FAÇADE TESTING & ADVISORY SERVICES

Classification Report

As per BR135:2013 Annex A

Tested as per BS 8414-1:2015 + A1:2017

Prepared for	:	**ROCKWOOL BV / Rockpanel**
Project	:	**Classification of Rockpanel Durable 8mm**
Report No.	:	**SR0938 Rev.0**
Sample	:	**Rockpanel Durable 8mm with ProtectPlus Finish and 125mm ROCKWOOL Rainscreen Duo Slab Insulation**

UKAS TESTING 4559

September 2018

1 Introduction

This report details the classification of the Rockpanel cladding system (described under Section 2 of this report) in accordance with BR135:2013 Annex A, when tested in accordance with BS 8414-1:2015 + A1:2017 at the Al Futtaim Exova (AFE) laboratory in Dubai, at the request of:

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2 Test Sample Description

The test specimen comprised of an external wall cladding (Rockpanel Durable 8mm with ProtectPlus Finish and 125mm ROCKWOOL Rainscreen Duo Slab Insulation) fixed onto a masonry wall.

The top end of the cladding system was closed with 2mm thick aluminium flashing. The main wall side was closed with the Rockpanel boards and the wing wall side was left open. Interface between the cladding system and the combustion chamber was covered with Rockpanel boards. The distance of the finished face of the wing wall to the side opening of the combustion chamber was approximately 220mm.

Materials used in the system are detailed in the table below:

Component	Description	Installation Details
Bracket	Fastframe FF Fix/BRD/160 helping hand bracket with plastic thermal shim.	The brackets were fixed to the masonry with EJOT T40-SW13 screws and nylon wall plugs. Plastic shims were placed between masonry wall and brackets.
Cavity barrier	**Horizontal intumescent cavity barrier:** ROCKWOOL SP Firestop VRB - 60/60 horizontal open state cavity barrier, 150x75mm.	The horizontal cavity barriers were fixed to the masonry with brackets and Hilti DBZ 6/4 anchors. 3 nos. of horizontal continuous cavity barriers were fixed to the main wall and wing wall, at 155mm above the combustion chamber opening, 3210mm and 6250mm above combustion chamber.
	Vertical cavity barrier: ROCKWOOL SP-60 vertical cavity barrier, 75x175mm.	1 no. continuous vertical cavity barrier was fixed to the masonry on the main wall with brackets and Hilti DBZ 6/4 anchors.

Component	Description	Installation Details
Insulation	125mm ROCKWOOL rainscreen duo slab insulation.	Insulation was fixed to the masonry wall with EJOT DMH 8x250 metal fixings and EJOT 140 polypropylene fixings.
Railing	100x60x2mm Aluminum vertical 'T' rail 60x40x2mm Aluminum vertical 'L' rail	Railings were fixed to the brackets and screwed with it by screws.
Cladding panel	Rockpanel Durable 8mm with ProtectPlus finish (B-S2, d0).	Rockpanel boards were fixed to the railings with SFS rivets AP14-50180. 8mm joints were provided between the Rockpanel boards.

Figure 1: Tested Sample Elevation Showing Rockpanel board Layouts

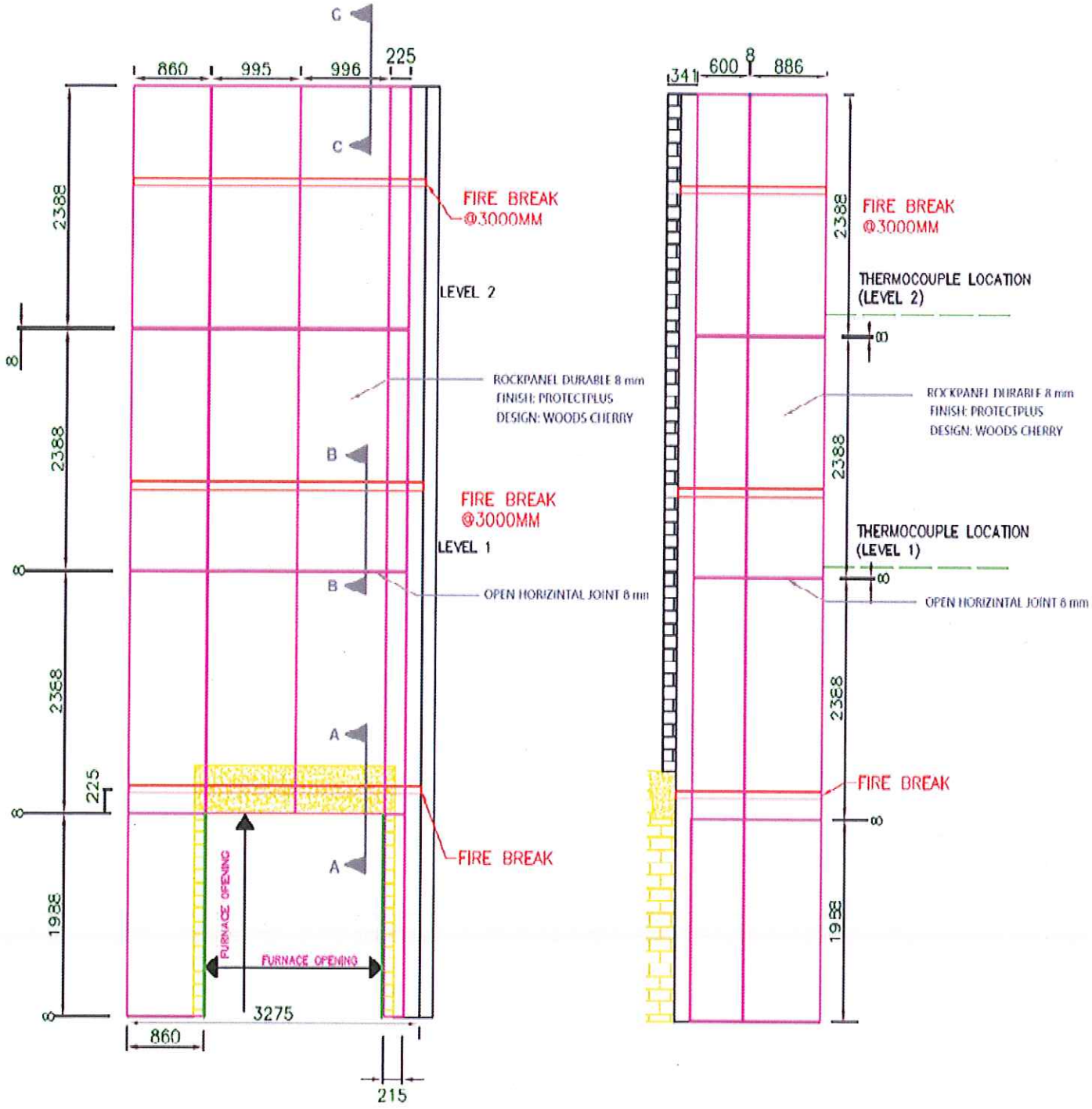


Figure 2: Corner Detail of Tested System

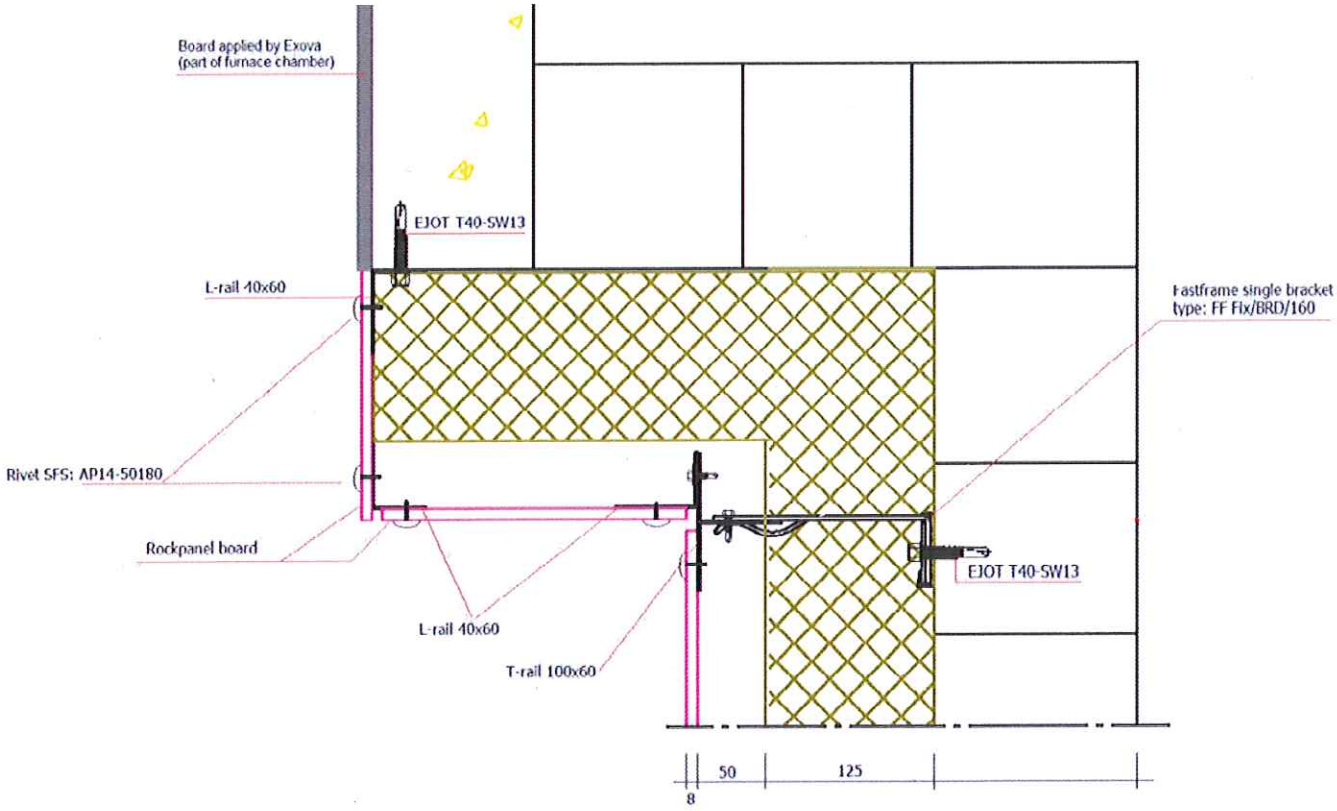
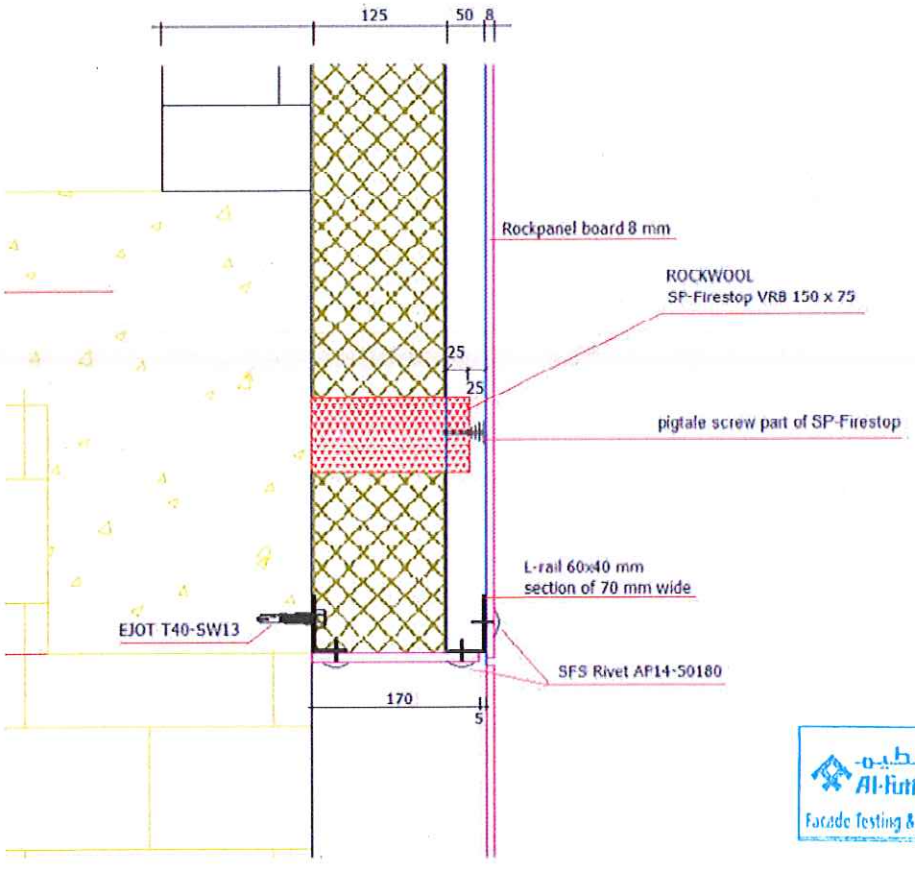


Figure 4: Detail of the System Above the Combustion Chamber



3 Test Data / Observations

Parameters	Temperature data / observations
T_s, start temperature	29°C
t_s, start time	73 seconds after ignition of the crib (thermocouple 3)
Is temperature exceeded 629°C (600°C above T_s) within 15 minutes from t_s and sustained for at least 30 seconds	No
Peak temperature & time at Level 2 (External)	754°C at 996 seconds from t_s (thermocouple 11)
Peak temperature / time at Level 2 (Mid-depth of Cavity)	753°C at 1635 seconds from t_s (thermocouple 22)
Peak temperature / time at Level 2 (Mid-depth of 125mm ROCKWOOL Rainscreen Duo Slab Insulation)	681°C at 1764 seconds from t_s (thermocouple 30)

See Figure 1 for thermocouple locations.

Level 1: 2500mm above the top of the combustion chamber opening on the test apparatus.

Level 2: 5000mm above the top of the combustion chamber opening on the test apparatus.

Start Temperature, T_s: Mean temperature of the thermocouples at Level 1, five minutes prior to ignition of the heat source.

Start Time, t_s: Time when the temperature recorded by any external thermocouple at Level 1 equals or exceeds 200°C above T_s and remains above this value for at least 30 seconds.

4 Compliance Criteria

External fire spread

Failure due to external fire spread is deemed to have occurred if the temperature rise above T_s of any of the external thermocouples at level 2 exceeds 600°C, for a period of at least 30 seconds, within 15 minutes of the start time, t_s.

Internal fire spread

Failure due to internal fire spread is deemed to have occurred if the temperature rise above T_s of any of the internal thermocouples at level 2 exceeds 600°C, for a period of at least 30 seconds, within 15 minutes of the start time, t_s.

5 Test Results

Parameters	Fire Spread Time, t_s	Result
External fire spread	>15 minutes	**Compliant**
Internal fire spread (Mid-depth of Cavity)	>15 minutes	**Compliant**
Internal fire spread (Mid-depth of 125mm ROCKWOOL Rainscreen Duo Slab insulation)	>15 minutes	**Compliant**
Mechanical performance	• Approximately 17m² of the external visible surface area fell off. • Approximately 10m² of the external visible surface area was discoloured. • Approximately 11m² of the external visible surface area has no damage or discoloration. The heat source was extinguished 30 minutes from the ignition. The sample was allowed to burn for another 30 minutes and observations were recorded.	

6 Classification

The system described in this report has been tested in accordance BS 8414-1:2015 + A1:2017 and complied with the performance criteria detailed in BR135:2013 Annex A.

This classification report shall be read in conjunction with AFE laboratory test report DLR1509 Rev.0, which fully details all aspects of the tested system and test carried out.

إكسوفا الفطيم
Al-FuttuimExova
Facade Testing & Advisory Services Division

Table 1 Document Status

Rev No.	Author	Approved for Issue		
		Name	Signature	Date
0	Arun Kumar M.	Manoj Kumar Laboratory Manager		15/11/2018