Sponsor:
Siderise Insulation Ltd
Forge Industrial Estate
Acorn Industrial Park
Maesteg
Bridgend
CF34 0AZ

Fire Resistance Testing

CONFIDENTIAL

Report: BMT/FEI/F14007

A fire resistance test performed three horizontal ventilated cavity fire barrier seals within a concrete supporting construction

Test conducted in accordance with the test standard:
ASFP 'Open State' Cavity Barrier used in the external envelope or fabric of buildings, and utilising the principles of BSEN 1363-1: 2012

Test date: 24th April 2014

BM TRADA – the new name for Chiltern International Fire Ltd

From July 1st 2013, Chiltern International Fire Ltd commenced trading under the name of its parent company BM TRADA and at the same time adopted a brand new visual identity.

Historically, the group has delivered its services through a number of individual companies: BM TRADA Certification Ltd, TRADA Technology Ltd, Chiltern International Fire Ltd (including Chiltern Dynamics) and a network of international offices. Both BM TRADA Group and these individual companies will now trade under the same name - BM TRADA - and adopt the new visual identity.

To coincide with this change, our Technical Reports, Test Reports, Products Assessments, company stationery and marketing collateral have been re-designed to carry the new branding and visual identity.

The validity of all documents previously issued by the individual companies including certificates, test reports and product assessments is unaffected by this change and a letter to this effect will be available to download from our website www.bmtradagroup.com.

About BM TRADA.

With origins dating back to 1934, we have a deep history and services which are highly valued by our customers. We offer independent certification, testing, inspection, training and technical services around the world. In all these areas we continue to use industry-leading experts in their chosen fields to develop and deliver services – an ethos that has been at the heart of our approach since we began.

A recent review of our businesses and customers revealed that the individual identities sometimes make communications confusing, and that in an already complex business area, clarity and simplicity in communications is rare, but valued. It also revealed that a single identity and combined offer would help us strengthen our appeal.

With this in mind, we brought the companies together under the name BM TRADA and took the opportunity to create a fresh new visual identity.

We have modernised our image and combined our strengths. However, our values, our people and the integrity of our services remain the same. I hope you will welcome these changes and the improvements they will bring.

Jon Osborn
Chief Operating Officer

Contents

1 Introduction

Three ventilated cavity fire barriers were installed into a lightweight aerated concrete supporting construction and tested to determine their fire resistance.

2 Specimen verification

The specimens were delivered to BM TRADA during March 2014. BM TRADA constructed the supporting construction. The client subsequently installed the system into the supporting construction, with assistance from BM TRADA as required.

2.1 Conditioning

BM TRADA stored the specimen in climatic conditions approximate to those in normal service for a minimum of 28 days.

2.2 Sampling

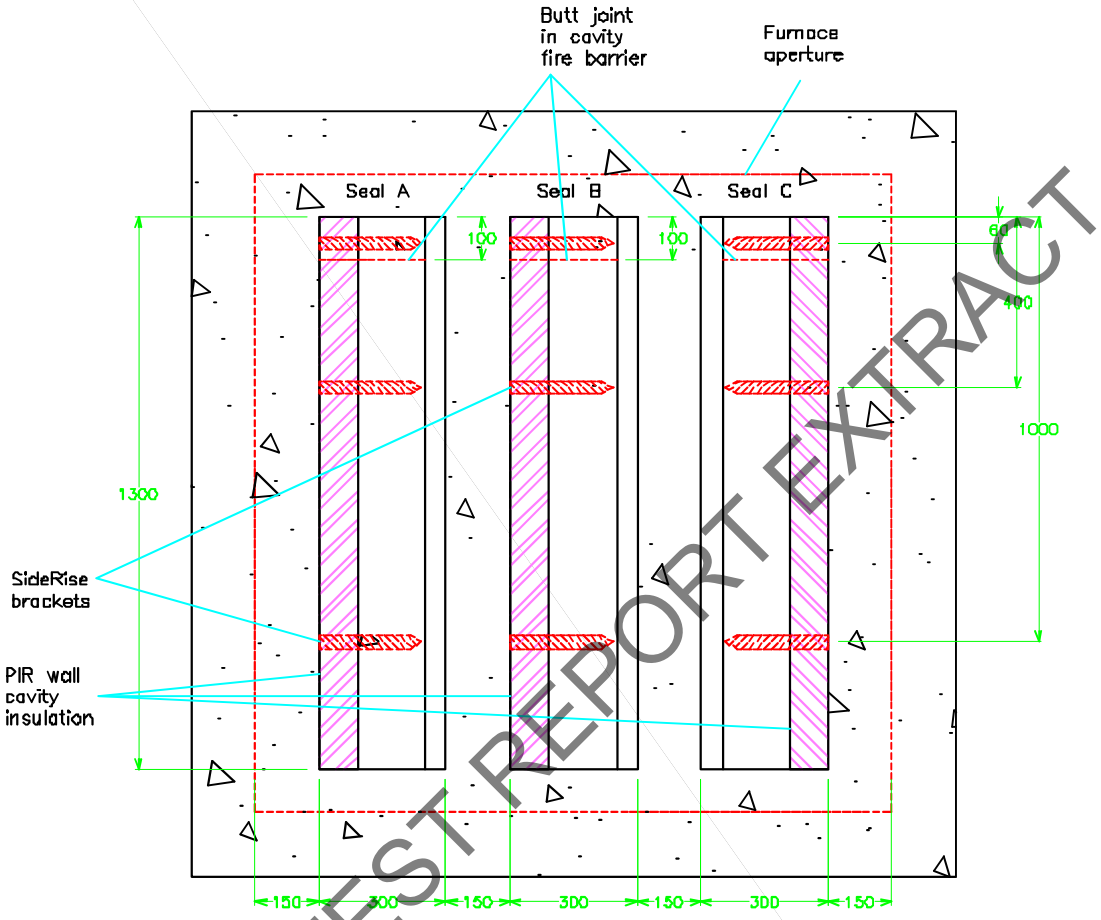
Factory sampling of the components used for the specimens subject to this report were undertaken by representatives of Warrington Certification Ltd. (details held on file by BM TRADA)

3 Description of supporting construction

The supporting construction comprised 150mm thick lightweight aerated reinforced slabs, built on top of a 1500mm x 1500mm furnace. The exposed area of the supporting construction included 3 No. apertures 300mm wide x 600mm deep x 1300mm long, exposed to the fire, to accept the cavity fire barrier seals.

4 Description of specimens

Furnace position details and descriptions of the specimens are shown below. All measurements are in mm and the descriptions are written viewing the specimens from the unexposed face unless stated otherwise.



4.1 Cavity fire barrier systems

Cavity barrier A

The cavity barrier system comprised 75mm thick x 250mm wide x 1300mm long Siderise RSH30 with lamella stonewool core (75kg/m^3 density), foil faced on the top and bottom faces with a foil cap on the exposed edge, with [redacted] PU encapsulated intumescent, Referenced RSH30, fitted along the exposed edge (bonded to foil cap with SA film). The cavity barrier system included a butt joint 100mm from one end, sealed with Siderise foil tape.

The seal was fixed mid height within the cavity on 3No. 25mm wide x 1mm thick Siderise RS350 galvanised steel brackets, fixed with proprietary 'hammer in' 6mm fasteners.

90mm thick Foil faced PIR insulation was fitted above and below the fire barrier, retained with 140mm long steel insulation fixings at 400mm centres.

The free air gap of the cavity was 50mm wide.

7 Expression of results

Overall performance

Technical failure of integrity and insulation would deem to have occurred at the start of the test due to the open void required for such seal types. However, following the rapid expansion of the intumescent layer, the gap becomes fully sealed and the product achieved the integrity stated below.

Due to the nature of ventilated/open state cavity barrier seals, an initial spike in temperature is recorded by the thermocouples positioned in the air gap adjacent to the seal as it is open to the furnace. The temperature is rapidly reduced once the seals react and fill the whole cavity. The 'air gap insulation' figure quoted in the results disregards this initial spike in temperature provided the temperature returns to below 180 degree C rise within the first five minutes of the test.

	Integrity			Insulation	'Air gap' Insulation
	Cotton pad	Gap gauge	Continuous flaming	(fixed thermocouples)	(Suspended thermocouples)
Cavity barrier seal A	39* (thirty nine) minutes	Not applicable	44* (forty four) minutes	39X (thirty nine) minutes	39X (thirty nine) minutes
[redacted]					
[redacted]					

* Failure after ventilated cavity was sealed at 2 minutes 22 seconds

[redacted]

X Failure criteris not achieved prior to initial integrity failure

Product ref:

RH50-030/30 (300mm)

Permission applied for - May 2018