

Saltcoats Case Study

OVERVIEW



Renowned for being cold, wet and windy, the Lambie and O'Conner high-rise blocks in Saltcoats, North Ayrshire needed to be designed to withstand the most testing climatic conditions. The client required an extremely robust, long life system to replace an existing external wall insulation (EWI) system that had reached the end of its effective life. Therefore, Soltherm Endurance 75 Silicone was specified due to its 75 year effective life and advanced maintenance program.

APPROACH



The system performance criteria outlined by the client, North Ayrshire Council, listed a minimum reaction to fire of A2-s1,d0, superior wind load performance due to its location, and a minimum 60 year effective life durability.

Specifying Soltherm Endurance 75 Silicone met or exceeded the principal criterion. Offering an industry leading 75 year durability and A2-s1,d0 reaction to fire addressed the technical system requirements within the standard system and without introducing project specific design or system enhancements. However, ensuring the system remained secure throughout its design life for both across the 36m (12 storey) high blocks utilised accurate and compliant in-house wind load calculations and technically advanced fixing innovation.

Well documented as the primary mode of failure in Mineral based EWI, achieving an adequate pull-through value is of optimum importance, however, it can also be challenging when the project demands higher wind loads. Adopting the innovative Cross-Knot fixing, Soltherm have assured the longevity and structural performance of the system in this most challenging environment. Soltherm's patented Cross-Knot technology provides best in-class pull-through value, achieving a characteristic value of 0.8kN per fixing to ETAG 004 / EAD 040287-00-0404, whilst not having to be fixed through the scrim layer, a pet-hate for installers but a necessity for standard, less innovative systems

Maintaining system integrity at interfaces, external corners and parapets throughout the extended design life requirements posed a further technical question. However, combining Soltherm Clamping Rings with stainless steel profiles and beads contributed to the system's ability to withstand the weather and guarantee a 75 year effective life.

PROJECT NAME:

Lambie and O Conner, Saltcoats

SYSTEM(S) INSTALLED:

Endurance 75

M₂:

5,500

TYPE OF BUILDING:

Social Housing High Rise

SUBSTRATE & U VALUE

Concrete 0.28 W/mK

INSTALLER:

MP

Soltherm's clamping ring is an innovative fixing solution that prevents delamination between base coat and mineral wool, providing a much-improved system wind load performance at window interfaces, external corners and parapets. Offering a much stronger solution than standard fixings, clamping rings prevent delamination and eradicate shear deformation, leading to incomparable crack resistance.

As consequential added-value, both fixing enhancements also improve the system's ability to perform in the event of a fire, restraining render detachment and preventing the perils of delamination that may be attributed to more conventional systems.

During the installation, extreme caution was necessary when providing access due to the neighbouring trainline. Overall, due to the high wind loads, 1008 scaffold anchors were required to ensure absolute stability of the full height erection. To avoid scarring when the scaffold was struck, Soltherm introduced innovative filling technology that invisibly ensures system integrity. Rather than the typical "silicone backfill and top-coat", in a patent-pending industry first, the Soltherm filler creates a homogeneous bond that doesn't compromise either performance or finish.

Finally, to ensure the system retained a "just applied" look and reduced the clients need for cyclical decorating and maintenance, this most advanced system was finished using Soltherm SFC-P 15 S75 Silicone render. This unique finish coat encapsulates unique biocides within its binders that migrate and disperse through to the coating when installed. The result is a finish that is highly resistant to microbial growth in damp conditions and can be pressure washed to 30 Mbar without degrading the finish or reducing performance.

