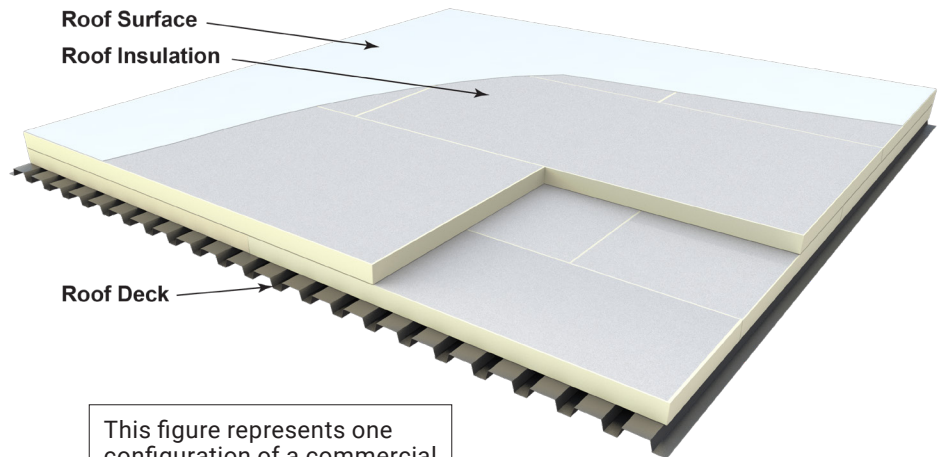


What is a High-Performance Roof System?

Nonresidential Buildings with Low-Sloped Roofs

A HIGH-PERFORMANCE ROOF SYSTEM

considers all roof assembly components to build the most effective system for that building and that climate zone. It integrates the roof assembly components, including the roof deck, roof surface, and insulation, with other building elements to cost-effectively achieve a sustainable and resilient solution. The components of a high-performance roof system are dependent on the specific building and climate, but the benefits are achievable for all buildings in every climate.



This figure represents one configuration of a commercial low-slope roofing system.
GRAPHIC COURTESY OF PIMA

Practices for designing and installing a high-performance roof system may include:

- Designing for anticipated climate impacts rather than historical averages
- Considering the interactions between the roof and other aspects of the building, including additional envelope components and heating and cooling systems
- Selecting materials that can enhance durability and resilience
- Exceeding energy code minimum requirements where cost effective, including cool roofs and increased insulation levels
- Following industry best practices and manufacturer installation requirements
- Thinking toward future rooftop functions, such as adding on-site renewables

What can I do as a...?

BUILDING OWNER:

Ask your contractor for high-performance roof system options

ROOFING CONTRACTOR:

Educate your customers about the benefits of high-performance roof systems

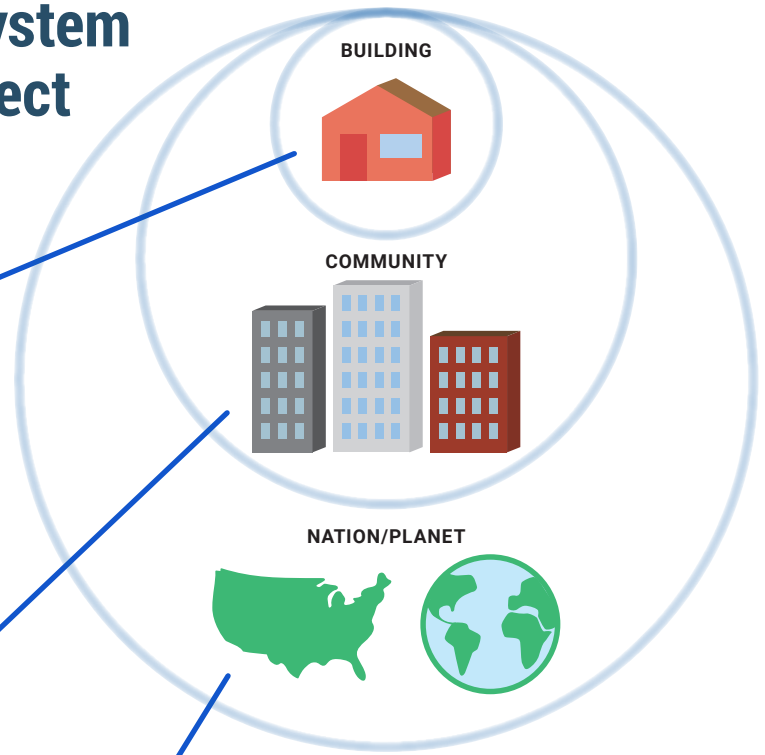
ARCHITECT:

Design with high-performance roof system options (e.g., cool roof, insulation) that exceed code minimums

POLICYMAKER:

Adopt codes and programs that require the use of high-performance roof systems

A High-Performance Roof System Creates a Positive Ripple Effect



High-performance roof systems benefit building owners

- Lower the building's overall heating and cooling demand to generate energy cost savings
- Cool buildings in the summer, while keeping them warm in the winter
- Increase occupant comfort and safety
- Provide passive protection in times of need, such as heat waves, extreme cold or power outages
- Effectively manage moisture
- Optimize service life of roof

High-performance roof systems benefit cities and communities

- Improve air quality from reduction in ground-level ozone and pollutants
- Reduce demand on electrical grid created by short-term surges due to extreme weather events
- Mitigate urban heat island impacts by lowering surrounding outdoor air temperatures

High-performance roof systems can benefit the nation and the planet

- Provide cost savings that can be reinvested into the economy
- Create job opportunities and sustainable economic growth (components are regionally manufactured and locally installed)
- Promote energy security through energy efficiency
- Reduce greenhouse gas emissions
- Increase albedo and mitigate climate impacts
- Decrease landfill waste by improving roof durability and service life

Additional Resources

Cool Roof Rating Council (CRRC) coolroofs.org

Polyisocyanurate Insulation Manufacturers Association (PIMA) polyiso.org

Global Cool Cities Alliance (GCCA) globalcoolcities.org

Chemical Fabrics & Film Association (CFFA) vinylroofs.org

International Institute of Building Enclosure Consultants (IIBEC) iibec.org

Metal Construction Association (MCA) metalconstruction.org

National Roofing Contractors Association (NRCA) nrca.net

North American Insulation Manufacturers Association (NAIMA) insulationinstitute.org

Roof Coatings Manufacturers Association (RCMA) roofcoatings.org

Single-Ply Roofing Industry (SPRI) spri.org

Spray Polyurethane Foam Alliance (SPFA) sprayfoam.org

Structural Insulated Panel Association (SIPA) sips.org

