Fire Test Report No: LOGRPT 117 –17.12.08

A fire resistance test performed on a wall incorporating
Durisol UK's D365/120 Building Block System.

Report for

Knauf Insulation UK

PO Box 10, Stafford Road, St Helens,

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Prepared by:
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Date Issued: 6 February 2009

Introduction

This report details the fire resistance test performed on a complete cross section of wall incorporating the use of Durisol UK's D365/120 building block system. The fire test was conducted on 17 December 2008 using temperature conditions of BS476: Pt 20:1987.
The test was witnessed by Mr. A. Hampson, Knauf Insulation UK and Mr. D. Atkins, Durisol UK D365/120 Building Block System, the representatives of the sponsor of the test.

Objective

To determine the ability of Durisol D365/120 structural wall system to maintain the fire resistance performance in terms of integrity and insulation up to 4 hours. The ad-hoc fire test followed the general principles of performance criteria of BS 476 Pt 20: 1987, "Methods for determination of the fire resistance of elements of construction (general principles)".

Test Specimen

Orientation:	Wall
Overall Size:	1450 mm x 1450 mm x 350 mm thick
Thermocouple type:	1.5 mm s/steel mineral insulated type K
Thermocouple positions:	7 thermocouples were attached to the un-exposed surface of the test specimen.

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Test Procedure and results

The fire test was conducted following the guidelines specified in BS 476 Pt 20:1987. The furnace is a natural gas, positive pressure feed type and no adjustment was necessary to maintain the temperature and pressures. Throughout the test the temperatures indicated by the thermocouple provided to monitor the furnace and the test specimen were continuously monitored and recorded. All unexposed surface thermocouples were used to access the ability of the test specimen to satisfy the maximum temperature criteria as specified in BS 476 Pt 20:1987. Additionally, a roving thermocouple was also used to determine compliance with these criteria. Continuous observations were made for occurrence of sustained flaming and the ignitability of hot gases at the unexposed surface.

Test Data and Information

Thermocouple positions on the unexposed surface are given in Annex A.
The temperatures and time data which was recorded during the test is given in Annex B
A list of observations made during the fire test is given in Annex C.
A graphical illustration of the furnace temperatures and un-exposed face temperatures against time is shown in Annex D.
Photographs of the test specimen during the fire test and exposured surface after the fire test are shown in Annex E.
The ambient temperature at the start of the fire testing was 7 C
The test was discontinued after a period of 241 minutes at the request of the sponsor.

Evaluation and Conclusion

The performance of the test specimen was checked against the following criteria of BS 476 Pt 20:1987.

a. Integrity: It is required that there is no collapse of the specimen, no sustained flaming on the unexposed surface and no loss of impermeability. The requirement was satisfied for the test specimen for the duration of 240 minutes.
Fire Integrity: 240 Minutes

b. Insulation: The highest maximum individual temperature rise allowable by BS 476 Pt 20: 1987 is 180 C. The requirement was satisfied for the test specimen for the duration of 217 minutes.
Fire Insulation: 217 Minutes

Tested by

Mr D. Collet - Engineer In Charge, Firetherm Intumescent & Insulation Supplies Limited

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Mr R. Ganendran
Technical Director, R & D
Firetherm Intumescent & Insulation Supplies Limited

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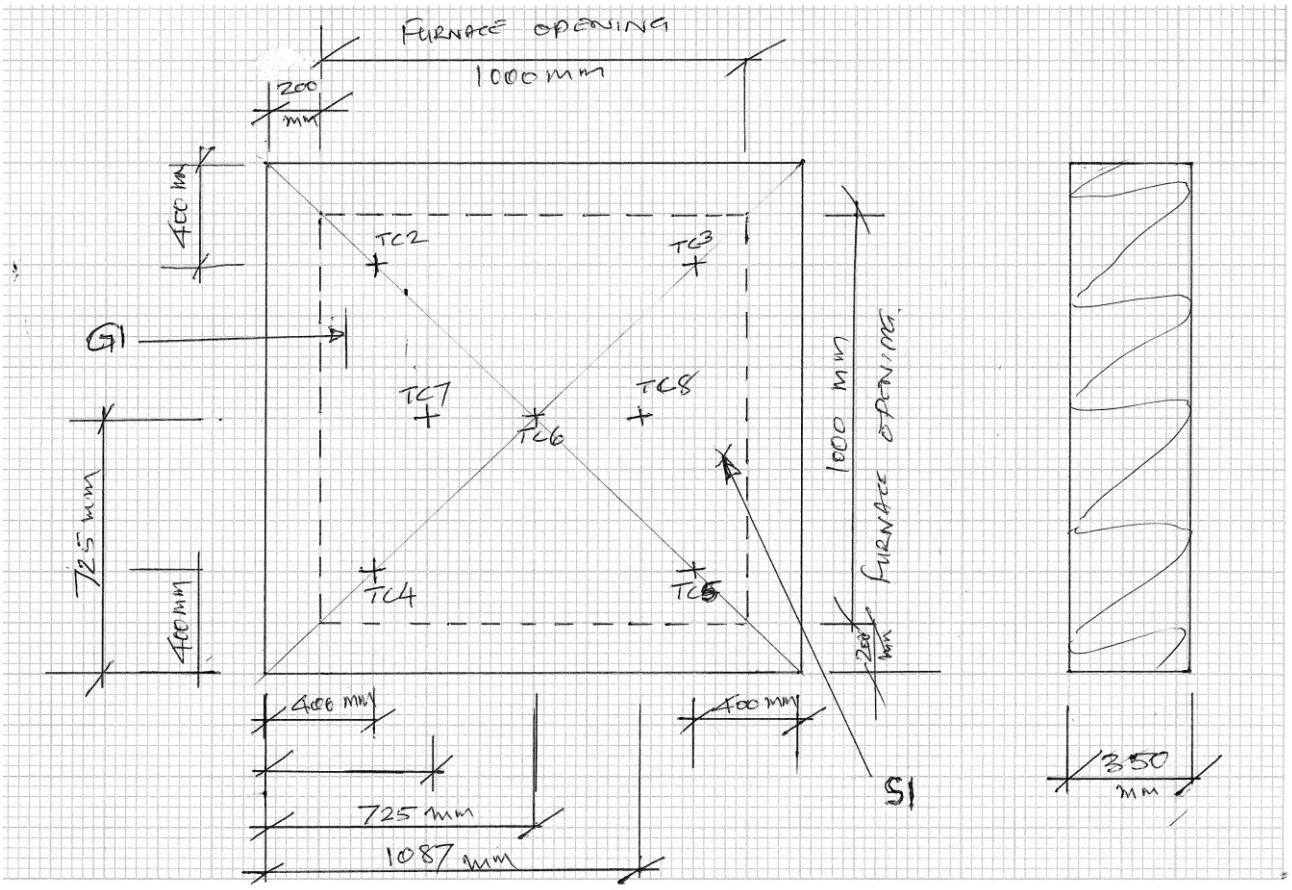
Annex A: Thermocouple positions on Un-exposed Surface



Annex B: Test Results: Durisol D365/120 structural wall system

Time-Min	Fur-TC-1	TC-2	TC-3	TC-4	TC-5	TC-6	TC-7	TC-8	Ave Temp
0	2.0	5.1	6.6	8	9.5	10.1	5.9	8.6	7.69
1	398.7	5.7	7.2	8.8	10.3	11	6.6	9.4	8.43
2	453.5	6.2	7.7	9.6	10.9	11.8	7.3	10.1	9.09
3	509.5	6.7	8.2	10.3	11.6	12.6	8	10.7	9.73
4	522.7	6.9	7.9	10.8	11.3	12.2	8.4	10.7	9.74
5	595.0	6.8	7.6	10.6	10.7	11.5	8.3	10.2	9.39
6	588.4	6.6	7.3	10.2	10.3	11.1	8.2	9.6	9.04
7	630.3	6.6	7.2	9.9	10	10.7	8.1	9.2	8.81
8	657.0	6.6	7.2	9.6	9.8	10.5	8	8.9	8.66
9	654.0	6.6	7.2	9.4	9.7	10.1	7.7	8.6	8.47
10	656.5	7.7	7.5	9.3	9.6	11	8.7	9.5	9.04
11	670.3	6.8	7.4	9.1	9.5	10	7.8	8.4	8.43
12	677.5	7.1	7.4	8.9	9.4	10	7.8	8.4	8.43
13	697.2	7.2	7.4	8.5	9.1	9.9	7.9	8.7	8.39
14	732.1	7.5	9.6	10.2	10.8	11.6	9.7	9.6	9.86
15	733.3	7.7	8.3	8.6	9.1	10	8.6	12.3	9.23
16	721.9	8.2	8.8	8.5	9.2	10	9.4	18.5	10.37
17	719.0	8.4	9.1	8.4	9.2	10.5	10.7	27.5	11.97
18	760.1	8.7	10.2	8.4	9.2	10.7	12.6	38.7	14.07

19	753.8	8.9	9.8	8.4	9	10.5	15.2	47.7	15.64
20	756.6	8.9	10.1	8.6	9.2	10.7	18.2	55.6	17.33
21	783.1	9	11.1	8.7	9.3	11.1	21.8	62.5	19.07
22	762.9	9.1	12.1	8.8	9.3	12.2	25.6	66.4	20.50
23	798.3	9.2	12.7	8.8	9.3	14	29.2	68.6	21.69
24	778.0	9.4	13.7	8.8	9.3	15.3	33.1	70.4	22.86
25	821.0	9.5	14.6	9.1	9.3	16.3	37	71.1	23.84
26	793.2	9.5	15.7	9.2	9.2	18.2	40.7	72.1	24.94
27	830.9	9.6	16.5	9.1	9.3	20.8	44.3	72.7	26.04
28	833.6	9.9	17.8	9.1	9.1	22.4	47.4	72.9	26.94
29	819.3	10.1	18.3	9.1	9.3	24.1	50.5	72.9	27.76
30	847.7	10.4	19.3	9.2	9.2	25.1	53.1	73	28.47
31	859.2	10.7	19.1	9.6	9.1	26.3	55.4	73.2	29.06
32	847.2	10.5	19.4	9.9	9.1	28.2	57.2	73.2	29.64
33	842.2	10.6	19.9	10.4	9.2	29.9	59.1	73.4	30.36
34	841.8	11	20.9	10.5	9.1	31.4	60.9	73.8	31.09
35	844.3	11.4	23	10.8	9.1	32	62.3	74.1	31.81
36	857.8	11.5	23.7	11	9	32.8	63.7	74.2	32.27
37	871.0	11.8	23.3	11.1	8.8	33.2	64.4	74	32.37
38	884.0	12.2	24.5	11.9	9.4	34.1	65.8	73.9	33.11
39	886.9	12.6	25.4	12.3	9.5	35.8	66.7	74.5	33.83
40	894.2	13.1	26.9	13	9.5	37.3	67.4	74.7	34.56
41	897.8	13.3	27.1	13.2	9.5	39.3	67.9	74.7	35.00
42	897.9	13.8	27	13.7	9.8	41.5	68.7	74.6	35.59
43	901.4	14.5	26.7	14.1	10.4	42.9	69.3	74.3	36.03
44	897.8	15.2	27.2	14.7	10.5	45.9	69.8	74.3	36.80
45	881.0	15.9	26.4	15.1	10.9	48.1	70.2	74.1	37.24
46	891.0	16.7	28.3	15.8	11.2	51.6	70.6	74.4	38.37
47	912.4	17.3	30.2	16.2	11.6	55.3	71	74.8	39.49
48	918.8	17.9	31.2	16.6	11.9	57.4	71.4	75	40.20
49	912.4	18.8	32.4	17	12.2	59.1	71.5	75.2	40.89
50	898.3	20.1	32	17.1	12.7	60.5	71.5	75	41.27
51	907.4	21.2	31.8	17.7	13.5	61.8	71.8	74.9	41.81
52	932.1	22.4	31.7	18.1	14.2	63.2	72	74.7	42.33
53	922.1	23.7	31.3	18.4	15.1	64.2	72.1	74.7	42.79
54	912.8	25.1	31.3	18.5	16	65.3	72.2	74.6	43.29
55	938.9	26.3	31.7	19	16.7	65.9	72.3	74.6	43.79
56	933.2	27.4	32.7	19.9	17.4	66.9	72.2	74.7	44.46
57	927.5	28.5	33.9	20.8	18	67.6	72.6	75.1	45.21
58	947.0	29.5	33.9	21.3	18.5	68.1	72.6	74.8	45.53
59	928.1	30.7	35.5	21.8	18.9	68.7	72.7	75	46.19
60	959.9	31.7	36.1	21.9	19.3	68.8	72.7	75.3	46.54
61	937.6	32.7	38.2	24	21.8	71	74	75.2	48.13
62	961.0	34.1	36.9	23	21.1	69.9	72.7	75	47.53
63	940.0	35.4	36.9	23.2	21.7	70.2	72.7	74.9	47.86
64	969.1	36.8	37.4	23.7	22.7	70.5	72.8	75	48.41
65	941.4	38.1	40.1	26.2	25.5	72.8	74.8	75.1	50.37
66	968.0	38.8	38.3	24.9	24.3	71.1	73	75	49.34
67	951.2	40	39.4	25.5	25.2	71.3	73.1	75	49.93
68	964.9	41	40.1	25.9	25.8	71.3	73.1	74.8	50.29
69	976.1	42	42.5	26.3	26.4	71.6	73.1	75	50.99
70	958.2	43	43.1	26.9	27.1	71.7	73.1	74.9	51.40
71	969.7	44	43.8	27.3	28.2	72	73.3	75.1	51.96
72	977.1	44.8	45.7	27.7	29	72.1	73.2	75.1	52.51

73	957.9	45.7	45.9	28.4	29.8	72.4	73.2	74.9	52.90
74	978.0	46.8	45.8	29.1	30.9	72.5	73.4	74.7	53.31
75	987.3	47.7	47.1	29.5	31.5	72.6	73.4	74.7	53.79
76	963.1	48.4	47.5	29.8	32.4	72.5	73.4	74.7	54.10
77	984.2	49.4	48.5	30.7	33.4	72.6	73.5	74.6	54.67
78	992.5	50.2	48.6	31.4	34.3	72.7	73.4	74.6	55.03
79	970.3	51.3	49.4	32.2	35.2	73	73.5	74.6	55.60
80	985.2	52.2	50	33	36.1	73.2	73.6	74.6	56.10
81	1003.7	53.3	50.8	34.2	37	73.4	73.8	74.8	56.76
82	992.3	54.2	51.5	35	37.9	73.3	73.8	75	57.24
83	987.0	54.9	52.3	36.4	39	73.4	73.6	74.8	57.77
84	980.3	55.5	52.2	37.6	39.9	73.2	73.7	74.5	58.09
85	988.5	56.5	52.8	38.2	41	73.7	74	74.7	58.70
86	998.5	57.3	53.7	39.2	42	73.8	74	74.9	59.27
87	1007.6	57.7	54.2	39.6	43	73.7	74	74.9	59.59
88	1015.4	58.5	54.4	39.9	43.7	73.5	73.6	74.9	59.79
89	1009.3	59.1	55.6	41.8	45.3	74.2	74.1	74.8	60.70
90	998.9	59.8	56.8	43.2	46.5	74.3	74	75	61.37
91	993.8	60.4	57.6	44.2	47.5	74.4	74	75.2	61.90
92	999.2	60.9	58.3	45.4	48.3	74.2	74	75.1	62.31
93	996.2	61.5	59.2	46.5	49.4	74.3	74	75.4	62.90
94	997.3	62	60.1	47.8	50.4	74.7	74.1	75.5	63.51
95	999.2	62.6	60.4	48.2	51.3	74.4	73.8	75.5	63.74
96	1000.2	63	61	49.1	52.1	74.2	73.8	75.5	64.10
97	1000.3	63.4	60.9	50.6	52.7	74	73.8	75.2	64.37
98	1001.6	63.7	61	51.4	53.5	73.9	73.8	75	64.61
99	1004.8	64	61.7	51.9	54.6	74.3	73.9	74.9	65.04
100	1003.8	64.5	62.8	52	55.6	74.5	73.7	75.1	65.46
101	1006.1	64.7	63.2	52.6	56.6	74.6	73.6	75.1	65.77
102	1006.5	65.2	63.4	53.5	57.5	74.6	73.8	75	66.14
103	1006.9	65.6	63.9	54	58.3	74.5	73.9	75.1	66.47
104	1009.7	65.9	64	54.5	59.1	74.4	73.7	75	66.66
105	1017.3	66.4	64.2	55.2	60	74.8	73.8	74.9	67.04
106	1028.0	66.7	64.6	55.9	60.7	74.7	73.8	74.7	67.30
107	1030.6	67	64.8	56.5	61.6	74.8	73.7	74.8	67.60
108	1037.1	66.9	64.8	57.4	62.3	74.1	73.5	74.2	67.60
109	1042.8	67.8	65.4	57.7	63	74.7	73.9	74.8	68.19
110	1043.7	68.2	66	58.1	63.8	74.8	73.9	75	68.54
111	1043.0	68.4	65.5	58.3	64	74.4	73.7	75	68.47
112	1034.7	68.7	66.7	59.6	65.6	75.3	74.4	75	69.33
113	1028.2	68.8	66.4	59.2	65.4	74.8	73.8	75.1	69.07
114	1025.5	69.4	66.6	60	66.1	74.9	74	75	69.43
115	1022.5	69.7	66.9	60.3	66.7	75	73.9	75.3	69.69
116	1049.8	70	67.4	60.5	67.4	75	73.9	75.4	69.94
117	1050.6	70.4	68	61	68	75.2	73.9	75.5	70.29
118	1046.1	70.6	68.1	61	68.5	75.3	73.7	75.7	70.41
119	1038.5	70.9	68.5	61.2	68.9	75.3	73.6	75.8	70.60
120	1032.6	71.4	68.7	61.7	69.4	75.8	73.8	75.8	70.94
121	1030.8	71.6	68.8	61.7	69.6	75.4	73.8	75.8	70.96
122	1029.0	71.9	69	62.1	70.1	75.6	73.7	75.8	71.17
123	1037.1	72.4	69.4	62.8	70.7	75.9	73.9	76	71.59
124	1054.0	72.7	69.4	63	71.1	76	73.9	75.9	71.71
125	1059.7	72.9	70	63.5	71.5	76	74	75.8	71.96
126	1048.1	73.3	70	63.9	71.9	76	74	75.7	72.11

127	1042.3	73.8	70.2	64.5	72.5	76.1	74.2	75.7	72.43
128	1036.0	74.1	70.5	64.9	72.8	76.1	74.1	75.7	72.60
129	1056.4	74.3	70.7	65.5	73.3	76.2	74.2	75.7	72.84
130	1065.8	74.7	71.2	65.7	73.6	76.3	74	75.9	73.06
131	1051.7	74.9	71.7	65.9	74.1	76.4	73.8	75.8	73.23
132	1042.3	76	71.7	66.3	74.2	77.1	74.7	76.4	73.77
133	1040.6	75.6	71.8	66.5	74.4	76.6	74	75.7	73.51
134	1060.0	75.9	72.2	66.7	74.6	76.7	74	75.7	73.69
135	1069.5	76.2	72.5	66.6	74.7	76.6	73.9	75.8	73.76
136	1025.7	76.6	73.1	66.9	75.4	77.3	74	76	74.19
137	1004.5	77.1	73.2	67.3	75.7	77.5	74.4	76.2	74.49
138	990.6	77.4	73.7	68.2	76.1	77.8	75.1	76.7	75.00
139	994.4	78.2	73.7	68.8	76.5	78	75.5	76.9	75.37
140	980.5	78.8	73.9	70.1	76.6	78.2	76.1	76.8	75.79
141	983.0	79.7	74.3	70.8	77.1	78.4	76.1	76.9	76.19
142	988.1	80.6	74.3	71.4	77.1	78.7	75.9	76.6	76.37
143	990.2	81.3	74.7	72.5	77.4	78.8	75.9	76.3	76.70
144	1014.3	81.4	74.9	74	77.7	78.9	75.6	75.9	76.91
145	1018.9	81.7	75	75	77.9	78.8	75.1	75.2	76.96
146	1030.0	82.1	75.1	75.8	77.9	78.6	74.5	74.7	76.96
147	1042.4	82.7	75.2	76.7	78	78.5	74.2	74.3	77.09
148	1048.5	83.3	75.5	78.7	78	78.3	73.5	74	77.33
149	1053.9	83.9	75.5	83.6	78	78.2	73	73.8	78.00
150	1063.8	84.7	75.7	88.5	78	78.2	72.7	73.7	78.79
151	1071.3	85.6	75.9	91.1	78.2	78	72.2	73.5	79.21
152	1056.3	86.8	76.1	92.7	78.5	78.1	72.3	73.2	79.67
153	1060.4	88.1	76.3	93.6	78.5	77.9	72.2	73.1	79.96
154	1069.9	89.2	76.4	94.2	78.5	77.7	72.3	72.7	80.14
155	1079.0	89.6	76.5	94.5	78.6	77.1	71.5	72.1	79.99
156	1080.8	90.9	76.7	94.7	78.7	77.8	72.1	72.8	80.53
157	1061.7	91.8	76.9	94.8	79	77.9	72.2	73.1	80.81
158	1076.4	92.1	76.9	94.7	79	77.8	72.1	73.5	80.87
159	1079.0	92.3	76.3	94.2	78.5	77.3	71.6	73.6	80.54
160	1082.6	92.7	77.2	94.8	79.3	78	72.2	73.8	81.14
161	1068.1	92.7	77.4	94.8	79.5	78.1	72.2	74	81.24
162	1079.0	93	77.8	94.9	79.8	78.5	72.2	74.5	81.53
163	1068.9	93	77.9	94.7	79.9	78.5	72.4	74.8	81.60
164	1072.7	92.8	78.1	94.6	79.9	78.7	72.4	74.9	81.63
165	1084.8	93	78.5	94.6	80	78.8	72.5	75.1	81.79
166	1085.5	93	78.8	94.5	80.3	79	72.7	75.1	81.91
167	1077.7	92.8	79.3	94.3	80.6	79	72.7	75.5	82.03
168	1090.3	92.9	79.6	94.3	80.9	79.3	73	75.9	82.27
169	1078.1	92.6	80	94.3	81.2	79.4	73.3	76.3	82.44
170	1095.8	93.4	80.3	94.3	81.4	79.7	73.7	76.8	82.80
171	1081.8	92.5	80.5	94.4	81.5	80	74	77.5	82.91
172	1095.5	92.1	80.6	94.5	81.6	80	74.5	77.8	83.01
173	1080.2	92.5	80.6	94.6	82	80.2	75.1	78.2	83.31
174	1102.5	92.2	81.2	94.5	82.2	80.5	75.7	78.4	83.53
175	1079.8	91.7	81.5	94.3	82.5	80.7	76.3	78.8	83.69
176	1105.2	92.3	82.1	94.4	82.8	80.9	77.1	79.3	84.13
177	1084.2	91.6	82.5	94.3	82.9	81	77.9	79.3	84.21
178	1096.7	91.5	82.7	94.3	83.3	81	78.7	79.5	84.43
179	1099.1	93.9	83.3	94.2	83.5	82.9	81.3	81.8	85.84
180	1090.8	91.5	83.2	94.3	83.6	81.6	80.8	80.9	85.13

181	1099.6	91.7	83.5	94.1	83.7	81.6	81.7	81.5	85.40
182	1087.8	91.8	83.8	94.1	84	81.7	82.9	82.3	85.80
183	1107.6	90.8	85	94.7	85	82.5	84.8	82.6	86.49
184	1089.6	91.8	84.7	94	84.2	81.9	85.4	83.4	86.49
185	1108.4	92.2	85.1	94.1	84.4	82.1	86.5	84.3	86.96
186	1103.8	91.2	85.2	94	84.5	82.2	87.6	85.1	87.11
187	1095.5	92	85.6	94.1	84.7	82.5	88.8	86.1	87.69
188	1108.0	92.2	85.6	94.1	84.5	82.5	89.6	87.1	87.94
189	1101.0	91.5	85.8	93.8	84.8	82.6	90.5	88.2	88.17
190	1112.7	91.8	86	93.9	85	82.9	91.4	90.2	88.74
191	1111.1	90.6	86.3	93.8	85.1	83.2	93.2	92	89.17
192	1096.0	91.8	86.6	93.7	85.5	83.4	92.8	93.1	89.56
193	1120.5	90	87	93.4	85.5	83.5	93.8	94.1	89.61
194	1100.6	90.5	87.3	93.4	85.7	83.5	96.7	94.6	90.24
195	1115.6	90.7	87.4	93.4	85.8	83.4	96.6	95.7	90.43
196	1113.1	90.2	87.2	93.2	85.6	83.2	97.6	96.6	90.51
197	1101.6	88.7	87.4	93.1	85.6	83.2	97.8	97	90.40
198	1105.7	88.4	87.4	93	85.6	83.1	97.9	97.6	90.43
199	1108.2	87.9	87.3	92.7	85.5	82.9	97.2	98.1	90.23
200	1122.9	88.4	87.4	92.6	85.5	82.9	97.6	98.8	90.46
201	1117.4	88.2	87.4	92.4	85.6	82.7	98.5	99.3	90.59
202	1109.4	87.1	87.2	92.2	85.4	82.3	99.6	100	90.54
203	1122.9	87.2	87.2	92.1	85.4	82.5	100.2	101.5	90.87
204	1106.7	87.2	87.4	91.9	85.5	82.5	100.9	103.5	91.27
205	1126.4	87.4	87.3	91.4	85.2	82.3	101.4	106.3	91.61
206	1107.7	86.6	86.9	90.8	84.8	81.7	101.2	111	91.86
207	1129.4	87.2	87.3	91.1	85.3	82.2	103.4	117	93.36
208	1127.3	87.4	87.6	91	85.7	82.2	104.9	122.6	94.49
209	1111.3	86.4	87.6	90.8	85.6	82	106	129.2	95.37
210	1112.5	86.2	87.5	90.6	85.9	81.9	108.5	136	96.66
211	1132.7	86.3	87.8	90.4	85.9	82.1	110.9	142.9	98.04
212	1119.1	86.3	87.9	90	85.9	82	113.6	149.6	99.33
213	1134.8	86.6	88	89.9	85.9	82.1	117.6	157	101.01
214	1130.1	86.1	88	89.6	86	81.9	121.7	164	102.47
215	1118.5	85.5	87.9	89.3	85.7	81.9	125.8	170.8	103.84
216	1139.7	85.9	88	89.2	85.7	81.9	130.2	176.9	105.40
217	1130.6	85.3	88	89.1	85.7	81.9	135.1	182.8	106.84
218	1121.5	84.7	88	88.8	85.6	81.8	140.6	188	108.21
219	1142.9	85.5	88.1	88.5	85.5	82	146.3	193.3	109.89
220	1130.4	84.8	88.3	88.4	85.6	82.1	152.2	197.6	111.29
221	1139.9	84.8	88.3	88.2	85.6	82	159.5	202.1	112.93
222	1133.9	84.4	88.3	87.9	85.3	82	165	206.4	114.19
223	1125.0	84	88.3	87.6	85.3	81.8	170.6	209.7	115.33
224	1145.6	84.8	88.5	87.5	85.4	81.8	176.7	214	116.96
225	1127.2	83.9	88.3	87.2	85.3	81.8	182.4	217.6	118.07
226	1145.9	85.9	88.5	87.1	85.3	83.6	190.8	222.8	120.57
227	1141.9	83.8	88.6	86.9	85.1	82	196.1	224.7	121.03
228	1129.8	84.1	88.4	86.8	85.2	81.8	204.2	228.6	122.73
229	1148.3	84	88.5	86.5	85.2	81.7	212.5	232.4	124.40
230	1131.4	83.1	90.2	87.9	86.7	83.3	222.9	235.9	127.14
231	1151.1	82.5	88.3	86	84.6	81.6	230.3	238.8	127.44
232	1142.6	82.7	88.3	85.9	84.6	81.5	240.2	242	129.31
233	1141.4	82.4	88.2	85.7	84.4	81.5	250.5	245.2	131.13
234	1155.1	82.6	88.3	85.6	84.3	81.6	260.6	248.8	133.11

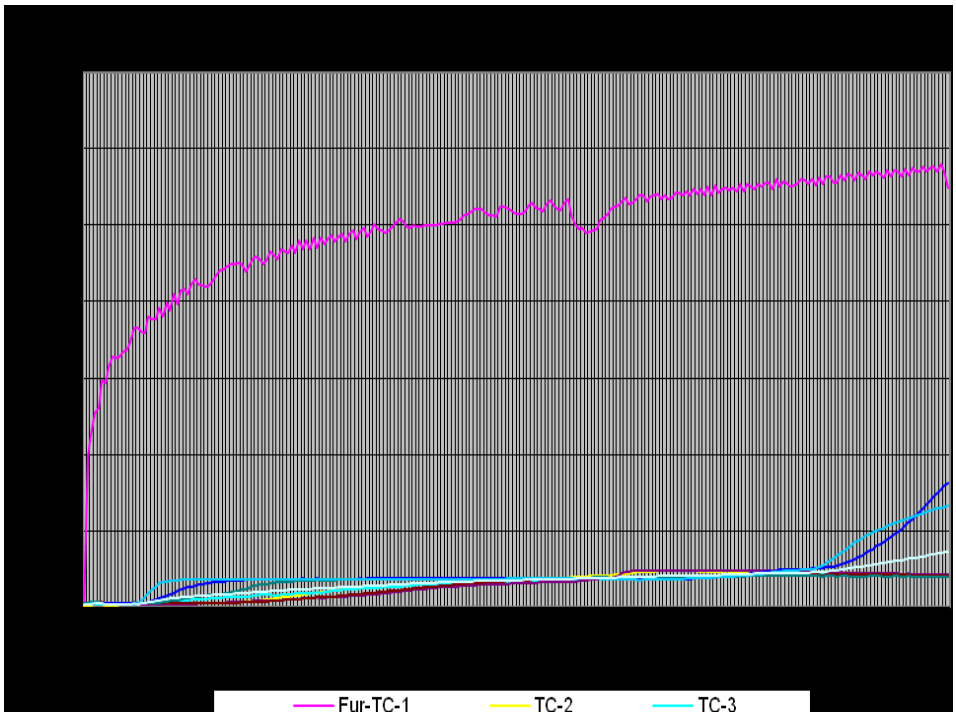
235	1141.4	82.6	88.1	85.4	84	81.4	270.4	251.9	134.83
236	1150.8	82.2	88.2	85.2	84	81.4	280.4	254.5	136.56
237	1153.9	82.1	88.3	85	83.9	81.4	290.1	257.2	138.29
238	1140.0	81.8	88.3	84.8	83.7	81.4	299.8	259.9	139.96
239	1161.1	81.9	88.2	84.7	83.6	81	308.9	262.1	141.49
240	1142.4	82.2	88.2	84.5	83.8	80.9	317.7	264.8	143.16
241	1097.6	81.9	88.2	84.3	83.6	80.9	325.4	267.4	144.53

Annex C: Observations

Time-Min	Observations	Exposed / Un-exposed Face
0	Start of test	
5	Slight smoke through joints.	U
6	No burning of hot face observed through viewing panel	E
10	Slight smoke through joints.	U
15	Slight smoke through joints.	U
20	Slight smoke through joints.	U
32	Slight smoke through joints.	U
60	Slight smoke / water emission through joints.	U
90	Slight smoke / water emission through joints.	U
120	Slight smoke / water emission through joints.	U
123	Slight spalling of exposed face at position marked S1	E
150	Slight smoke / water emission through joints.	U
180	Slight smoke / water emission through joints.	U
181	About 6 mm gap at G1	U
182	Slight glowing at joint where marked G1	U
183	No visible flame at unexposed face	U
210	Slight smoke / water emission through joints.	U
217	Insulation failure at TC-8	U
240	Slight smoke / water emission through joints.	U
241	Test is discontinued at the request of sponsor	

NOTES:
U - Un-exposed Surface
E - Exposed surface

Annex D: Durisol D365/120 structural wall system – Time, Temperature Graph



Annex E: Durisol D365/120 Structural Wall System photographs

Fire Test in progress

Exposured Surface After 4 Hours of Fire Testing