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To Whom it may concern,

Who CERAM are:

CERAM Building Technology (CBT), a division of CERAM, the internationally renowned centre for materials and technology based in Stoke-on-Trent have worked with Compton Buildings Ltd in the assessment of their "new rendered brickwork panel system".

**Products Tested (CBT Reference BT07614TAS / BT07638TAS) :**

The products tested are " Flex-C-ment Wall Mix G<sup>TM</sup> " , " Flex-C-Ment Primer 100<sup>TM</sup>" and "Flex-Seal Protector<sup>TM</sup>" which are produced by **DBS Ins Taah Kimya San ve Tic Ltd Sti**, based in Istanbul, Turkey. These products are components of a decorative overlay system which is collectively referred to as Flex-C-Ment Systems.

**Why test the products and why these methods:**

It is common when manufacturers of new and novel building systems, in the absence of formal British or European Product Specification Standards, to undertake bespoke testing to show that the products on sale are "fit for purpose", and as a result have the confidence to self certify and give manufacturers warranties/guarantees.

In order for this to happen, manufacturers require the confidence that the testing is meaningful and truly reflects the conditions of intended use. Compton Building Ltd approached CERAM Building Technology to assist in firstly identifying the most relevant testing methods available for this new product.

As there are no formal standards relating to the product in question, CERAM devised a series of tests to show the performance in extreme climatic conditions of the physical properties of the product. This included both prolonged wetting and high temperature drying (Hygrothermal) and freezing and thawing (Frost Resistance).

The test methods adopted are parts of the MOAT 22 test methodology for the "Assessment of External Insulated Systems for Walls", and TS EN 772-22, the Freeze-Thaw Durability test method used for the assessment of clay masonry units (bricks). The combination of these two extreme environmental exposure tests the durability of the render system to both mechanical, expansion and contraction of the render/concrete panel in the hygrothermal test as it is heated up to 70°C over three hours and is then saturated by a cold water spray and physical processes, the formation and expansion of the ice crystals in the pores in the render as the panels are frozen down to -15°C and then the exposed surfaces thawed to by warm air at 20°C over a 2½ hour cycle.

By testing a number of physical properties, both before and after exposure to the extreme climatic conditions, it is possible to show whether or not the exposure has resulted in a loss of performance of the render system.

The tests used in this assessment were "Pull Off", "Abrasion" and "Hard Body Impact". All three are designed to show the performance of different physical properties of the render in service.

**Pull Off** – The test measures the required force needed to pull a circular disk of render from the concrete backing panel. A Ø50mm steel plate is bonded to the render surface after a Ø50mm cut has been made to isolate the render section under test from the surrounding render. The pull off load at failure is measured and converted into a force. These are then compared to standard values for wind speeds in the UK to assess if the suction force of high speed winds could pull the render off the substrate.

**Abrasion** – This test uses the “Wide Wheel Abrasion” test from the concrete paver standard. This test shows how resistant the render is to being abraded, in this case by a steel wheel and an abrasive grit, replicating tree/shrub branches or the more extreme of a car or bicycle scraping down the side of the structure.

**Hard Body Impact** – This test uses a Ø62.5mm steel ball, weighing 1kg, dropped from a height of 1.02m, onto the render. This gives an impact of 10 joules, in excess of normal “wear and tear” impacts for these types of structures.

#### **What the results show:**

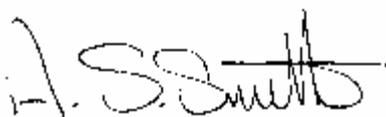
The Compton Buildings “render panel system” tested shows no visible deterioration after both modes of environmental exposure. The results of the “Pull Off”, “Abrasion” and “Hard Body Impact” tests show that no significant alteration of the physical properties of the “system” has occurred, therefore indicating that the product will be able to withstand the worst that the British weather can throw at it.

#### **Conclusion:**

The rendering system tested represents a real advancement in the aesthetics and technical performance of similar systems.

Testing has shown that these panels are resilient and durable, fully capable of withstanding the worst that the British weather can throw at them.

Yours sincerely



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