

Energy Savings and Environmental Design

Energy-Efficient Membranes

Versico manufactures three highly reflective, energy-efficient single-ply roofing membranes that help reduce a building's heating and cooling costs as well as its overall energy consumption. From its heat-weldable VersiWeld® TPO and VersiFlex® PVC to its innovative VersiGard® White EPDM, Versico has a product and system for every energy-efficient design.

VersiWeld, VersiFlex and VersiGard White membranes carry the ENERGY STAR® rating, having exceeded the stringent program guidelines for solar reflectance and heat emittance. These products are also CRRC (Cool Roof Rating Council) certified and Title 24 compliant.

- Highly reflective, ENERGY STAR-rated membranes
- CRRC certified
- Title 24 compliant
- Chlorine-free membranes
- Cool-roof materials
- Manufactured with recycled content
- Low-VOC adhesives



Green Roofing

Roof gardens feature many of the same energy-efficient properties of reflective rooftops with a number of additional environmental benefits. Roof gardens help reduce rooftop surface temperatures and diminish the impact of urban heat islands. They also provide increased water retention, which helps large cities manage stormwater issues.

Pre-planted and delivered to the jobsite, Versico's LiveRoof® modular roof garden is one of the easiest ways to experience all the benefits of a vegetative roof system. Versico's premium EPDM or TPO membranes placed under a LiveRoof roof garden system will be sure to provide years of waterproofing protection as well as environmental and cost-saving benefits.

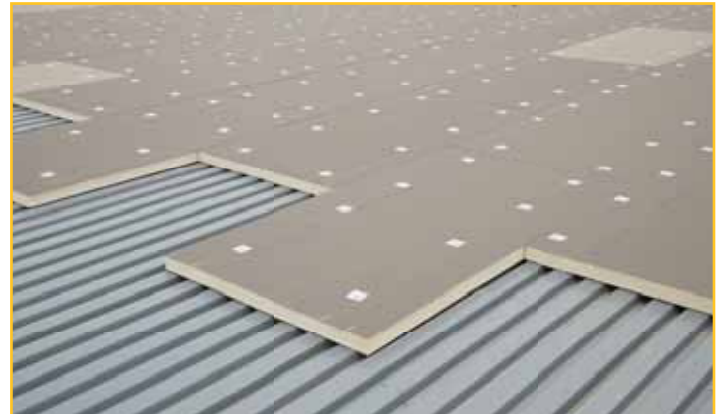


- Improved water retention and stormwater management
- Reduced energy costs and consumption
- Extended roof life
- Increased sound insulation
- Added aesthetic value
- Increased air and water purification
- Easy to move for rooftop repairs
- Pre-planted and ready to install

Insulation Systems

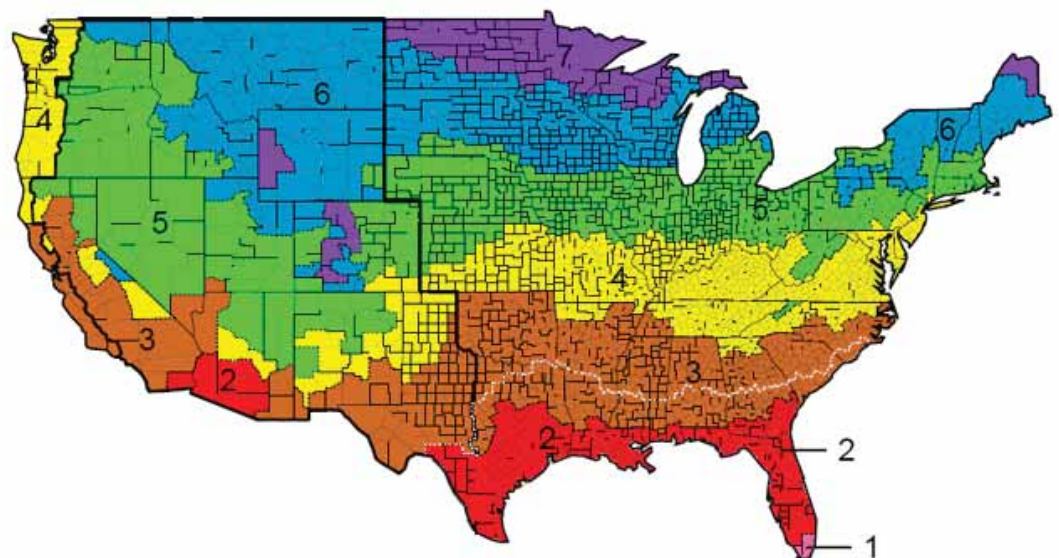
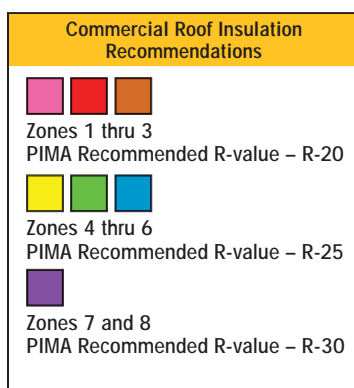
Recently, ASHRAE* raised the minimum required levels of roof insulation in Standard 90.1, the model energy code for commercial buildings in the United States. The new ASHRAE standard increased the minimum R-value to a minimum of R-20 insulation in all areas. These changes are climate zone and building type specific, but they have increased the minimum required levels by 33% and established a new standard for energy-efficient construction in the United States.

Versico offers a full line of roofing insulation that can help building owners meet these new requirements. Insulation options include polyisocyanurate and expanded polystyrene (EPS), two of the most popular and highest-performing materials on the market today, Versico's polyiso and EPS insulation products offer superior insulating properties for buildings in any location.



- Zero ODP, CFC Free, EPA Compliant
- Zero ozone-depleting components
- Approved for application to numerous deck types
- Some Versico Polyiso is approved for projects requiring FM Class 1 and UL Class A ratings
- Superior fire and moisture resistance
- Options for enhanced wind uplift performance
- Increased dimensional stability
- FM 1-255 ratings available
- Products available with industry's highest wind speed warranties

* American Society for Heating, Refrigerating and Air Conditioning Engineers



VERSICO ROOFING SYSTEMS

Administered by the United States Green Building Council (USGBC), the Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the benchmark for green construction standards in the United States. Versico understands the importance of environmentally friendly construction and it offers a number of products and services that can assist projects in accumulating LEED points.

There are six categories to the LEED program:

Category	Points
Sustainable Sites (SS)	14
Water Efficiency (WE)	5
Energy & Atmosphere (EA)	17
Materials & Resources (MR)	13
Indoor Environmental Quality (EQ)	15
Innovation & Design Process	5

10 factors that roofing is associated with:

- Stormwater Management
- Heat Island Effect: Roofing
- Optimized Energy Performance
- Building Reuse
- Construction Waste Management
- Material Reuse
- Recycle Content
- Regional Materials
- Low-Emitting Materials
- Daylight & Views

3 factors roofing directly affect:

- SS Credit Stormwater Management: Use garden roof
- 6.1 - Limit disruption of water hydrology and contamination + 1pt
 - 6.2 - Limit disruption and pollution of natural water flows + 1pt
- SS Credit 7.2 Heat Island Effects: Roofing + 1pt
- Cool Roof
 - Solar Reflective Index (SRI) - 78
 - Cool Roof must be a minimum 75% of the roof surface
 - Versico solutions:

VersiWeld White SRI=110	VersiFlex White SRI=110
VersiWeld Tan SRI=88	VersiGard White EPDM=105
 - Or Garden Roof
 - Garden Roof must be a minimum of 50% of the roof surface
 - EPDM or TPO systems can be used in this application

9 factors roofing contributes to:

- 1) EA Credit 1 Optimize Energy Performance (Building)
- This carries the most weight of any factor
- Requirement – exceed ASHRAE 90.1 2004 or local code, which ever is more stringent, by the amount
 - New construction: 10.5 – 42% in 3.5% increments, 1 to 10 pts
 - Existing bldgs: 3.5 – 35% in 3.5% increments, 1 to 10 pts
- Credit deals with the energy usage of the building which is effected by the roof membrane color, insulation, windows, doors, HVAC, etc.
- 2) MR Credit 1 Building Re-use: Maintain existing building structure and building envelope
- 1.1 – Maintain 75% + 1pt
 - 1.2 – Maintain 95% from landfill + 2pt
- Reusing the insulation or leaving the old roof in place will qualify

There are seven prerequisites that must be done but no points

Certification Levels <i>(Total Points Possible is 69)</i>	Points
For Basic Certification	26
Silver	33
Gold	39
Platinum	52

- 3) MR Credit 2 Construction Waste Management: demolition/waste from site
- 2.1 - Divert 50% from landfill + 1pt
 - 2.2 - Divert 75% from landfill + 2pt
- Redirect: Stone, insulation, EPDM NR membrane
Recycle: NR EPDM/TPO from ballast or MF systems
- 4) MR Credit 3 Material Reuse:
- 3.1 - 5% reused + 1pt
 - 3.2 - 10% reused + 2pt
- Reuse building materials: stone, insulation, NR-EPDM from ballasted jobs.
- 5) MR Credit 4 Recycle Content: whole building
- 4.1 - 5% content + 1pt
 - 4.2 - 10% content + 2pt

• EPDM - no recycle content	• XPS - 30% post-industrial
• TPO - ave. 15% post-industrial	• EPS - 30% post-industrial
• Polyiso - 17 - 32% by thickness	• WFB - 10% post-industrial
• DensDeck® - one plant recycle content	

- 6) MR Credit 5 Regional Materials: Extraction, Processed & Manufactured
- 5.1: 10% within 500 miles of site + 1pt
 - 5.2: 20% within 500 miles of site + 2pt
- Versico products do not comply because of extraction
DensDeck is stating their product complies
- 7) EQ Credit 4.1 Low-Emitting Materials: Adhesives and Sealants + 1pt
- This credit has interpreted the indoors as being everything inside the outer skin of the building. For roofing, this is inside the membrane
 - Versico has a full line of bonding adhesives and sealants that comply
- 8) EQ Credit 8.1 Daylight & Views: Daylight 75% of the Spaces + 1pt
- 9) ID Credit 1 – 1.4 Innovation Credit: award exceptional performance



A SINGLE SOURCE FOR SINGLE-PLY ROOFING

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