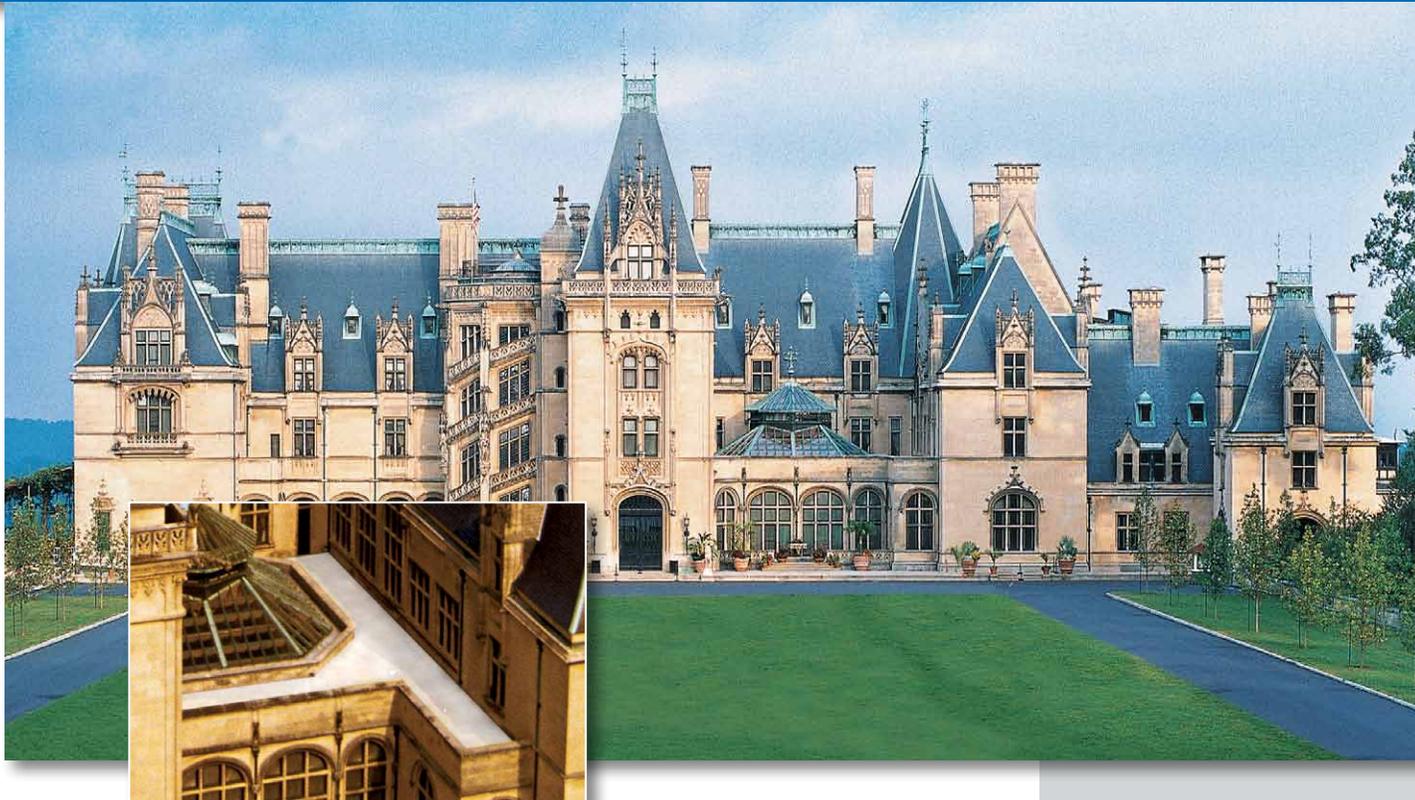


### Case Study: The roofs that JM can't help with are few and far between



**Description:** “Biltmore” was once a private home of George Vanderbilt who used this majestic 250-room chateaux-style residence and its gardens as an escape from everyday life. It was, at the time, one of the largest undertakings in the history of American residential architecture. Over a six-year period, an entire community of craftsmen worked to build the country’s premier home. The estate boasted its own brick factory, woodworking shop, and a three-mile railway spur for transporting materials to the site. Receiving its first visitors in 1895, Biltmore is still family owned and meticulously cared for by a team of curators, conservators and skilled tradesmen. More than one million visitors come each year to escape their everyday lives: to rest and linger at the historic inn, savor the bounty of the estate’s winery and farm and stroll through its stunning gardens and village.

**Challenges:** The roof protecting Biltmore’s winter garden was leaking. At its center is a 20'x20' glass skylight surrounded by flat walkways of roof jutting out at various angles. Two sides of the roof butt to 20'-tall walls. It was originally covered with lead-coated copper with soldered joints that could not withstand the 40°F temperature fluctuations experienced at times, and seams cracked. Other roofing materials had been tried, but none could withstand the snow sliding off the overhead slate roof, “creating little bird baths,” said roofing contractor Ronnie Wheeler. Architectural restrictions prevented a tapered system. The leaks were a maintenance nightmare and threatened valuable historic treasures and restorations inside.

**Solution:** Bonitz recommended a Johns Manville PVC 80 system: a tough, flexible heat-weldable single-ply sheet developed to withstand temperature fluctuations. “It’s very waterproof and is almost like a swimming pool liner; it is one continuous sheet when welded,” said Wheeler. Rick Conard of The Biltmore Company added, “It’s not a residential product we would normally choose to put on the building, but we were so confident of its durability and performance in commercial applications, we could hardly wait to get it installed. Bonitz did a great job with a great product – the quality we expect for this house.”

*Location:*

**Asheville, North Carolina**

*Building Representative:*

**The Biltmore Company**  
Rick Conard, Senior Director of  
Engineering Services

*Contractor:*

**Bonitz of Carolina & Tennessee**  
Ronnie Wheeler, President  
JM Peak Advantage® Summit Club® Contractor

**Roofing System Solution: SP8RM**  
**20-Year Peak Advantage® Guarantee**

Invisa® Roof Board  
JM PVC 80 mil Membrane,  
Mechanically Fastened  
High Load Pre-Assembled Fasteners