

# U. S. Low-Slope Commercial Roofing 2000 - 2015

- Market Survey
- Current Conditions
- Future Trends

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[www.tegnos.org](http://www.tegnos.org)

## U.S. Low-Slope Commercial Roofing Market 2000 – 2015

# Definitions

- **Low-slope roofing.** Roofs with slopes of 2 in 12 or less. Accounts for almost all commercial construction in the U.S.
- **Single-ply.** A low-slope roofing system usually consisting of a single pre-manufactured waterproofing membrane typically made from rubber or plastic polymers
  - **TPO:** Thermoplastic Olefin
  - **EPDM:** Ethylene Propylene Diene
  - **PVC:** Polyvinyl Chloride
- **Asphaltic.** A low-slope roofing system usually consisting of multiple layers of waterproofing membrane
  - **APP:** Asphaltic membrane modified with Atactic Polypropylene
  - **SBS:** Asphaltic membrane modified with Styrene Butadiene Styrene
  - **BUR:** Built-up roofing system consisting of multiple layers of felts and asphalt bitumen
- **Green roof.** A roof covered with vegetation. The roof serves to absorb potential storm runoff and cleanse water and air. Typically similar in construction to ballasted or protected membrane roofs.
- **Cool roof.** A roof with a highly reflective (typically white) surface that reflects a substantial portion of the sun's energy back to space. In some situations, ballasted roofs and green roofs are considered the functional equivalents of cool roofs.

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# Definitions

- **Typical roof system attachment methods**
  - **Ballasted.** Roofing membrane (usually single-ply) is secured to the roof substrate with ballast stones or pavers. A variant is the Protected Membrane Roof (PMR) where the membrane is covered first with a layer of moisture-resistant insulation, a fabric retention mat, and ballast stones or pavers.
  - **Adhered.** Roofing membrane is attached to the roof substrate with a variety of adhesives. If the immediate substrate is a layer of insulation, the insulation may be either mechanically attached or adhered to the underlying roof deck.
  - **Mechanically Attached.** Roofing membrane (usually single-ply) is secured with mechanical fasteners to the roof substrate or underlying roof deck.
- **Low-slope roofing systems not covered by survey**
  - Structural metal roofing. Typically used on pre-engineered metal buildings.
  - Spray polyurethane foam (SPF)
  - Roof coatings / liquid-applied roofing

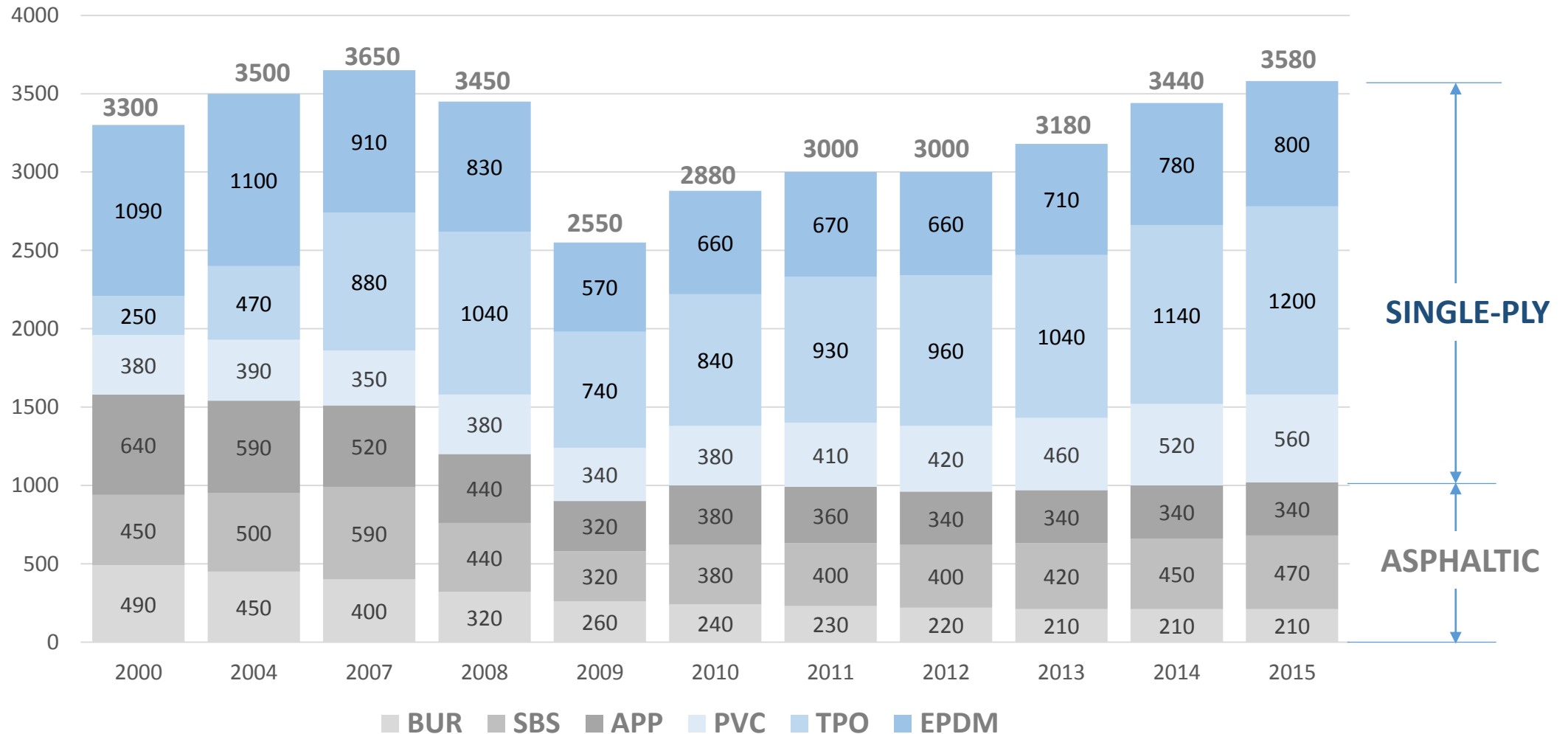
U.S. Low-Slope Commercial Roofing Market 2000 – 2015

## Data Sources

- National Roofing Contractors Association (NRCA) Annual Market Survey
- Surveys and interviews conducted by TEGNOS Research
- U.S. Census Value of Construction Put in Place Survey

# U. S. Low-Slope Commercial Roofing Market 2000 - 2015

(Millions of Square Feet)



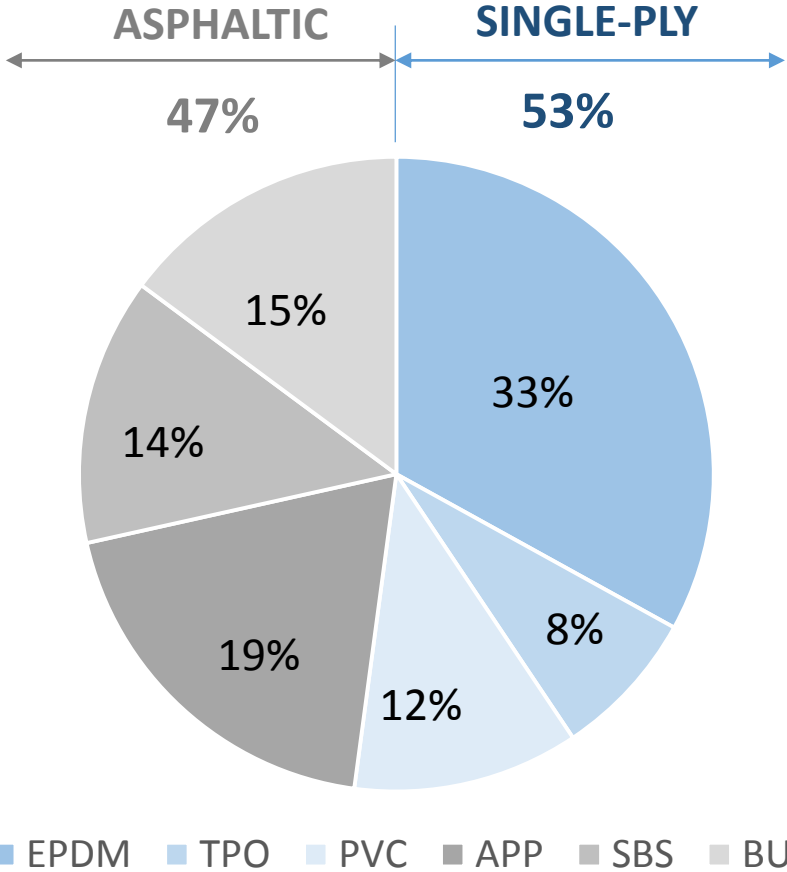
Note: Excludes low-slope applications of spray polyurethane foam (SPF), structural metal, and roof coatings



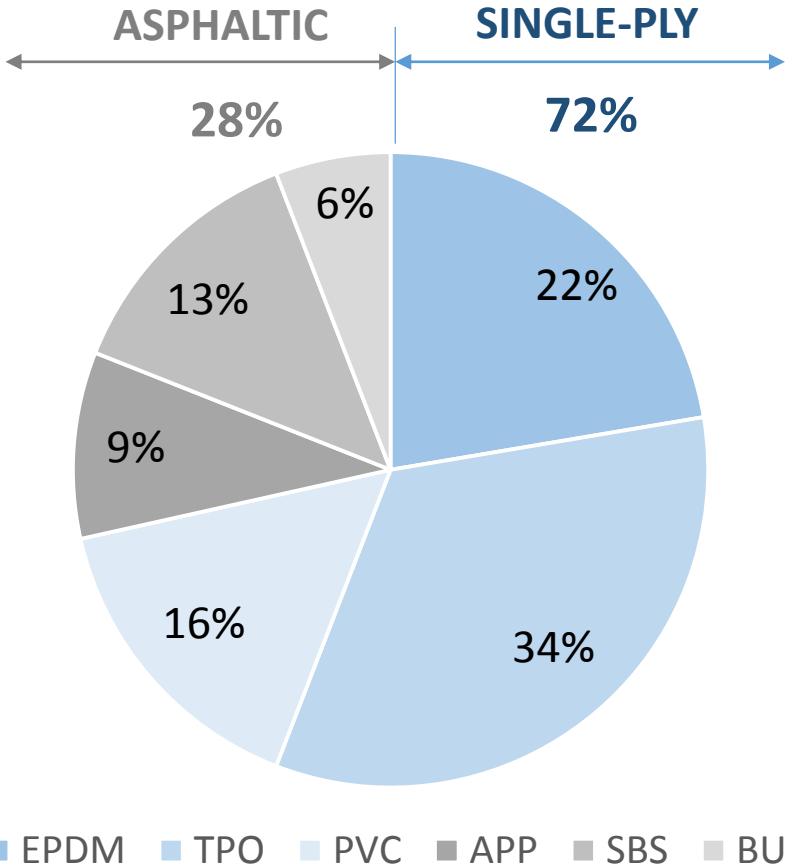
# U. S. Low-Slope Commercial Roofing Market

2000 - 2015

(Percent Share)



2000



2015

U.S. Low-Slope Commercial Roofing Market 2000 – 2015

## Historic Product Trends

- **TPO** has resumed solid market share growth after the “big box” downturn in the late 2000s
- **EPDM** has stabilized after significant market share losses
- **PVC** has moved from a niche product to a significant market segment
- With the exception of the **SBS** segment, asphaltic roofing systems continue to lose market share every year

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# TPO Growth Drivers

- Lowest installed cost of all current market segments
- First choice for “big-box” developers
- Heat-reflective white membrane meets growing demand for “cool” roofs
- Increasing product confidence backed by leading manufacturers



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# Behind the EPDM “Right-Sizing”

- Economical ballasted EPDM systems increasingly supplanted by mechanically-attached TPO at little or no cost differential
- Fully adhered EPDM systems holding their own, primarily in the Northeast and parts of the Mid-West
- Increasing demand and regulation for “cool” roofing makes black EPDM look like yesterday’s technology
- Reduction in plant capacity by Firestone has been absorbed in part by the market entry of Johns Manville in this segment

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## PVC Growth Factors

- Highly-focused suppliers have successfully promoted as a value-added product
- Enduring specification preference among many facility managers and roof consultants
- Although higher material cost than TPO, labor cost is equal
- Increasing demand for “cool” roofing favors both PVC and TPO

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## Behind the Asphalt Decline

- Industry rationalization brings capacity more in line with demand
- Labor inputs remain much higher than single-ply
- Torch and hot asphalt application continues to diminish due to regulation and insurance requirements
- “Cool” roof surfacings (cool granules / coatings) are available, but at a premium to single-ply such as TPO and PVC

## Trends to Watch

- **Cool roofing** will continue to expand, driven by state and city governments. The key driver: Global warming concerns at the local level.
- Expanding code requirements for building **air barriers** may drive significant demand for adhesive attachment technologies, both for roofing membranes and roof insulation
- Ongoing green building trend will favor roofing materials with **fewer emissions** (fumes, VOCs, fire retardants, etc.)
- **Roof coatings** are evolving into roof coating systems, with technical support and warranties to match other low-slope systems
- Roof energy efficiency as measured by **R-value** may have peaked, due to low energy costs and lack of national consensus on CO<sub>2</sub> emissions