Above 18m Update
External wall construction

12.5 The external envelope of a building should not provide a mechanism for fire spread if it is likely to be a risk to health or safety. The use of combustible materials in the cladding system and extensive cavities may present such a risk in tall buildings.

12.6 The external surface of walls should meet the guidance given in paragraphs 12.6 to 12.9 or meet the performance criteria given in the BRE Report, Fire performance of external thermal insulation for walls of multi-storey buildings (BR 135) for cladding systems using full scale test data from BS 476-6:1970 or BS 8418:2000.

12.7 The total amount of combustible material may also be limited in practice by the provisions for space separation in Section 13 (see paragraph 13.7 onwards).

External surfaces

12.8 The external surfaces of walls should meet the guidance given in paragraphs 12.6 to 12.9 or meet the performance criteria given in the BRE Report, Fire performance of external thermal insulation for walls of multi-storey buildings (BR 135) for cladding systems using full scale test data from BS 476-6:1970 or BS 8418:2000.
Principle

The test method simulates a fully developed fire in a room abutting the external face of a building and venting through an aperture. In the test, the external cladding system is fixed to and supported by a structural steel frame so as to simulate the external face of a building in the form of a main face together with a return wing with the cladding system attached in the manner specified by the test sponsor. At the base of the vertical system, an opening is provided through which the fire can vent.

The extent of damage caused to the external cladding system is evaluated, particularly the ability of the external cladding system to resist the propagation of the fire upwards.
BR 135

- Large Scale Test
- Simulates Flashover From Window Opening
- Level 2 Thermocouples Cannot Exceed 600°C For 15 Minutes After Level 1 Exceeds 200°C
Ventilated Façade Market

- Ventilated Façade Market Valued At £13M
- Projected To Grow To £17M By 2017
  (SOURCE: COMET DATA)
- Rigid Board Market Estimated At £5-7M
External Cladding Materials

- High Pressure Laminates
- Ceramic
- Terracotta
- Aluminium Composite
- Steel
- Zinc
- Stone
- Fibre Cement
- Building Boards / Carrier Boards

Fixing Methods

Open / Baffled / Rebated

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Kingspan K15

- Tested To BS 8414-1 Onto Masonry
- Non-Combustible Substrate Required
- BBA Certificate
- LABC Approval
- Fire Barrier Testing
Xtratherm Safe-R

- Claimed Tested To BS 8414-1
- BBA Certificate (Doesn’t Reference BS 8414)
- No LABC Approval
- Will Not Distribute Test Report
Only Cladding Manufacturer To Achieve LPCB Approval

Tested & Passed BS 8414-1 & 2 (Using Rockwool)

Failed Twice Using K15 Onto Steel Frame

AIM Fire Barriers
- Commissioned To Design & Witness Test Specimen
- Potential To Offer Field Of Application Report
- Looked At A Bespoke Fire Barrier Solution
- Challenging Due To CWCT Ventilation Guidelines
Market Dynamics

- Architect Specifies K15 Behind A Particular Cladding System With Fire Barriers
- Contractor & Sub-Contractor/Cladding Employed
- Value Engineered (Equal Or Approved Cladding & Fire Barrier)
- Building Control Officer Checks
Celotex Options

- Worst Case Scenario With Field Of Application Report
- System Route (Limits Scope – Requires Re-Education)
- Test & Launch Without BBA & LABC
- Test & Launch With BBA & LABC
- Opt Out Of Above 18m

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• ACM Panel With Improved Barrier System (<50%)
• A2 Panel With Standard Barrier (80%)
• Cement Particle With Standard Barrier (90%)
Considerations

- Proof Of Compliance To BR 135
- Literature Wording, CTC & ASM Response
- BBA Certificate Timing & Costs
- LABC Costs & Requirements
- Fire Barrier Manufacturers
- Field Of Application Report