ECO CLADDING
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A TECH NOTE

HOW TO: SITE TESTING OF PERIMETER ANCHORS

How to avoid confusion with on-site tension testing of perimeter anchors

In rainscreen construction today, the requirement to carry out on-site, tension testing of anchors is increasingly common when the condition and design loads of the wall are unknown. But there is considerable confusion with regards to what type of anchor testing is required and what the optimal conditions for that testing need to be. This Tech Note provides guidance on how to apply proper testing of perimeter anchors to provide the necessary quality assurance measures to ensure your installation will meet the needed safety factors of your project.

On-site Proof Testing

On-site proof testing (non-destructive proof loading) is an important element to provide additional assurance of installation quality and is helpful in cases where the resistance values for the design are missing for a similar but not identical base material as given in the relevant approval document of a specific anchor type. Proof testing is designed to check the quality of the installation and is applied to working anchors on the project. A test load is derived, based on the applied load. It is carried out on a percentage of the anchors, as defined by the code.

The test anchors need to be installed in representative sections of the existing wall substrate. The purpose of the proof test is to provide assurance that the anchors meet the approved design resistance values of the project.

The load level is selected sufficiently high to provide assurance of correct installation or to determine targeted design resistance values but not so high as to result in damage (e.g. in the form of yielding or permanent slip) to a correctly installed perimeter anchor. Proof loads should be maintained long enough to enable a determination of no anchor movement.

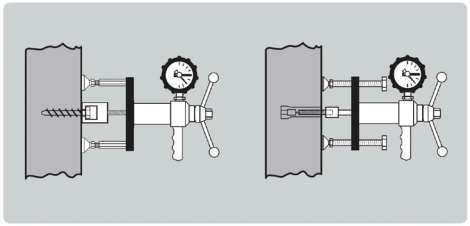

FIGURE: TEST RIG APPROACH BASED ON ANCHOR TYPE

Destructive Loading

Destructive loading (allowable load testing) is also done by applying tension loads. However, the load level is selected a significantly high level to result in damage (e.g. in the form of yielding or base material failure). For our wall bracket systems, destructive loading in not a required approach, unless the Specification or the Engineer of Record has required this approach and defined the sampling rates. Before you go to the extreme of allowable load testing, contact your ECO Project Manager to confirm suitability.

Steps for Anchor Testing

1. **BUILDING OFFICIAL (TYPICALLY EOR OR ACHITECT) TO APPROVE OF TESTING METHOD (PROOF OR DESTRUCTIVE)**
2. **BUILDING OFFICIAL TO CONFIRM NUMBER OF TESTS REQUIRED (MINIMUM OF 5 FOR EACH CONDITION)**
3. **WE PROVIDE YOU WITH THE APPROVED DESIGN RESISTANCE VALUES (FOR PROOF TESTING)**
4. **DIRECT TENSION TEST ON ANCHOR - DO NOT APPLY TO WALL BRACKET**
5. **COMPLETE TESTING FOR PERIMETER ANCHORS**

Questions? Need to know more? Call us at **855-237-3370** or email **info@ecocladding.com**.