.51	0.40
10	0.53	0.41
11	0.55	0.42
12	0.57	0.43
13	0.60	0.44
14	0.63	0.45
15	0.66	0.47
16	0.69	0.48
17	0.73	0.50
18	0.77	0.51
19	0.81	0.53
20	0.85	0.55
21	0.91	0.58
22	0.96	0.60
23	1.03	0.63
24	1.10	0.67
25	1.18	0.71
26	1.27	0.76
27	1.38	0.82
28	1.51	0.88
29	-	0.97
30	-	1.08
31	-	1.22
32	-	1.41
33	-	1.54

* This result is outside the window of applicability so the value at the intersection of the window is conservatively adopted for a lower E value.

3. DESCRIPTION OF COMPONENTS

The Interchar 963 intumescent coating system consists of the following:

1. Certifire approved primer (see list below),
2. The intumescent coating, Interchar 963, and
3. Certifire approved top sealer (see list below)

CERTIFIRE APPROVED PRIMERS

International Paint Ltd Interplate 180

CERTIFIRE APPROVED TOP SEALS (Optional)

International Paint Ltd Interthane 990

Note – No changes to the primer or top seal are allowed.

4. INSTALLATION SUMMARY

Table 1 - Summary of Assessed Coating System for Beams

Element Configuration	
Exposure	3 sided with concrete slab above
Surface Preparation	
All Surfaces	Grit blasting to SA 2.5 (Swedish Standard)
Primer	
Manufacturer	International Paint Ltd
Reference Number	Interplate 180
Material Type	Red Oxide
Application Method	Spray
Dry Film Thickness	0.030mm to 0.068mm
Coating System	
Manufacturer	International Paint Ltd
Reference Number	Interchar 963
Material Type	Solvent Based Intumescent Coating
Application Method	Spray
Min Dry Film Thickness	0.30mm
Max Dry Film Thickness	2.75mm

Sealer Coat (Optional)	
Manufacturer	International Paint Ltd
Reference Number	Interthane 990
Material Type	Two part acrylic polyurethane
Application Method	Spray
Application Thickness	0.075mm
Section Range	
Exposed Surface Area to Mass Ratio (E)	9.3 m ² /t to 36.9 m ² /t (Depending on coating thickness see figure 1)

Table 2 - Summary of Assessed Coating System for Columns

Element Configuration	
Exposure	4 sided
Surface Preparation	
All Surfaces	Grit blasting to SA 2.5 (Swedish Standard)
Primer	
Manufacturer	International Paint Ltd
Reference Number	Interplate 180
Material Type	Red Oxide
Application Method	Spray
Dry Film Thickness	0.026mm to 0.065mm
Coating System	
Manufacturer	International Paint Ltd
Reference Number	Interchar 963
Material Type	Solvent Based Intumescent Coating
Application Method	Spray
Min Dry Film Thickness	0.39mm
Max Dry Film Thickness	1.48mm
Sealer Coat (Optional)	
Manufacturer	International Paint Ltd
Reference Number	Interthane 990
Material Type	Two part acrylic polyurethane
Application Method	Spray
Application Thickness	0.075mm
Section Range	
Exposed Surface Area to Mass Ratio (E)	4.1 to 36.8 m ² /t (Depending on coating thickness, see Figure 2)

- It is recommended that the system described in this certificate is installed by a Certifire listed Fire Protection Contractor certified in the appropriate category and that the installation be required to be labelled with a Certifire Label.

5. SERVICEABILITY DATA

No data presented.

6. HEALTH AND SAFETY

Health and Safety data sheet can be obtained from the supplier.

7. SUPPORTING DATA

The assessment is based on a series of fire resistance tests performed in accordance with BS476: Part 21: 1987 on a range of loaded and unloaded steel beam specimens protected by various thicknesses of Interchar 963 as described in test reports WFRC 133113, WFRC 133114, WFRC 134535, WFRC 137179, WFRC 145761 and TE 212306

The assessment is undertaken with reference to the requirements of AS1530.4-2005 and AS 4100-1998 as appropriate.

8. DISTRIBUTION OUTLETS

INTERNATIONAL PAINTS

115 Hyde Road
YERONGA QLD 4104
Tel: +61 7 3892 8887
Fax: +61 7 3848 87567

International Paint is and Azko Nobel company.

9. INFORMATION ON CERTIFIRE

Certifire Australia is an independent, authoritative body providing a certification scheme for passive fire protection systems, suppliers and contractors. For further information contact Certifire Australia.

Certifire Australia is an industry based third party independent accreditation scheme taking direction from the Certifire Advisory Panel which has been constituted with balanced representation from all sectors of the industry.

NOTE: This system certificate should be read in conjunction with Certifire schedules [CA001](#), [CA002](#) and [CA033](#). The BCA requires that FRLs are based on tests performed in accordance with AS1530.4- 2005 or a similar/more severe test. It should be recognised that a single test method will not provide a full assessment of the performance of a system or fire hazard under all fire conditions.

Reviewed by International Paints Ltd	Approved by Certifire Pty Ltd
 David Hopkins Project Manager – Passive Fire Protection AZKO NOBEL PTY LTD t/as International Paint	 Glenn Evans CEO CERTIFIRE PTY LTD