

City of Hialeah Building Department

Guidelines for Light Weight Insulating Concrete (LWIC)



As of June 2002, the City of Hialeah Building Department will be requiring permits and inspections of LWIC. It is the intent of the Code (FBC 104.1.1) to cause inspection of all phases of construction (FBC 1917.2.2, (3) & (4)) and check qualifications of its applicators (FBC 1917.2.1).

New Construction

Under new construction a sub-contractor will need to apply for a permit for LWIC prior to installation. We'll treat this permit as any regular sub-permit to the master Building Permit. Application and specifications will be required from the LWIC contractor. A Building, Mechanical, Plumbing Processor will be the only reviews of the application and specs and may be processed during the walk-thru session. The specs will consist of the NOA for the LWIC. Roof plan should be on file showing drainage details.

Existing Construction

Permits for existing construction consisting of recovery over an existing roof assembly will require a LWIC contractor. The roofing contractor does not qualify for this scope of work. The permit application shall be accompanied by a roof plan showing drainage details, an engineering analysis, a TAS 124 bonded pull test, a TAS 106 moisture test, and the LWIC NOA. Only a building and Structural review will be required and may be processed during the walk-thru session.

Engineering Analysis

Roofing permit applications involving change in the roofing system and recovery applications must include signed and sealed calculations for the supporting structure (FBC 1519.5.3.1) and a statement as follows:

I have reviewed the structural and drainage adequacy of the existing roof structure with regard to the proposed roofing system and hereby approve the installation as proposed.

Signature/Seal: _____

License Number: _____

Architect P.E. Discipline: _____

Eligible Contractor

Contractors eligible for obtaining a LWIC permit shall be a Certified General or Building Contractor or Miami-Dade County Roof Deck Contractor. The contractor must also show proof that he is a qualified applicator from the manufacturer (FBC 1917.2.1).

Technical

LWIC requires venting of excess moisture (FBC 1519.5.3 & 1917.4.1). On new construction over galvanized metal deck this is accomplished via slotted holes in the metal decking. On any other non-venting substrate in new construction or over existing assemblies venting shall be provided.

All LWIC must have an NOA. On metal deck construction the inspector will conduct a metal deck inspection prior to the cast to confirm welds and side stitching. In addition the inspector will check joist spacing to make sure it complies with the intended design pressure as listed in the NOA of LWIC.

Permit Fee

The fee for the LWIC permit will be \$86 for either new or existing construction. For new construction the LWIC permit will be a sub-permit of the master building permit. For existing construction the LWIC permit will be a sub-permit of the roofing permit. This will require the roofing permit to be applied for before or concurrent with the LWIC application.

Inspections Required

There will be two inspections required for LWIC. The LWIC contractor requests the first inspection the day before for a wet cast inspection (FBC 1917.4). The second inspection will be a walkability test conducted at tin cap inspection. These inspections will apply to both new and existing construction.

Testing

At the wet cast inspection the job log and wet density measurements will be required (FBC 1917.2.3). The approved NOA must be available at the time of inspection. For new pours a fastener pull test will be required after curing 5 days indicating a minimum resistance of 40 lbs (FBC 1917.4.10). At the tin cap inspection the City inspector will conduct a walkability test.

Documents

At all times and especially at wet cast and walkability inspections the documents submitted for LWIC permit must be available.

Final Inspection

LWIC permits need to be finalized. A final field inspection is not necessary to final a LW permit as long as the documents and routine field inspections have been done. The LW contractor requests the final inspection.

CHECKLIST
LWC Installation in New Construction Applications



PROVIDE THE FOLLOWING INFORMATION AT THE TIME OF LWIC PERMIT SUBMITTAL

1. Provide a current Product Control Approval for the LWC to be installed (1917.2 FBC).

Note: The LWC installer is required to be a licensed General, Building, or Roof Deck Contractor and must be an approved applicator by the LWC manufacturer.

2. Provide a current Product Control Approval for the roof system to be installed. Check if there are any proprietary requirements in the roof system Product Approval for the LWC, to be installed.
3. Any required R-values for Light Weight Insulation Concrete should be checked and approved by the mechanical processor for compliance with the energy calculations.
4. Check to determine if the calculated design pressures in all roof pressure zones meet the maximum allowable design pressure in the LWC Product Approval specification.

Note: When calculating wind uplift pressures, use the size of the corner of the building to determine the GcP values for the attachment of the LWC to the substrate (deck).

When calculating wind uplift pressures, use 10-sq. ft. to determine the GcP values for the attachment of mechanically attached roof assemblies.

5. Check the substrate the LWC is to be installed over. If the LWC is installed over a non-venting substrate provide the method of venting the deck and the LWC. (1917.4.1. FBC)

If the LWC is installed over a steel deck a minimum 22 gauge galvanized G-90 **slotted** steel deck is required. Check attachment of the steel and support spacing to meet the maximum design pressures as listed in the LWC Product Approval.

6. Check if bonding agent or curing compound is required to meet maximum design pressure.
7. Check locations of the primary drains/scuppers and the sizing over the overflow drains/scuppers so that no more than 5" of water shall accumulate in any portion of the roof.
8. Check the wood blocking detail at the edges of the roof or at the top of parapet walls. Wood blocking attachment for concrete and steel structures shall be as per RAS 111 and 2330 FBC. Wood blocking attachment to LWIC shall be design by an Architect or P.E. (2330.1.3 FBC). Attachment criteria of 250 lbf perimeters and 300 lbf corners with minimum 2" x 6" PT wood attached at 18" maximum with an approved fastener with a minor root diameter of at least ¼" (RAS-111 FBC).

An Architect or P.E. must design the wood blocking attachment for building heights greater than 40 feet.

9. Check to see if expansion joints are required (1917.4.11 FBC).