Lightweight Insulating Concrete Roofing System (LWIC)

SPECIALISTS SINCE 1956

SPECIALTY CONCRETE CONTRACTORS

CELL-CRETE CORPORATION

OUR COMPANY

NATIONWIDE SUBCONTRACTOR

01	Custom Lightweight fill solutions
02	Lunch and Learn Presentations
03	Technical Data Library
04	Committed to the use of sustainable and resilient solutions for the construction industry.

ABOUT US

Founded in 1956 by Louis Fisher, Sr., Cell-Crete Corporation, a family-run business, has led the way in innovation and customer satisfaction in lightweight cellular concrete (LCC). Cell-Crete provides customers with the perfect product for their specific needs. Our solid reputation is based on reliability and quality workmanship, but we're also proud of delivering the best client servicing in the business—your success is our success.

OUR PRODUCT

LWIC is an innovative roofing solution that combines lightweight concrete and polystyrene insulation board to create a highly effective and durable roof system. It offers excellent energy efficiency, thermal performance, and wind uplift resistance. LWIC is also non-combustible, providing enhanced fire resistance. Choose LWIC for a resilient, sustainable, and high-performing roofing solution.

WHAT'S IN THE MIX?

WATER

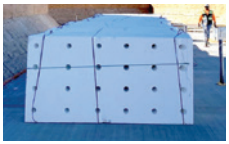
+

PORTLAND CEMENT

VERMICULITE

FOAM

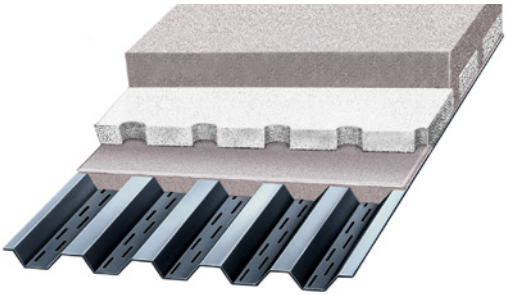
MATERIALS WE USE



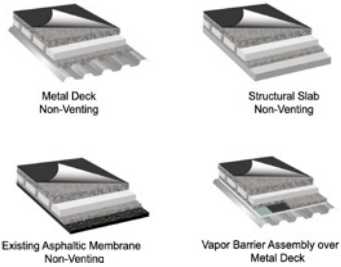
LIGHTWEIGHT INSULATING CONCRETE

EPS BOARD

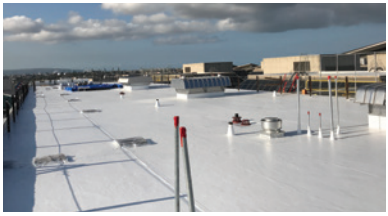
1 PCF and R-4 per inch



LWIC ASSEMBLIES



SINGLE-PLY ROOFING SYSTEMS



- Fully Adhered
  - PVC, EPDM, TPO
  - Fleece Back
- Ballasted
- Loose-Laid – Kelly Vent

BUILT-UP & MODIFIED BITUMEN MEMBRANES

- Nailable Roof Decks
- Approved Base Sheets
- Torched or Mopped

DIFFERENCE BETWEEN **LWIC** AND **STRUCTURAL**

Lightweight Insulating Concrete

35 pcf dry density
for / 300 psi

Structural Lightweight Concrete (SLC))

100 pcf dry density
/ 2,500 psi

Structural Concrete (Normal Weight))

150 pcf dry density
/ 3,500 psi

OUR SOLUTIONS

WHY LWIC ROOFING SYSTEMS?

Lower lifecycle costs/Sustainable option (LWIC)

LWIC offers lower life-cycle costs compared to traditional rigid insulation board systems. Unlike rigid insulation boards that lose their insulation effectiveness over time, LWIC maintains its R-value for the entire lifespan of the building. This is thanks to the resilience of the lightweight insulating concrete. LWIC roofs eliminate the need for frequent roof replacements, significantly reducing maintenance and management costs. Additionally, LWIC simplifies the reroofing process by allowing for the replacement of only the roofing membrane, while the existing LWIC substrate remains in place. This saves time, labor, and costs associated with total tear-off and landfill disposal, making it a convenient and cost-effective solution.

Fire Rating

LWIC is a non-combustible material, making LWIC roof deck systems inherently fire-resistant. These roof systems hold an hourly fire rating, eliminating the need for additional fireproofing measures on the underside of the roof deck; Since the flutes are filled, this fire channel is eliminated. By reducing the requirements for fire protection, LWIC roof decks effectively minimize costs associated with safeguarding the building structure.

- Over 60 UL Fire Rated listings
- FM Class 1, Non-Combustible
- Non-combustible, even with EPS
- Filling flutes eliminates fire channel
- Save $ as below deck fireproofing is eliminated

Wind Uplift

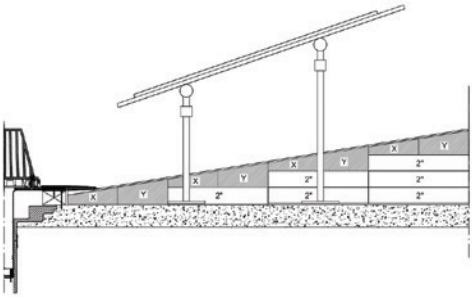
LWIC roof decks exhibit excellent performance in terms of wind uplift resistance. Acting as an air retarder, these roof decks effectively mitigate the impact of wind forces, providing enhanced structural stability and protection against wind-related damage. Its monolithic composition of LWIC over the EPS holey board on the deck offers a robust system that stands the test of time.

- FM – ratings from 1-60 to 1-540+
- UL – Class 90
- Metro-Dade County (FL) Approvals
- Florida Building Code (FBC) Approvals

When it comes to selecting the right roofing material, it's essential to consider factors such as installation efficiency, insulation performance, durability, and protection against water damage. In this brochure, we compare these two materials to help you make an informed decision for your roofing needs. Let's explore the advantages and benefits of each system in detail.

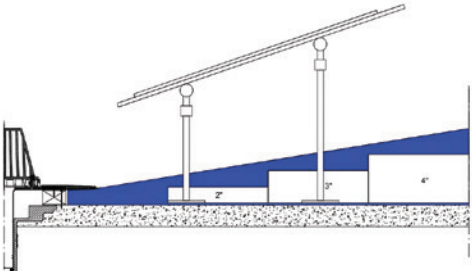
POLY-ISO TAPERED SYSTEM:

- Multiple layers of insulation required for slope, leading to slower production and increased costs.
- Custom cuts and gaps decrease R-Value and require costly cover boards.
- Water damage can result in interior leaks and the need to replace the entire roof system over time.
- Cannot be re-roofed all material needs to be replaced.



LWIC ROOF SYSTEM:

- Polystyrene insulation eliminates the need for multiple layers and allows for quicker installation.
- Flowable LWIC material provides permanent slope and encapsulates insulation, creating a monolithic system with no thermal conduits.
- LWIC's low permeability protects insulation from water damage, potentially allowing for only membrane replacement in case of leaks.
- LWIC's resilience means that only the roof membrane needs to be replaced over time, saving on costs and maintenance.



LEED CATEGORIES & CREDITS TO CONSIDER

Category	Credit	Rating System & Version	Consideration
Materials and Resources	Building Life-Cycle Impact Reduction	LEED BD+C: New Construction v4.1 - LEED v4.1	LWIC roof deck is 100% reusable.
Indoor Environmental Quality	Minimum Acoustic Performance	LEED BD+C: Schools v4.1 - LEED v4.1	For high-noise sites …implement acoustic treatment and other measures to minimize noise intrusion from exterior sources...
Innovation: Pilot Credit	Design for Enhanced Resilience IPpc99	LEED BD+C: New Construction v4.1 - LEED v4.1	Design and construct buildings that can resist, with minimal damage, reasonably expected natural disasters and weather events.
Innovation: Pilot Credit	Assessment and Planning for Resilience IPpc98	LEED BD+C: New Construction v4.1 - LEED v4.1	…proactive plan before design commences for the potential impacts of natural disasters or disturbances as well as address issues that impact long-term building performance…

USGBC - LEED Credit Library, www.usgbc.org/credits

- MR Credits 5.1 and 5.2: Use building materials or products that have been extracted, harvested, or recovered, as well as manufactured within 500 miles of the project site for a minimum of 10% (for MR Credit 5.1, 20% for MR Credit 5.2) of the total materials value (based on cost). [1 02 points possible]

- EA Prerequisite 2: Design the building to comply with ASHRAE/IESNA Standard 90.1-1999 (without amendments) or the local energy code, whichever is more stringent. [Required]

- EA Credit 1: Reduce design energy cost compared to the energy cost budget for energy systems regulated by ASHRAE/IESNA Standard 90.1- 1999 (without amendment), as demonstrated by a whole building simulation using the Energy Cost Budget Method. [1-10 points possible, depending on improvement in proposed building performance rating over baseline building performance rating.].

- See NRDCA web Site www.nrdca.org for more sustainable information.

CHOOSE LWIC FOR A COST-EFFECTIVE AND DURABLE ROOFING SOLUTION THAT SIMPLIFIES INSTALLATION, IMPROVES INSULATION PERFORMANCE, AND SAFEGUARDS AGAINST WATER DAMAGE.

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SCAN ME