Report on the Use of Combustible Insulation Materials within the External Wall Constructions of High Rise Buildings

- Current building codes restrict the use of combustible materials within the external wall constructions of buildings with a storey at a height of 18m above ground level.
- One such insulation material (Kingspan K15) had been previously accepted, based upon its supporting BBA Certificate.
- But a subsequent change in the wording of the BBA certificate in December 2013 meant that K15 could no longer be classified as such, thus putting NHBC in an awkward position with regards to its role as an Approved Inspector in addition to the responsibilities under Buildmark.
- In general, where the Building Regulation code criteria cannot be met, the proposed wall build-up should instead meet the performance criteria of BRE Report BR135. This document provides performance criteria for allowable speeds of fire spread and any acceptable system will be issued with a certificate of compliance.
- K15 was accepted by NHBC prior to December 2013 by virtue of its BBA approval 08/4582 which stated 'In buildings with a floor more than 18m above ground level, advice should be sought from the Certificate holder'. Kingspans interpretation was that even though the BS8414 test was carried out on a masonry wall, with the provision that a non-combustible backing board was used in the build- up, equal performance should be achieved. NHBC accepted this interpretation.
- But, the certificate was revised by BBA in December 2013 and the acceptance wording changed to state that 'The test result relates only to this specific construction and a separate test woulod be required to establish the performance of any other combination of materials' NHBC interpretation of the updated certificate is that a separate test is needed for any construction which differs from that originally tested.
- NHBC have seen two further reports based upon tests carried out by the Building Research Establishment. Both reports appear to meet only some of the performance criteria of BR135. Furthermore it appears that BRE are unwilling to issue a BR135 Classification certificate on the strength of these two tests.
- Kingspan continue to market their product on the basis of their own interpretation of the wording of both the BS8414 test procedure and the BR135 performance criteria.
- Staff do not accept the Kingspan interpretation and have held a number of meetings with them to discuss NHBC's concerns. At all of these meetings staff were assured that additional testing was proposed in order to provide a range of data from which a desktop study of different constructions can be undertaken when considering a build-up which hasn't been tested in its entirety. However, Kingspan have not provided any further test data or opinion from BRE to indicate compliance with BR135.
- Staff have been in constant dialogue with Kingspan for more than 12 months during which time many promises of additional testing or other supporting data have been made by kingspan, none of which have come to fruition.
- Celotex RS5000 has only recently entered this arena following a single BS8414:2 test carried out in July 2014 and the subsequent issue (by BRE) of a BR135 Classification Certificate on 11th August 2014. Celotex appear willing to carry out further tests, but are waiting for developments in the Kingspan situation.
- In addition to meetings with Kingspan and Celotex, staff have met with fire experts such as ARUP and BRE along with façade experts at CWCT, all with aview to resolving this matter.
- At the current time Kingspan and Celotex are the only manufacturers of PIR / PUR insulation products available in the UK market.

APPENDIX

Potential scale:

- As at November 2014 the SRPM team indicate the following risk to NHBC:

- Total number of potentially affected schemes is 97 (affecting 41,610 plots). This includes both warranty and Building Control sites.
- 47 of these have had their cladding details agreed (affecting 15,759 plots)
- 50 of these have either not had cladding details submitted or submitted details have not been agreed (affecting 25,851 plots)

Proposed way forward:

1. New schemes submitted after 1st January 2015

It is proposed that external wall constructions should follow the process as detailed in the BCA Guidance Note, summarised as:

- The construction uses only materials of limited combustibility
- The construction matches one for which a BR135 classification certificate has been issued
- The construction is validated by a test house whose data bank allows a desktop appraisal to be undertaken and a BR135 compliance opinion issued on this basis

2. Existing schemes submitted to NHBC prior to 1st December 2013

Only Kingspan K15 held any form of approval at this time. The first version of the K15 BBA certificate allowed the manufacturer to give advice on the acceptability of a non-tested construction. On this basis, it is proposed that NHBC can accept a construction which, in line with the December 2013 cut-off date, has written confirmation from Kingspan stating that, in Kingspan's opinion, the proposed build-up is acceptable.

3. Existing Schemes submitted after 1st December 2013

Currently, the only formal approvals held are:

- Kingspan K15 - BBA Certificate 08/4582 (dated December 2013). Allows the use of the product only on a masonry backing in the format tested.
- Celotex RS5000 – BR135 Classification Report 295255 Issue 2. Allows the use of the product only on a steel frame using a non-combustible backing in the format tested.