

News from Egypt's leading Modified Bitumen Membranes Manufacturer -Bitunil S.A.E.

Special Interest Articles:

- Preventative Maintenance
- Re- Roofing
- Steel Deck Roofing

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Preventative Maintenance

The failure to find and correct roof deterioration in the earliest stages is probably the greatest cause of premature roof problems. Periodic inspection, preventative maintenance, and repair will ensure better performance of the roofing system over its anticipated service life. The following are maintenance measures that should be performed periodically on modified bitumen membrane or built-up roofing systems:

- Clean all debris from the surface of the roof. This includes the debris that has gathered behind HVAC units, pipes, and any other roof penetrations. Debris has a tendency to hold water and water will expedite roof deterioration.



Critical areas to examine:

- 1- Flashings
 - 2- Perimeters or edge details
 - 3- Penetrations
 - 4- Roof top equipment
 - 5- Roof field
 - 6- Surfacing
 - 7- Parapet walls
 - 8- Drains
 - 9- Seams (not shown)
 - 10- Fasteners (not shown)
- Flashings are the most vulnerable part of any roof.

Check all flashings and make sure they are not deteriorated, and there are no holes in them.

- Check the edge metal. Make sure that it is not separating at the seams. If it is, then the repairs need to be made as soon as possible.

- Check for blisters in the roof. If they exist, a qualified contractor should patch them.

- Keep all gutters free of debris. Make sure that the down spouts are draining properly by water testing them.

- Check all sealants and caulking on flashings and copings. Scrap and remove any sealant that is weather cracked or damaged. Clean the area thoroughly and re-apply new sealant.

Re- Roofing

When repair or maintenance can no longer effectively prevent recurrent leakage or extend useful service life of the roof system, considerations should be given to roof system re-cover or replacement.

Absolute replacement triggers:

- A- If existing roof does not comply with code requirements.
- B- Polystyrene insulation

directly installed on metal deck has been restricted by building codes. Removal of the roofing system and re-roofing will be necessary.

- C- Composite roof decks (i.e. Gypsum board mechanically attached to metal deck.)

Subjective replacement triggers:

- D- Bad existing surface conditions such as blistering, buckling, ridges,

surface contamination or corrosion.

- E- Wet insulation. Modern building codes do not allow installation of new roof system over existing system with wet insulation.

- F- Roof deck condition. A damaged or deteriorated roof deck should be repaired or replaced during a roof system replacement.

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The Re-Roofing Of AL- FATEH University, LIBYA



Faculty of Science
Al- FATEH University,
Tripoli, Libya

"Each Re-Roofing Project is Unique. The decision to replace or recover is based on careful evaluation."



Finished Exposed Roofing Section

One of BITUNIL's re-roofing projects was the re-roofing of the faculty of science at Al FATEH University, TRIPOLI, LIBYA. Project area is 40,000. M2. The existing roofing system was an old Built-Up-Roofing system covered with roof tiles. The tiles were covered with cementitious coatings as one of several attempts to remedy the existing leaky roof problems. The coatings were deteriorated, flaky, and peeling off.



The decision was made to re-cover 25,000. M2 of the roof area with BITUNIL exposed W.P. System

, consisting of a base layer of SBS modified W.P. membrane "BITUFLEX" 3.0mm and a top layer of mineral surfaced "BITUFLEX" 4.5 Kg. The system was applied onto the existing roof tiles after removal of the flaky coatings.



Decision was made to replace the rest of roof area (15,000. M2). The existing

tiles were demolished, built up roofing was removed and the exposed concrete sub-grade was covered with screed to slopes.



A roofing system was applied consisting of a double layer SBS modified W.P. membrane "BITUFLEX",

And was finally protected with roof tiles.

Re- Roofing Design Guide Lines

- The weight of replacement or re-cover roof system must be considered, and the roof structure capacity verified.

- The re-roofing project must comply with local building codes requirements.

- An important goal is to try to

achieve maximum roof system service life, **through the following:**

A- Eliminating or minimizing water ponding.

B- Proper flashing of penetrations.

C- Replace metal accessories as needed to allow them to perform over

new systems anticipated service life.

D- Never exceed design loads.

E- Correcting inadequate ventilation.

Roof India 2007 Exhibition



The Egyptian Ambassador in INDIA, Dr. Hegazy, and Mr. Banhawi, Chairman and Managing Director of Bitunil Co. Inaugurated the "Roof India 2007"

The exhibition was held in New Delhi, in April 2007. Both ambassador and Mr. Banhawi have lit the inauguration torch.

In presence of lots of visitors, the officials of the Egyptian embassy, and the Egyptian counselor Mr. Mohamed Abdullah, the ambassador has congratulated Mr. Banhawi on Bitunil's achievements in INDIA, where its products has gained credibility, are recognized for its quality, and is in high demand.

BITUNIL is now recognized to be among the major international suppliers of roofing and waterproofing materials to INDIA.

Mr. Banhawi attributed the achieved success to the devotion and hard work of a



Dr. Hegazy congratulated Mr. Banhawi on BITUNIL's achievements In INDIA.

highly qualified team of engineers and technicians who strive to improve the company's products through strict quality control measures, constant research and development, and commitment to compliance with internationally recognized standards.

As a result BITUNIL's products have been recognized not only in INDIA, and the ASIAN continent, but also in all five continents.

The event was a big success. With visitors and attendees from the construction industry such as architects, consultants, builders and contractors from INDIA and all over the world BITUNIL had the opportunity to further build new business relations, promote products, and confirm its presence on solid grounds in the INDIAN market.



Chairman and Managing Director of BITUNIL lighting the inauguration torch.



BITUNIL Stall attracted enquiring visitors from all over INDIA



BITUNIL distributors in Delhi, Bombay, and Chandigarh were present at our stall during the exhibition

"BITUNIL is now among the major international suppliers of roofing materials to INDIA"

“CE- Marking: Our license to Europe”

New Quality Milestone Achieved

BituNil is proud to be the first Egyptian company, in the roofing & waterproofing field to receive the “**CE – Marking**”, or “**European Conformity**” certificate. The prestigious certification declares BituNil's products compliance with essential requirements of the European health, safety, and environmental protection

legislation, and thus the acceptance of placing our product on the European market.

With the expansion in our exports activities to cover areas in all five continents, penetrating the European market was the following milestone to reach.

This was made possible

through many hours of hard work and devotion on part of our manufacturing team. They had to establish, document, and maintain factory production control system. They also had to plan for products testing, and initial type testing as specified in the harmonized product standard or ETA (European Technical Approval).

Inter-Build: Egypt's Important Construction Event

The event was held on June 21-24, 2007, and was the 14th Int'l Exhibition & Conference for Building and Construction, which is held on annual basis.

Participants from Egypt involved all construction disciplines, ranging from construction materials, (*such*

as reinforcement steel, light weight masonry, and finishes, such as paints, flooring, skylights, doors, windows, internal illumination, and others), to real estate property marketing and sales.

In the roofing & waterproofing sector several companies

participated, among which was Bitunil with its most elegant Booth, which was admired by attendees.

International presence was noticed such as Onduline, the Italian roofing materials manufacturer. The event was a big success, and met visitors and attendees expectations.



The Perfect Chance to Penetrate New Markets

Our sales and marketing team received lots of inquiries at BituNil's booth. Visitors, attracted to the display of various waterproofing products and systems, came from all over Egypt, and the neighboring countries such as North Africa, Sudan, the Gulf area, Syria, and Jordan.

Local consulting firms, Engineering offices, architectural firms,

roofing & waterproofing contractors, and home owners were interested in viewing the latest developments in the roofing and waterproofing products as well. Meetings were held with both local and foreign business representatives, in order to negotiate prospects for potential cooperation between their firms and BituNil.



Steel Deck Roofing

- **STEEL DECKS** are widely used in construction, and although classified as "**non- nail able**" they are roofed by using special penetrating fasteners to anchor a layer of cover board or rigid board insulation to the deck. The cover board is needed to span the flutes in the deck.

- Attachment is carried out using special screws in a fastening pattern designed to ensure adequate wind uplift resistance.

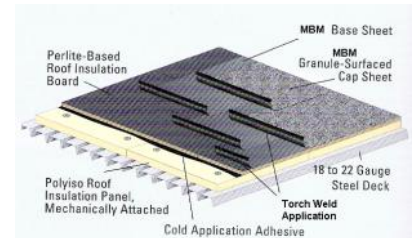
- Two Layers of rigid board insulation is preferable to a single layer, in which the first layer is mechanically fastened, and the second is mopped to the first layer - an anchorage system called -"*fasten-one-mop-one*", with insulation joints staggered in each layer. The system minimizes thermal bridging through joints and fasteners.

- While steel decks are technically "**non-combustible**", rapid heat

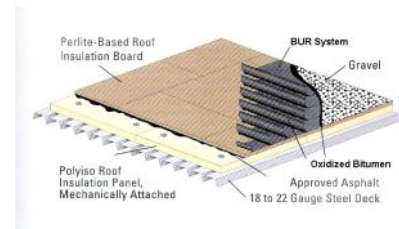
conduction can cause roof system ignition in case of under roof deck fire. As a result, complete roof assemblies are tested by international testing bodies to evaluate the potential for fire propagation, and thus approve of roofing system build up on the steel deck.

- Steel Decks are provided with different minimum yield strength values. Some roofing systems may require heavier decks to meet their mechanically fastened membrane wind requirements.

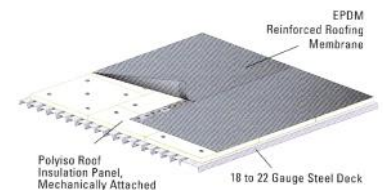
- Over thermal insulation there are several roof membrane alternatives, such as BUR system, Modified bitumen membranes system, or single ply membrane system. However, the compatibility of membrane, adhesives or bitumen, and the under laying insulation must be verified by the membrane manufacturer.



MBM Roofing System



BUR Roofing System



Single Ply Roofing System

BITUNIL Steel Deck Roofing Systems



Conventional Roof Membrane Assembly

Horizontally:

- 1- Vapor Barrier
- 2- Thermal Insulation
- 3- MBM Waterproofing
- 4- Separation Layer
- 5- Concrete Slab

Vertically:

- A- Metal Curb, B- Primer, C- Reinforcing Strip, D- Base Flashing (Mineral), E- Metal Coping



Inverted Roof Membrane Assembly

Horizontally:

- 1- Covering Board
- 2- MBM Waterproofing
- 3- Separation layer
- 4- Thermal Insulation
- 5- Filter Fabric
- 6- Ballast

Vertically:

- A- Metal Curb, B- Primer, C- Reinforcing Strip, D- Base Flashing (Mineral), E- Metal Coping



Exposed Non-Insulated Membrane Assembly

Horizontally:

- 1- Covering Board
- 2- MBM Base Layer
- 3- MBM Self-protected (Mineral) Main Layer

Vertically:

- A- Metal Curb, B- Primer, C- Reinforcing Strip, D- Base Flashing (Mineral), E- Metal Coping

"Our Steel Deck Roofing Systems are for Low Slope, Non- accessible applications."

BituNil

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Roxy, Heliopolis

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IBC & Steel Deck Roofing

Although IBC (The international building Code) is the most stringent of current building codes, roofing professionals find its adoption beneficial, since it features easy to follow format as well as technical accuracy.

When it comes to steel

deck roofing, the following are among the important requirements by IBC:

- Roofs **resistance to wind loads** should be tested according to FM 4450, "Approval standard for Class 1 Insulated Steel Deck Roofs."
- All roof assemblies are required to have **fire-**

resistance classifications, typically determined by testing according to ASTM E 180, "Standard Test Methods for Fire Tests of Roof Coverings."

- **Flashings** shall be installed at roof-wall intersections and where ever there is a change in roof slope or direction, and around roof openings.

Cont'd ... (Re-Roofing)

G- Vapor Retarders: It may be necessary to remove an existing roof system if there are condensation problems and increase in interior moisture.

H- Non-reinforced PVC membranes. It is

recommended that aged, non-reinforced PVC be replaced to avoid potential shatter and failure.

Except for absolute replacement triggers, after careful evaluation of the existing roof system, the

decision to replace or re-cover is based on roofer's experience, owner requirements, and desired service life of the new roof system.

About Our Organization...

The Nile Waterproofing Materials Company S.A.E., **BITUNIL**, is the product of experience, prudence and knowledge.

The BITUNIL plant is built

over an area of 20,000 square meters in Al Max Alexandria Port. The production plant is state of the art for the fabrication of modified bitumen membranes, and is fully

equipped to manufacture quality products that comply with internationally recognized standards.