

# K Systems for High Rise



Over recent years, the building industry has embraced the benefits of External Wall Insulation (EWI) more than ever before – but not all installations are the same.

Specification for multi-storey application is very different to that of low-rise projects, with health and safety procedures being a key consideration.

K Systems follow a strict High Rise Policy to ensure best practice for this type of exterior refurbishment scheme.



EWI is a cost effective method of achieving the thermal and aesthetic upgrade of high rise buildings and has been used in the UK for over 25 years.

EWI systems address the poor thermal performance of these blocks, resulting in improved U-Values to comply with current Building Regulations. Installation of EWI systems involves fully encapsulating the building with insulation boards which are fixed to the substrate, strengthened by a reinforcement mesh and over-coated with a choice of high performance, attractive finishes.

Fast-track building methods used to construct many high rise blocks have, in the past, led to condensation and water ingress as a result of wind driven rain and cold bridging effects, creating low energy efficiency due to lack of thermal insulation. EWI provides protection to the building fabric and in most cases is capable of eradicating these problems.

## **KSystems** for High Rise

To achieve the thermal requirements of the project, K Systems offer the appropriate type of EWI insulation board which is then mechanically and adhesively fixed to the substrate. A polymer modified reinforcing base coat, incorporating a fibreglass reinforcement mesh, is then applied.

Once the base render has fully cured, there is a choice of finishes ranging from K Systems' more traditional dash or painted renders, to contemporary through-coloured silicone renders or acrylic brick slips.

The new external finish transforms the appearance of the high rise block, improving the local area in general and encouraging a positive social impact. The thermal blanket also improves air tightness and acoustics (insulation choice and substrate dependent).

#### Warranty

The high rise install will be signed off in stages and a final inspection by K Systems is required before the project warranty is issued to the client. K Systems will also address any questions and queries post install. This may include advice on maintenance and fitting of fixtures through the EWI system. EWI is covered by 10-25 year system manufacturer warranties and in the case of ECO (Energy Company Obligation) funded projects, a 25 year guarantee is provided by a third party insurance company. K Systems will provide a before, during and after service for high rise. This includes a pre-survey and project specification, mechanical fixing pullout tests including wind loading calculations and a consulting engineer's report along with specialist technical advice and maintenance guidance.



Contact K Systems for project support & advice or visit www.k.systems

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#### High Rise, not High Risk

High rise EWI specification is different to that of low rise because the insulation boards must be adhesively and mechanically fixed. Wind load calculations are essential so as to generate a project-specific mechanical fixing pattern for the insulation boards. The edge zones, external corners and openings require increased mechanical fixings to accommodate the higher wind loads in these locations.

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K Systems, as part of our High Rise Policy, always use independent Structural Engineering Consultants to conduct these calculations to ensure structural stability, required performance and system longevity. The insulation board adhesive and high rise mechanical fixing pattern increases the square metre material and install costs in comparison to low rise.

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K Systems are officially accredited and approved for use in high rise applications. This is important for this type of project. A large scale fire test or reaction to fire test is required for the system when used above 18m in height.

### Installation Considerations

During the project, K Systems site surveyors work closely with K Systems registered and fully-trained EWI installers to ensure that the install is as per the specification and that all details are installed in accordance with K Systems' and the project designer's detail drawings. As well as through-the-wall square metre rates, compared to low rise schemes there are additional detailing considerations. These include parapet, lightening conductor, CCTV, external lights, robust window cill details, and ground floor entrance areas etc. K Systems provide a site install inspection regime which requires a regular and thorough check of the EWI install. It is critical that all the detailing is robust and installed as per specification. Once the wall access is removed any repairs are more difficult and costly to address than for low rise projects. Scaffold and mast climbers are the typical options for access. Scaffold ties need to be fixed in the most practical locations and protected scaffolding is recommended. Alternatively, mast climbers are an economical, fast track option for EWI install but offer less protection to newly installed work. Programming considerations should always allow for weather conditions.



### **Energy Efficiency**

High Rise Building EWI is a cost-effective and energy efficient solution for high rise blocks allowing for an aesthetic transformation of the building and the surrounding area. Improved thermal performance results in less fuel consumption and therefore less CO2 emissions leading to a typical saving of around 30% on tenants' heating bills. The carbon savings contribute to the Government's target to cut CO2 emissions by 80 per cent, based on 1990 levels, by 2050. This carbon saving EWI measure is, in part, ECO-funded by utility companies, with a contribution from the Local Authority or Landlord.

EWI can also be combined with other measures such as communal heating system upgrades, to maximise ECO funding thus significantly reducing the cost of the refurbishment works.

K Systems have developed their High **Rise Building Policy** as a measure to safeguard all parties involved in high rise EWI installation. It serves to provide the client with peace of mind that the install will be carried out to strict Health and Safety standards, ultimately ensuring the long term well-being of the building's residents.

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