



MARKET SYSTEM

Roofing : Green Roof / Rooftop Decking Systems

Pure Polyurea Protective Coatings and Waterproofing

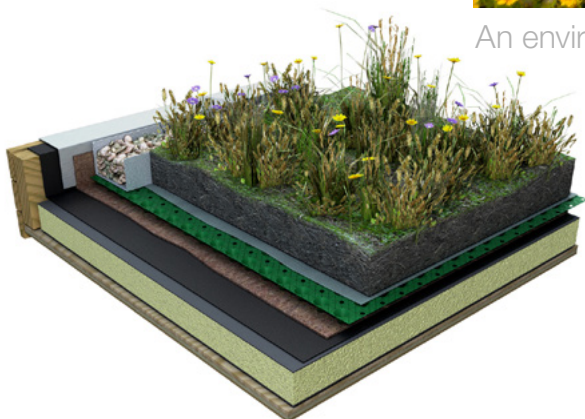
Concrete decks, rooftop gardens, and “green” roofs are valuable features of both traditional and cutting edge building designs. Increasing demand for environmentally sustainable designs, as well as more effective use of rooftop space calls for new systems to protect the structure from damage by water infiltrating through the roof surface.

Damage caused by water seeping through cracked concrete or filtering through rooftop gardens can include leaking into office or living space and cause very expensive structural damage.

Waterproof membranes currently employed frequently rely on sealing seams, have low tensile strength and insufficient elongation to accommodate natural movement of the underlying structure.

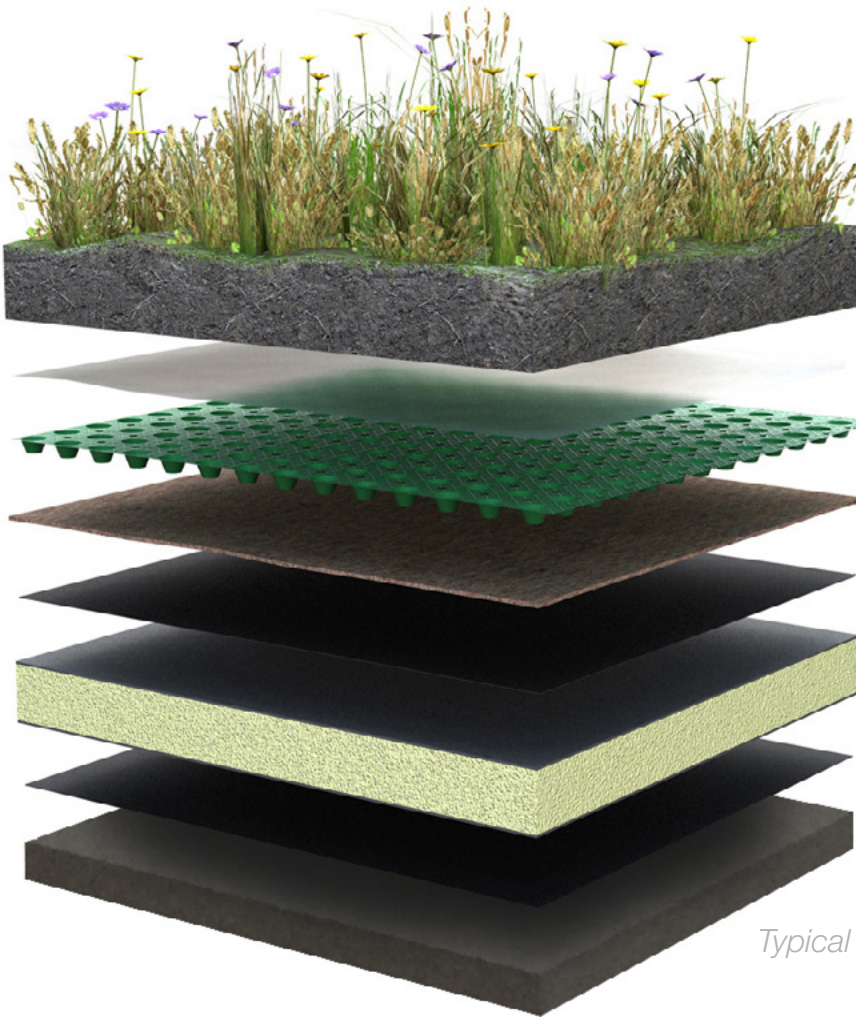


An environmentally friendly green roof in Vero Beach, Florida
Photo by Leah Campbell



Green roofs require:

- Increased structural support
- A functional drainage plan
- A monolithic, reliable moisture barrier



Plant Life, flora

Growing Medium (soil, topsoil)

Filter layer

Drainage Mat

Stabilization layer (if required)

VersaFlex® Polyurea
Protective Waterproofing

Insulation (if required)

Vapor Barrier (if required)

Concrete Substrate

Typical green roof sectional assembly

100% Polyurea Membrane

The waterproof membrane is the difference between a green roof and a green nightmare. Polyurea is a spray-on elastomeric coating which has physical properties far exceeding that available from traditional membranes.

Toughness - Minimum 2000 psi tensile strength

Elongation - Varying percentages accomodating to movement

Monolithic Coating - No seams for leaks to develop

Spray Application - Material can be built with successive passes of spray gun to any desired or specified thickness; ANSI/GRHC/SPRI VR-1 (2011) compliant

Durable - Even if buried under concrete, green roof components or other materials, polyurea will last for many years; Root resistant to the FLL test method (2002)

The waterproof membrane is the foundation for the integrity of the roof surface, whether it be a green roof, concrete deck or other surface material.



A Typical Rooftop Project

This garage was constructed at a home in Portland's West Hills, and features a rooftop concrete patio. The roofing contractor was concerned about the long term integrity of the structure when the concrete begins to crack and leak.

The owner, architect, and general contractor all agreed that application of 80 mils of high elongation polyurea under the concrete deck would provide the best possible long term protection.

Trained applicators began by caulking and sealing all seams, screw holes and joints with a non-shrinking polyurethane caulking material.

The next step was to apply a quick setting epoxy primer to the entire surface. The primer reduced outgassing and provided an excellent base of adhesion for the final polyurea protective waterproofing coating.

This deck was constructed with a grade of 4" over 20 feet to provide complete runoff and prevent surface puddles. A surface drain was provided to handle storm water runoff in the case of heavy weather.

The polyurea spray coating must be applied to a clean dry surface. Polyurea does not react with water like polyurethanes but must be applied to a dry surface for good adhesion. Because of the quick gel times the coating can be walked on within one or two minutes of application. Additionally, polyurea is a 100% solids material with no VOCs or CFCs, making it one of the most environmentally friendly products in the protective coatings market today.

"Applying the membrane on ramps, walls and irregular surfaces is easier and cheaper with spray-on polyurea. Ease of installation and reduced risk were key to our decision."

--General Contractor



OPPORTUNITIES GREEN ROOF / ROOFTOP DECKS



VersaFlex[®]
INCORPORATED

With its high tensile strength and resistance to puncture and abrasion the polyurea was the ideal surface on which to pour concrete.

The workers did not have to worry about walking on the membrane or damage from rocks, tools or expansion joints.

The concrete contractor advised that he would not have accepted the job without application of a membrane with a guaranteed resistance to leaking.



The concrete was poured to a depth of 3 inches over the entire surface. That's the last we'll see of that polyurea membrane!

At this point we could just as easily been applying an insulation barrier and soil for a roof top garden. Either way the building is safe from moisture damage from now on.



Adding color to the surface of the concrete created the appearance desired by the owner. In this case, both red and white materials were applied to create a Sunset motif.



"This [polyurea] is the most bullet-proof coating system available for roofing membranes on the market today"

--Roofing Contractor

© 2014 **VersaFlex Incorporated**
686 South Adams Street
Kansas City, KS 66105

Publish Date: 8/15/2014

www.versaflex.com

GREEN ROOF / ROOFTOP DECKS



VersaFlex[®]
INCORPORATED

The same properties that make spray-on polyurea coatings the ideal waterproof membrane under a deck or garden make it the best choice for pond liners.

Applied over geo-textile fabric or other substrate, polyurea coatings will not leak and can support all types of features.

The ability to spray the material on vertical faces and irregular surfaces makes it ideal for channels, water falls, and other features.

Polyurea is not toxic to fish or marine environments, and can be used to provide the extended life-cycles for infrastructure.

When used as the waterproofing system for green roofs and decks, the possibilities are endless -- even the Pentagon has used polyurea as the waterproofing layer for their new green roof annex and river terrace.

Many of VersaFlex's systems are USGBC LEED, EQ Credit 4: Low-emitting VOC Compliant Materials.

Large or small, polyurea provides the ultimate protection against leaks, damage, and environmental pressures, all while remaining one of the most 'green' products available in the protective coatings and linings market today.



Visit our website for more information on this application and other outstanding products.

