

Lendlease ensuring the correct quality - Inspection and test Process

Manchester New Square – Precast UHPC cladding.

Passive Fire Protection works Accreditation to work on Lendlease projects

As well as the standard checks carried out through SCIP, where a contractor has any active or passive fire protection as part of their works must also hold appropriate third party accreditation with one of the following companies to carry out those works

1. Exova Warrington Fire
2. IFC
3. BRE (LPCB)

These rules apply directly to the sub contractor and also their sub contractors

Ensuring the works are correctly carried out and inspected

Before any of the works, either off site or on are carried out Lendlease require that the sub contractor provide Lendlease with a Contractors Management Plan and Single Source Inspection and Test Plan

The plans must be to A status before any works commence be that on site or off site works.

The Inspection and Test plan is a joint effort between Lendlease and the specific sub contractor and are developed throughout the life of the project.

Critically the inspections carried out by the sub contractor must equate to signing off of 100% of the works they or their sub contractors are undertaking and the proof of these inspections must be held by Lendlease as works progress.

Benchmarks, Mock-ups and Samples

As part of the manufacturing and construction works process Lendlease require all sub contractors to develop benchmarks, mock ups and samples covering all the elements of the works they are undertaking. These must be approved by Lendlease, relevant specialists, such as the Lendlease façade team, Designers and clients where needed, before the works commence on those elements.

These benchmarks, Mock-ups and Samples are controlled via Conject for approvals and must be included as part as the sub contractor specific works briefing. Examples of how we have done this in the past include dedicated videos that can be viewed while on site for operatives to watch during works.

These often include but are not limited to;

1. Material specification and colour samples e.g. cladding elements
2. Works elements detailing e.g. window to cladding interface
3. Any Passive Fire Protection details
4. Key elements of the build such as panel junctions, corner details

Off site works and Manufacturing

For the pre-cast units Lendlease will ensure that these works are inspected by the sub contractor and Lendlease specialists in the business. This process details how off site inspections will be

undertaken to ensure that the product is to the required standards both structurally and aesthetically and comply with the approved planning samples.

Lendlease will have regular visits to the precast factory to inspect the panels in the various stages of construction, these visits will be formally recorded and if required non conformance reports produced with clearly defined close out procedures and timescales.

Checks for Façades

In addition to the checks detailed above the Lendlease Façade team, considered experts in the industry, have developed a number of checklists and processes to drive the quality and ensure the correct levels of manufacturing diligence are carried out during the works in particular at the junction between various components.

Inspecting the works on site – spot checking the works

Once works commence on site with installation and build of the works being undertaken, spot checking the works, is used to carry out inspections of the works to ensure that the product has arrived to site as intended i.e. no transit damage and that the junctions between concrete panels are in accordance with the specification and approved drawings. Looking at verticality movement joints alignment of the façade. The levels of inspection will vary during the onsite installation with 25% of the inspections occurring in the first 10% of panels.

Independent verification.

All of Lendlease's projects are supported by members of the Design and Technical team which include, the Design Management team, the Façade Team, the Quality Management Team, the Structural Engineering team including temporary works and the M&E team. All of whom bring technical knowledge in their respective field and support and supplement the site team with their expert knowledge.

Closing out the works

The Lendlease Inspection and Test process is designed to deliver the highest levels of quality, ensuring that we deliver to the client's requirements as well as satisfying statutory regulation and building codes. To ensure this the Inspection and Test plans also include authority and client inspections at relevant points during the manufacture and on site works.

The records produced form the evidence that works have been inspected and can be tied back to the original benchmarks, mock-ups and samples as well as the specifications proving that the right materials, right processes and that works have been completed correctly.