

The background of the entire page is a photograph of several rolled-up architectural blueprints. The blueprints are unrolled in a way that shows various technical drawings, including floor plans, elevations, and sections. The drawings are in black ink on white paper. The blueprints are arranged in a row, with some overlapping others. The lighting is dramatic, with strong highlights and deep shadows, creating a sense of depth and focus on the technical nature of the work.

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A ROOF AND WATERPROOFING CONSULTING FIRM

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ROOFING SYSTEMS AND ENERGY**

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ROOFING SYSTEMS AND ENERGY

ROOFING SYSTEMS AND REFLECTIVITY

Energy savings can be absorbed from roofing systems via reflectivity of the finished roofing component. The finished component of a flat roofing system can be specified to be white, offering good reflectivity, and sloped roofing systems can be reflective with light colored finishes. Insulation can be specified to be a part of the roof assembly (all roofing components) adding to a cost savings for air conditioning and heating. Light colored finished roofing components coupled with roof insulation will save energy costs.

ROOFING SYSTEMS AND SOLAR ENERGY

Solar systems installed on flat or sloped roofing systems is an alternative to specifying reflective components and coupled with reflective components will save energy costs. Solar systems require attachment through roofing components whether it be a flat or sloped roofing system. Penetration through roofing components requires proper detailing for flashing conditions. These conditions become a part of the roofing system for remaining watertight and are critical for performance.

Proper flashing design will allow for the penetration of the solar components and function of the roofing system. Solar systems installed on roofing systems have proven performance.

ROOFING SYSTEMS AND GREEN COMPONENTS

Green foliage on roofing systems will add to the environment and the concept has been successful for many years. The concept is comprised of a roofing or waterproofing system installed on a substrate for the purpose of eliminating water entry into an occupied space. Drainage components must be in place or installed for water removal. A special drainage mat is then in-

stalled over the watertight system creating a surface for the overburden (soil and plantings). The drainage mat allows water from irrigation and rain to properly drain through the plantings and soil and drain to the designed component similar to a roof drain and or scupper condition.

Greenery allows for a much more aesthetically pleasing view as opposed to an asphalt or coal tar pitch roofing system. The roofing or waterproofing system is protected from the elements and provides less degradation to the membrane plies. In addition temperatures below the assembly can be reduced with green foliage reducing heating and air conditioning costs.

ENERGY SAVINGS

Energy savings can be realized from roofing systems that are properly designed, specified and installed.

Specifying reflective finished components will reflect as opposed to absorb and can be specified during new construction and or roof replacement.

Light colors are more reflective, however may not be aesthetically pleasing with the design of the building. Installing additional roof insulation may be a trade-off for reflective materials. Specifying specific flashing detailing for the installation of solar systems will complete the roofing system and accommodate the solar system for its intended use. Once the roofing system is installed protective measures must be implemented over the completed roofing components to eliminate damage from maintenance. Additional roofing components can be specified for eliminating damage to the finished roofing system while solar maintenance is implemented.

Specifying and designing roofing or waterproofing systems over an occupied space will eliminate water intrusion as intended. Installing green components over a properly prepared system will create the intended green effect, compliment the environment, and allow for energy cost savings.

GUARANTEES

Specific guarantees can be obtained from manufacturers for reflective components, penetrations from solar attachments and green conditions. Careful consideration must be given to these guarantees for penetration through roofing or waterproofing systems for solar attachment and installing green components over a watertight roofing or waterproofing system.

The green roofing or green waterproofing system is guaranteed, however the guarantee typically does not cover removing or installing the overburden (soil and foliage).

DESIGN / SPECIFICATIONS / SITE INSPECTIONS

Proper design, specifications and on-site inspections are required for oversight on all roofing and waterproofing systems. Specifications can contain reflective finished components, and specifically designed flashing details for solar penetrations will accommodate the roofing or waterproofing components and the solar system. Green components can be added over a properly designed and specified roofing or waterproofing system providing adequate drainage is in place or added to the design. On-site inspections will confirm compliance to the design and specifications.

SUMMARY

Everyone is interested in energy savings and they can be realized through reflective roofing materials, solar energy and green components.

Reflective components and additional roof insulation will assist with energy consumption and solar utilizes the sun's energy, resulting in savings. The addition of green components to a roofing or waterproofing system provides less degradation to the membrane plies allowing for serviceable life with less maintenance. The green effect can be much more aesthetically pleasing than a built-up gravel roof.

Properly designed and specified roofing or waterproofing systems will result in energy savings. Planning, design, specifying, inspecting and installing all components will result in a successful project.

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