From: Philip Heath <philip.heath@kingspan exchange.com>
Sent: Friday, October 17, 2008 10:29 AM
To: Ivor Meredith <ivor.meredith@insulation.kingspan.com>
Cc: Gareth Mills <gareth.mills@insulation.kingspan.com>; Andrew Pack <andrew.pack@insulation.kingspan.com>
Subject: RE: Kooltherm K15

Wintech can go f'#ck themselves, and if they are not careful we'll sue the a'#se of them

-----Original Message-----
From: Ivor Meredith
Sent: 17 October 2008 11:30
To: Philip Heath
Subject: RE: Kooltherm K15

Im having a few issues on my test at moment therefore would appreciate the help. Wintech are digging their heals in with a couple of projects and without putting ourselves in a legal situation its getting tricky what to write. Thus a standard answer would be helpful. I can read through it on my fone if that helps?

-----Original Message-----
From: Philip Heath <philip.heath@insulation.kingspan.com>
Sent: 17 October 2008 11:05
To: Andrew Pack <andrew.pack@insulation.kingspan.com>; Gareth Mills <gareth.mills@insulation.kingspan.com>; Ivor Meredith <ivor.meredith@insulation.kingspan.com>
Subject: FW: Kooltherm K15

In the event you havnt answered this AM email Ivopr, AP and I are currently preparing a detailed response, that we will then adopt as standard issue.

Phil

From: Neil Brook [mailto:N.Brook@bandk.co.uk]
Sent: 17 October 2008 08:07
To: Philip Heath; Ivor Meredith; Andrew Pack
Cc: Matt Craig; Steve Harriman; Michael Kirkland; g.sinclair@wintech-group.co.uk
Subject: FW: Kooltherm K15

All,

Further to my email of yesterday and the reply received from Andrew Pack, I have attached below a detailed response from Greg Sinclair at Wintech.

I requested in my email yesterday that you give specific guidance with regards to the use of cavity barriers in my mail yesterday, the Agrement Certificate that I was forwarded made clear that guidance should be sought from the certificate holder with regards to the use of Kooltherm K15 in buildings over 18 metres, yet it would appear that you are reluctant to offer any guidance on the use of K15 in this location.

It is clear that the BRE test does not relate to the situation that we have, in that the rainscreen is significantly different and therefore I would again request that you clarify on what basis the material is suitable for use in buildings over 18 metres and how the Building Regulations are to be complied with.

I would note that Bowmer and Kirkland have an overall responsibility for the design of this building and we must therefore be satisfied that what is proposed currently complies with the legislation and is not likely to provide ourselves with problems in the future.

Your responses to date have failed to provide any assurances on this matter and have continued to rely on test data from a different system and which incorporated cavity barriers at such intervals that would have programme and cost implications.

I trust that you will put together a considered and detailed response by return, alternately maybe a meeting may be more appropriate with all concerned.

Regards,

Neil Brook

Project Director

Bowmer and Kirkland

-----Original Message-----
From: Greg Sinclair [mailto:g.sinclair@wintech-group.co.uk]
Sent: 16 October 2008 17:10
To: Neil Brook
Subject: RE: Kooltherm K15

Neil

Where to start?

Firstly, I did not receive a copy of the BBA certificate so am unable to comment on this.

Secondly, yes, Kingspan have had the K15 insulation product tested at the BRE to BS8414-1 and the material apparently passed the criteria of BR135. The BR135 test is predominantly aimed at measuring the temperature increase on the surface and within the cavity of a rainscreen system.

As you say, the test sample comprised a tightly butt jointed fire proof cement particle board external cladding (which would have effectively prevented external fire entering the cavity at the crucial temperature test area. In addition, the test incorporated two lines of fire rated cavity barriers (one 500mm above the fire source and another 1.0 metre below the actual line of thermal couples. The tightly butt jointed panels and the first fire barrier would have prevented fire break-in to the concealed cavity below the test zone during the initial part of the test while the second barrier would protect the crucial temperature test area from the ravages of the fire below, once the first had broken in to the zone below.

Kingspan keep repeating that the product has been tested to BS8414 and therefore is suitable for use in buildings over 18 metres. What they fail to say is that it is suitable for use only in the configuration as tested i.e with cavity barriers and a cement board outer face (It is my understanding that no material (even Rockwool) would pass the criteria of BR135 when tested to BS8414 test without cavity barriers).

The reason that no cavity barriers are required in a wall comprising a non-combustible insulation and rainscreen system is that while the fire will extend up the concealed cavity (the chimney effect) the lack of any combustible material will prevent the fire going beyond its natural limit. When a combustible material is used it actually feeds the fire and so rapidly spreads up the cavity, in search of more fuel. Cavity barriers slow down this progression up the cavity and therefore, limit the fire spread and resultant damage to the building. Irrespective of whether there are any openings in the wall behind the rainscreen, the adjacent glazed facade will be at risk from fire growth up the cavity, which may lead to rapid fire growth at the upper levels of the building,

The rainscreen system being installed at City Park (and to the hotel development next door!) is an open jointed system (therefore external fire breakthrough into the concealed cavity will be easier than the test sample) and is being installed without fire barriers. As such, the installation has no resemblance to the tested sample and therefore, the test data is not relevant.

It is my understanding that the test data from the BRE test is only applicable to the system as tested and BRE are not prepared to offer any opinion on other system designs utilising the same insulation material.

As previously advised there is one simple remedy to this issue and that is to use a fully compliant insulation type, such as Duoslab. However, given the K15 insulation is currently being installed this is not a preferred option.

Therefore, the next alternative is to install a rainscreen system which fully matches the test sample.i.e tightly butt jointed cement board panels with fire stops at 3.5 metre centres. Again this is not really achievable as the outer rainscreen design is an open-jointed ceramic stone system.

Therefore, I would suggest that only way forward is a compromise on the test sample design and that is to have an open-jointed system with fire stops at every 3.5 metre (or floor levels if different), not just at 18 metres and above. This compromise is subject to acceptance by Building Control, once they have had all the facts about the product explained. And of course acceptance by my Client DevSec.

The Promat fire stop proposed by Kingspan would be suitable provided it were fitted full cavity depth (face of concrete to back face of external ceramic panels) and was accurately fitted around all supporting grid work, etc.

I trust you find the above of interest and should you wish to discuss any aspect, please do not hesitate to contact the writer.

Regards

Greg Sinclair

Wintech Limited

From: Neil Brook [mailto:N.Brook@bandk.co.uk]
Sent: Thursday, October 16, 2008 3:02 PM
To: Greg Sinclair
Cc: Carlo Fusco
Subject: FW: Kooltherm K15

Greg,

Please see the response below from Kingspan, I would welcome any comments on this.

In the meantime as discussed yesterday we will install cavity barriers at 18 metre centres.

Regards, Neil

-----Original Message-----
From: Andrew Pack [mailto:andrew.pack@insulation.kingspan.com]
Sent: 16 October 2008 13:02
To: Neil Brook
Subject: FW: Kooltherm K15

Dear Sir

Further to your recent correspondence with Mr Meredith with regards to the use of Kooltherm K15 Rainscreen board we can confirm the following.

Within the Approved Document B Volume 2 sections 12.5 and 12.7 it states that for insulation materials used within tall buildings of height above 18 metres a method of compliance is to meet the performance criteria given in BR 135 using test data from BS 8414. The Kooltherm K15 Rainscreen board carries British Board of Agrement approval, certificate no. reads 08/4582. Under section 7.1 of this approval document it makes reference to testing in accordance with BS 8414 and the results obtained meeting the performance criteria of BR 135.

With regards to maximum dimensions and location of cavity barriers our advice would be to follow the guidance of the Local Authority Building Control Department responsible for this project. As to a cavity barrier specification a possible manufacturer and supplier is Promat UK Limited. Attached is the literature for a cavity

barrier product designed for use behind ventilated rainscreen cladding systems.

We trust this information is of assistance. In the event of any further queries please do not hesitate to contact the undersigned.

Andrew Pack

Technical Services Manager

Tel: [redacted]

Fax: [redacted]

mobile: [redacted]

email:

Web: www.insulation.kingspan.com <http://www.insulation.kingspan.com/>

From: Neil Brook [mailto:N.Brook@bandk.co.uk]
Sent: 16 October 2008 09:33
To: Philip Heath; Ivor Meredith
Cc: Gareth Mills; Matt Craig; Steve Harriman; Tom Leatherland; CityPark Site
Subject: RE: Kooltherm K15

Philip,

Further to my conversations with Ivor and your email below, I would note that to date you have not substantiated as to on what basis the Kooltherm K15 is suitable for buildings over 18 meters and appear to be relying wholly on the BRE test result on a mock up consisting of a cement particle board to a height less than this as per the Agrement Certificate that you have supplied.

Whilst Keyclad have commenced the installation of the insulation in accordance with their drawings (I will arrange for a selection to be forwarded to you later this morning), we require your urgent clarification as to the requirement for cavity barriers in the system in order that the principles set out in the BRE test are followed.

Ivor advised that cavity barriers would not be required until 20 metres from ground level and then at intermediate floors, though he was somewhat unsure as to what was meant by this statement. I would also query the 20 metre dimension as the Building Regulations generally require barriers at 18 metres in all directions.

You will see from the drawings that I will issue that the Rainscreen Cladding areas are solid in nature with penetrations only at low level for doors and louvres yet are over 65 metres high. The rainscreen is fixed to a continuous concrete core, this is indicated more clearly in the photographs attached.

The Building Control Department have advised that they have no requirement for cavity barriers other than around the low level openings, due to the nature of the construction and the unlikely fire break into the cavity.

We require confirmation from Kingspan as to the location of required cavity barriers throughout the areas of rainscreen construction and a detailed specification as to how the cavity barriers are to be formed. I trust that you will be able to provide this information quickly in order that the matter can be closed off by our clients representatives, Wintech and that Keyclad can progress the installation without delay.

Regards,

Neil Brook

Project Director

Bowmer and Kirkland

T [redacted]

M [redacted]

-----Original Message-----
From: Philip Heath [mailto:philip.heath@insulation.kingspan.com]
Sent: 15 October 2008 14:25
To: Matt Craig
Cc: Neil Brook; Ivor Meredith; Gareth Mills
Subject: Kooltherm K15

Following your earlier discussions and correspondence with my colleague Ivor Meredith with regards the

use of the Kooltherm K15, please find attached a copy of the British Board of Agrement certificate which

has been finalised this week. N.B. This document is not available within the general

market place for the next few day's so we would request that this document is only viewed internally and by your client.

Kooltherm K15, although not classed as non combustible, it is classified as Class 0 or 'low risk' as defined by the documents

supporting the national building regulations, the BBA certificate along with the previous correspondence from Kingspan Insulation

confirms the suitability of the Kooltherm K15 for use in rainscreen facades and is therefore deemed to satisfy.

Regards

Philip J. Heath

Technical Manager

Kingspan Insulation Ltd

mobile : [redacted]

DDI : [redacted]

Switch : [redacted]

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