

**Appendix A: Witness Statement of Adrian Pargeter: K15 Product Testing**

	<b>Title of Test</b>	<b>Date of Test</b>	<b>Test House</b>	<b>Product</b>	<b>Report Number and Date</b>	<b>Classification</b>	<b>Relativity Number</b>
<b>EN 13501-1:2007+A1:2009</b>							
1	EN 13501-1: 2007+A1:2009	Unknown	Exova Warringtonfire	K15	WF 349131  3 March 2015	Fire Behaviour: C  Smoke Production: s1  Flaming Droplets d0	KIN00000235
2	EN 13501-1: 2007+A1:2009	Unknown	BRE Global Ltd	K15	P100160-1000- 4 Issue 1  1 October 2015	Fire Behaviour: C  Smoke Production: s1  Flaming Droplets d0	KIN00000234
3	EN 13501- 1:2007+A1:2009	Unknown	Exova Warringtonfire	K15	WF 364937  13 May 2016	Fire Behaviour: C  Smoke Production: s1	KIN00000240

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						Flaming Droplets d0	
4	EN 13501-1:2007+A1:2009	Unknown	Exova Warringtonfire	K15	WF 380591 27 February 2017	Fire Behaviour: C Smoke Production: s1 Flaming Droplets d0	KIN00000231
<b>BS 13823:2010</b>							
5	BS EN 13823:2010	28-29 May 2013	Exova Warringtonfire	K15	329583 12 February 2015	Fire Growth rate (w/s): <ul style="list-style-type: none"> <li>• 0.2MJ - 393.25</li> <li>• 0.4MJ – 231.76</li> </ul> Culmative Heat Release 600s (MJ): 3.72 Smoke Growth Rate	KIN00000237

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						(m <sup>2</sup> /s <sup>2</sup> ): 0.00  Culmative Smoke Production 600s (m <sup>2</sup> ): <ul style="list-style-type: none"> <li>• Original - 42.20</li> <li>• Recalculated - 25.06</li> </ul>	
6	EN 13823  Single Burning Item (SBI) test	28-29 May 2015	BRE Global Ltd	K15	P100160-1000-3 Issue 1  1 October 2015	Fire Growth rate (w/s): <ul style="list-style-type: none"> <li>• 0.2MJ - 318.3</li> <li>• 0.4MJ – 220.0</li> </ul> Culmative Heat Release 600s (MJ): 3.4  Smoke Growth Rate	KIN00000236

	Title of Test	Date of Test	Test House	Product	Report Number and Date	Classification	Relativity Number
						(m <sup>2</sup> /s <sup>2</sup> ): 0.9  Culmative Smoke Production 600s (m <sup>2</sup> ): 33.9	
7	BS EN 13823:2010+A1:2014	16 February 2017	Exova Warringtonfire	K15	379562  2 March 2017	Fire Growth rate (w/s):  <ul style="list-style-type: none"> <li>• 0.2MJ - 256.91</li> <li>• 0.4MJ – 137.32</li> </ul> Culmative Heat Release 600s (MJ): 3.56  Smoke Growth Rate (m <sup>2</sup> /s <sup>2</sup> ): 18.50  Culmative Smoke	KIN00000229

	Title of Test	Date of Test	Test House	Product	Report Number and Date	Classification	Relativity Number
						Production 600s (m <sup>2</sup> ): 45.68	
8	BS EN 13823:2010+A1:2014	16 February 2017	Exova Warringtonfire	K15	379561  2 March 2017	Fire Growth rate (w/s): <ul style="list-style-type: none"> <li>• 0.2MJ - 279.38</li> <li>• 0.4MJ – 119.55</li> </ul> Culmative Heat Release 600s (MJ): 2.26  Smoke Growth Rate (m <sup>2</sup> /s <sup>2</sup> ): 27.10  Culmative Smoke Production 600s (m <sup>2</sup> ): 39.88	KIN00000230

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<b>BS EN 1364-1:1999 and BS EN 1365-1:1999</b>							
9	BS EN 1364-1: 1999	15 September 2004	BRE Global Ltd	K15 as part of a construction	218611 26 October 2004	Fire Resistance: 53 minutes	KIN00000243
10	BS EN 1364-1: 1999	26 June 2006	BRE Global Ltd	K15 as part of a construction	230054 20 December 2006	Fire Resistance: 180 minutes	KIN00000244
11	BS EN 1365-1: 1999	2 October 2006	BRE Global Ltd	K15 as part of a construction	232565 26 February 2007	Fire Resistance: 91 minutes	KIN00000245

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12	BS EN 1365-1: 1999	29 January 2007	BRE Global Ltd	K15 as part of a construction	234162 7 September 2007	Fire resistance: 163 minutes	KIN00000242
13	EN 1365-1: 1999  BS 476: Part 21: 1987	Multiple tests:  26 June 2006 to 27 April 2007	BRE Global Ltd	K15 as part of a construction	CC 252772 Review 1 Issue 1  10 March 2016	Fire resistance: 60 minutes	KIN00000241
14	BS EN 1365-1: 1999	27 April 2007	BRE Global Ltd	K15 as part of a construction	236510  12 September 2007	Fire resistance: 78 minutes	KIN00000246

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15	BS EN 1365-1: 1999	19 November 2012	Exova Warrington fire	K15 as part of a construction	WF 323655 27 February 2013	Fire resistance: 66 minutes	KIN00000247
<b>BS EN ISO 11925-2: 2010</b>							
16	BS EN ISO 11925-2: 2010	4 June 2013	Exova Warringtonfire	K15	329591 12 February 2015	On each set of six specimens which were tested, the flame tip did not reach of distance of 150mm before the end of the test	KIN00000233
17	BS EN ISO 11925-2: 2010	10 August 2015	BRE Global Ltd	K15	P100160-1000-1 Issue 1 1 October 2015	On each set of three specimens which were tested, the flame tip did not reach of distance of 150mm before the end	KIN00000238



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						of the test	
18	BS EN ISO 11925-2: 2010	14 February 2017	Exova Warringtonfire	K15	379564  2 March 2017	Maximum Flame Height results:  <ul style="list-style-type: none"> <li>• Surface application: 50 + 0.9mm</li> <li>• Edge application: 30 + 0.9mm</li> <li>• Foam edge exposed: 45 + 0.9mm</li> </ul>	KIN00000227
19	BS EN ISO 11925-2: 2010	14 February 2017	Exova Warringtonfire	K15	379563  2 March 2017	Maximum Flame Height results:  <ul style="list-style-type: none"> <li>• Surface application:</li> </ul>	KIN00000228

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	Title of Test	Date of Test	Test House	Product	Report Number and Date	Classification	Relativity Number
						60 + 0.9mm  <ul style="list-style-type: none"> <li>• Edge application: 40 + 0.9mm</li> <li>• Foam edge exposed: 50 + 0.9mm</li> </ul>	
<b>BS EN ISO 1716:2010</b>							
20	BS EN ISO 1716:2010	3 March 2016	Exova Warringtonfire	K15 (ground core)	362315 15 May 2017	Gross Calorific Value = 26.4462MJ/kg	KIN00000250
<b>EN/TS 15117:2005</b>							
21	EN/TS 15117:2005	Unknown	Exova Warringtonfire	K15	WF 364936 13 May 2016	Fire Behaviour: C Smoke Production: s1	KIN00000239

	Title of Test	Date of Test	Test House	Product	Report Number and Date	Classification	Relativity Number
						Flaming Droplets d0	
22	EN/TS 15117	Unknown	Exova Warringtonfire	K15	380604  27 February 2017	EN ISO 19925-2: results were well within limits for a classification B-D.  EN 13823:  • Fire Growth Rate: C  • Smoke Growth Rate and Production: s1  Product variations show consistent behaviour in	KIN00000232

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						this test.	
<b>BS 476</b>							
23	BS 476: Part 7: 1997	10 May 2007	Bodycote Warringtonfire	Kooltherm products including K15	WF 164170 24 August 2009	Class 1	KIN00000256

	<b>Title of Test</b>	<b>Date of Test</b>	<b>Test House</b>	<b>Product</b>	<b>Report Number and Date</b>	<b>Classification</b>	<b>Relativity Number</b>
24	BS 476 Part 6: 1989	10-11 May 2007	Bodycote Warringtonfire	Kooltherm products including K15	WF 164169 24 August 2009	Fire Propagation index (I) = 3.5  Sub-index (i <sub>1</sub> ) = 2.2  Sub-index (i <sub>2</sub> ) = 1.1  Sub-index (i <sub>3</sub> ) = 0.2	KIN00000261
25	Class 0 Classification	25-27 November 2008	BRE Global	Kooltherm products including K15	248640 248638 1 December 2008	Class 1  Fire Propagation index:  I = 4.2  Sub-indices:  i <sub>1</sub> = 1.0	KIN00000252

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26	BS 476: Part 7: 1997	6 May 2011	Exova Warringtonfire	Kooltherm products including K15	306833  8 July 2011	Class 1	KIN00000258
27	BS 476-6: 1989+A1:2009	9 May 2012	BRE Global Ltd	Kooltherm products including K15	279315  3 July 2012	Fire Propagation index:  I = 3.9  Sub-indices:  i <sub>1</sub> = 1.0  i <sub>2</sub> = 2.7  i <sub>3</sub> = 0.2	KIN00000255

	Title of Test	Date of Test	Test House	Product	Report Number and Date	Classification	Relativity Number
28	BS 476-6: 1989+A1:2009	9 July 2012	BRE Global Ltd	Kooltherm products including K15 (core only)	280455 12 July 2012	Fire Propagation index:  I = 9.1  Sub-indices:  i <sub>1</sub> = 3.3  i <sub>2</sub> = 4.3  i <sub>3</sub> = 1.5	KIN00000254
29	Class 0 classification	12 July 2012	BRE Global Ltd	Kooltherm products including K15 (core only)	280722 280721 280455 12 July 2012	Class 1  Fire Propagation index:  I = 9.1  Sub-indices:	KIN00000259

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						$i_1 = 3.3$	
30	Class 0 classification	22 May 2013  17 June 2013	BRE Global Ltd	Kooltherm products including K15	287966  287649  285085  18 June 2013	Class 1  Fire Propagation index:  $I = 3.9$  Sub-index:  $i_1 = 2.6$	KIN00000251
31	BS 476 Part 6: 1989+A1; 2009	29 October 2015	Exova Warringtonfire	K15	357955  3 November 2015	Fire Propagation index  Total index of performance= 18.03  Sub-index s1 = 6.69  Sub-index s2 = 9.05	KIN00000264



	Title of Test	Date of Test	Test House	Product	Report Number and Date	Classification	Relativity Number
						Sub-index s3 = 2.28	
32	BS 476 Part 6: 1989+A1; 2009	11 and 14 January 2016	BRE Global Ltd	Kooltherm products including K15 (core only)	P100160-1001-1 Issue: 1 18 January 2016	Fire Propagation index (I) = 15.0 Sub-index (i <sub>1</sub> ) = 5.1 Sub-index (i <sub>2</sub> ) = 7.3 Sub-index (i <sub>3</sub> ) = 2.6	KIN00000262
33	BS 476-7: 1997	10 February 2016	BRE Global Ltd	K15 (facing only)	P100160-1002-1 Issue 1 29 February 2016	Class 1	AP/47/[ ]

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34	Class 0 Classification	10 February 2016  18-19 February 2016	BRE Global Ltd	Kooltherm products including K15 (facing only)	P100160-1002-3  19 February 2016	Class 1  Fire Propagation index (I) = 1.8  Sub-index (i <sub>1</sub> ) = 1.7	AP/48/[  ]
35	BS 476 Part 6: 1989+A1; 2009	18-19 February 2016	BRE Global Ltd	Kooltherm products including K15 (facing only)	P100160-1002-2 Issue: 1  19 February 2016	Fire Propagation index (I) = 1.8  Sub-index (i <sub>1</sub> ) = 1.7  Sub-index (i <sub>2</sub> ) = 0.1  Sub-index (i <sub>3</sub> ) = 0.0	KIN00000253

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36	BS 476 Part 6: 1989+A1; 2009	23 August 2016	Exova Warringtonfire	K15	370678  12 September 2016	Fire Propagation index  Total index of performance= 15.25  Sub-index s1 = 10.90  Sub-index s2 = 3.85  Sub-index s3 = 0.49	KIN00000260
37	BS 476 Part 7: 1997	22-23 August 2016	Exova Warringtonfire	K15	370679  12 September 2016	Class 1	KIN00000257
38	BS 476 Part 6: 1989+A1; 2009	5 October 2017	Exova Warringtonfire	K15 (core only)	389621  (Draft)	Fire Propagation index  <u>Specimen 1</u>	KIN00000263

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					5 October 2017	Total index of performance= 18.39  Sub-index s1 = 6.85  Sub-index s2 = 8.81  Sub-index s3 = 2.73  <u>Specimen 2</u>  Total index of performance= 16.37  Sub-index s1 = 6.06  Sub-index s2 = 7.93  Sub-index s3 = 2.37	

	Title of Test	Date of Test	Test House	Product	Report Number and Date	Classification	Relativity Number
						<u>Specimen 3</u>  Total index of performance= 14.57  Sub-index s1 = 5.63  Sub-index s2 = 6.51  Sub-index s3 = 2.43	