

Approved admixtures shall be used in strict accordance with the manufacturer's recommendations.

Insulation Board:

The insulation board used in the Cellular Concrete roof deck system shall be a product of expanded polystyrene having a nominal density of one pound per cubic foot. The board shall be fabricated in 2 foot by 4 foot size in specified thicknesses with 6 or 8 - 2 1/2" +/- 1/2" diameter holes to provide positive keying action, and shall carry Factory Mutual and Underwriters Laboratories Approvals.

Reinforcing Mesh:

When required, mesh reinforcement shall be Keydeck Type 2160-2-1619 or approved equal.

APPLICATION:

Physical Properties:

The mix proportions shall be designed by the Foam Concentrate manufacturer to yield the proper physical properties, i.e. compressive strength, density and thermal conductivity.

Mixing & Placing:

1. Cellular Concrete shall be mixed and pumped into place by an approved batch plant. All ingredients of the mix shall be thoroughly blended before discharging the mixer.

2. A wet density of 35 +/- 7 pounds per cubic foot shall be maintained at the place of deposit.

3. The consistency of the mix shall be batched, to provide a plastic mix that can be screeded to a smooth finish.

4. Cellular Concrete shall have a minimum thickness of 2" over the top of all substrates. When composite fills are required, there must be 2" over the polystyrene insulation board.

5. When the air temperature is predicted to be above 40°F for the first

24 hours after placement of the Cellular Concrete - normal placing procedures should be followed.

6. Cold weather placement (40° F and falling) of Cellular Concrete should be avoided due to the possibility of freezing of the concrete prior to final set. If cold weather installations are required, then special considerations must be met. Contact the Foam Concentrate manufacturer.

Insulation Board Placement:

1. Prior to the placement of the insulation board, the substrate shall be filled with a slurry coat of Cellular Concrete to a minimum thickness of 1/8". When the installation is over an existing membrane with gravel embedded on the surface this fill must be a minimum of 1/8" over the top of the embedded gravel.

2. The insulation board shall be placed in the slurry coat within 30 minutes of placing the slurry coat on the substrate.

3. The insulation board shall be placed in the slurry in such a manner as to cause full contact of the slurry with the board. The board shall be placed in a brick-like pattern of staggered joints. All joints shall be butted tightly together.

4. Polystyrene board, particularly in the thicknesses of 2" or more, have a tendency to float if the top surface is applied prior to the adequate bonding of the polystyrene board to the slurry coat. It is the responsibility of the Cellular Concrete applicator to install this board by one of Factory Mutual's Approved procedures to assure proper thickness of the top cover.

5. A minimum of 2" of Cellular Concrete shall be placed over the insulation board, and screeded to grade. The finished surface shall be adequate to receive the roofing membrane.

Quality Control:

1. The Cellular Concrete Applicator shall be familiar with substrate preparation, experienced and equipped for this type of work, with a minimum of 5 years of insulating concrete placing experience.

2. Special requirements for Regulating Agencies:

- a. Approval by Underwriters Laboratories.
- b. Factory Mutual Class I-90 Approvals including re-roof applications.
- c. Metropolitan Dade County product approval for reroof applications, where applicable.

Testing:

Cellular Concrete shall be tested in accordance with ASTM C-495, as modified below:

1. Test Specimens shall be 6" in diameter and 12" in length.

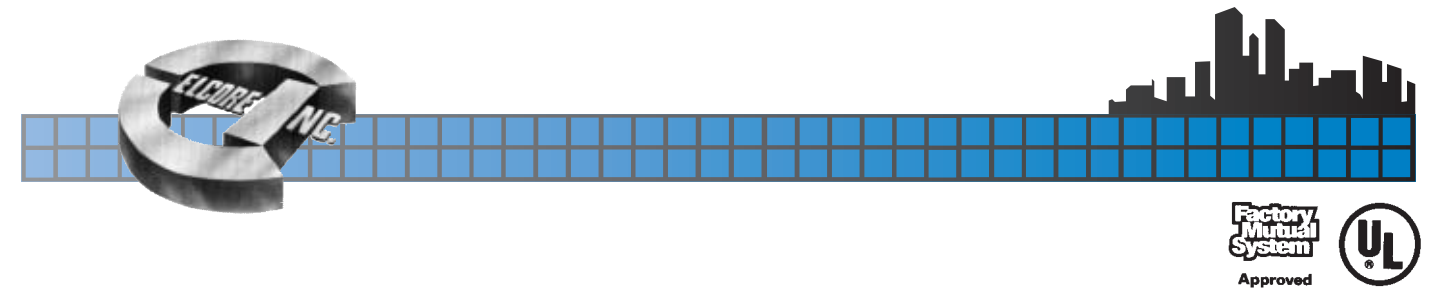
2. In molding the specimens, the concrete shall be placed in two approximately equal layers. The cylinders shall be raised and dropped approximately 1", three times on a hard surface after placing each layer. The concrete shall not be rodded.

3. After molding the specimen - DO NOT SEAL THE SURFACE. Store specimens, for initial curing, on a hard, level surface in an area where they will not be disturbed for at least 16 hours.

4. Specimens shall not be removed from the molds for at least 7 days.

Curing:

Apply a polyvinyl alcohol (PVA) curing membrane over deck surface as soon as the deck will support foot traffic for protection against excessive evaporation or dry out. This (PVA) membrane shall be an integral part of the deck system. Prevent excess roof traffic for 24 hours.



Celcore Re-Roofing Insulation

BEFORE BECOMES AFTER

BY USING EITHER OF THESE CELCORE SOLUTIONS

ROOF OVER AN EXISTING MEMBRANE

TEAR OFF THEN ROOF-OVER A TEMPORARY



Make the **ROOF DRAINS THE LOW POINT** on your Roof Again with:

Celcore Re-Roof Insulation

ADVANTAGE

CELCORE RE-ROOF INSULATION puts Slope into existing flat roofs with or without tearing off the old roof.

ADVANTAGE

CELCORE RE-ROOF INSULATION eliminates or reduces the tear-off expense for existing ASBESTOS felt roofs.

ADVANTAGE

CELCORE RE-ROOF INSULATION eliminates "Mid Bay" low spots on existing roofs. Rigid Board insulations can only mirror through the low points so that they will continue to pond water after the new membrane is installed.

ADVANTAGE

CELCORE RE-ROOF INSULATION offers the ability to attach a new roof without penetrating the old membrane and deck system with new fasteners. Where you have a tear-off the "temporary" can be a second line of defense against water penetration if it has not been penetrated by the new fastening system.

ADVANTAGE

CELCORE RE-ROOF INSULATION is environmentally appropriate now and will be into the future.

NO "CFC'S"
NO "FIBER GLASS"
NO "ASBESTOS"
NO "VERMICULITE"

Celcore is composed only of hydrated cement.

ADVANTAGE

CELCORE RE-ROOF INSULATION provides an excellent opportunity to "up grade" the Thermal Performance of an existing roof. Either by adding additional insulation over the existing roof system or in meeting the new design requirements in a tear-off situation.

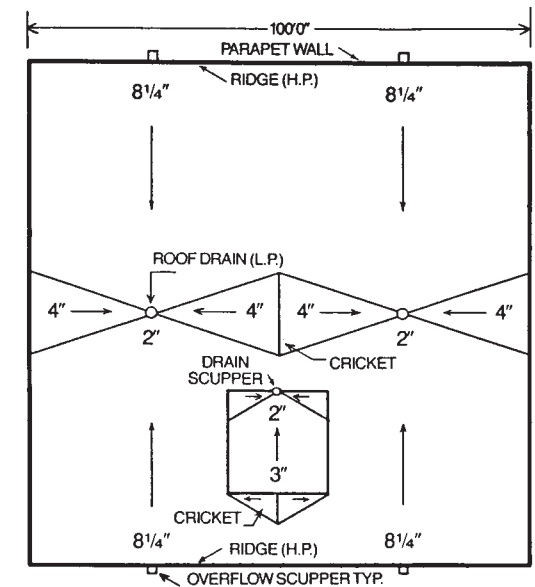
ADVANTAGE

CELCORE RE-ROOF INSULATION has the best "Life Cycle" characteristics in the insulation industry. It is impervious to degradation when exposed to moisture. It is fireproof and rot and insect proof. **CELCORE Re-Roofing Insulation** could well be the last insulation system you have to buy for your building.

All of the above **ADVANTAGES** are yours for
Less Money and with a Higher Quality Level
than you can obtain by using
"Tapered - Rigid - Board"
mechanically fastened

A Typical Re-Roof Condition

- A TEN STORY BUILDING ● CONCRETE CONSTRUCTION
- YOU CAN NOT ADD ADDITIONAL DRAINS ● AVERAGE "R" REQUIREMENT OF 19.0



CELCORE DATA	
Slope =	1/8" per ft.
Average thickness of Concrete	2.75"
Average thickness of Polyboard	3.12"
Average thickness of system	5.12"
Average Weight of System – Wet	8.49# psf
Average Weight of System – Dry	5.75# psf
Average "R" ("k")	19.61 (.051)

Specification

RE-ROOFING OVER EXISTING MEMBRANES

SCOPE

Approved Cellular Concrete applicator to furnish all labor, and supervision for the installation of the complete insulating roof deck system, sloped to drain, over the existing membrane, as noted on the drawings and detailed in the specifications.

Surfaces on which Cellular Concrete is to be placed shall be clean of foreign material, loose gravel, blisters and free of standing water.

All expansion joints, bulkheads, wood nailers, angles and the framing of openings shall be provided by others.

Cellular Concrete applicator shall demonstrate that all approvals (Fac-

tory Mutual, Underwriters Laboratories, and South Florida Building Code), as required for the project, are current with the respective agencies.

GENERAL

The existing structural roof system shall be checked by a recognized professional for the determination of the following:

1. Adequacy of the structural deck to support additional dead loads, if any.
2. Original construction of the deck system, and the state of deterioration of the original deck.
3. Adequacy of the original roof system to support the uplift forces required.

MATERIALS

Insulating Concrete:

1. Foaming agent - Celcore Foam as manufactured by Celcore, Inc. The concentrate shall have clear identification on each container, and shall bear the UL and FM labels.
2. Cement - Portland Cement shall be Type I, II, III ASTM - C150 unless otherwise approved.
3. Water for mixing and curing shall be clean, fresh, and free from injurious quantities of acid, alkali, salt, oil, organic matter or other impurities. Installation during cold weather may require the use of heated water.
4. Admixtures - No admixtures shall be used without the approval of the foam concentrate manufacturer, the Architect and/or the Engineer.