

## Du Bois Library at UMASS - *Amherst, Massachusetts*



### 65,000 Sq. ft. Plaza Waterproofing to Protect Historic Treasures

In 2004, the Board of Trustees at the University of Massachusetts were so concerned to have the job done right the first time that they required a 30-year warranty to waterproof the Du Bois Library's 65,000-square-foot green roof/plaza.

The trustees chose the Kemperol® BR membrane, a two-component with catalyst, high performance seamless and self-terminating cold-fluid-applied reinforced unsaturated polyester system. Kemperol® BR membranes can be surfaced with polyurethane coating, light-reflective sand aggregate surfacing or other granular materials to match the appearance of the surrounding substrate.

Although these cold-liquid-applied hybrids are typically more expensive than single-ply and modified bitumen

membrane systems, the initial investment is justified by the potential for improved performance and can help customers avoid costly repair and replacement expenses later. Kemper System, Inc. was so confident in its product, excellent training, and follow-up technical support, that they provided the university a 30-year warranty.

The trustees' chief concern was protecting highly sensitive and valuable archival materials such as antique books, scrolls, papers and documents located directly below the plaza. Any water leakage or moisture seeping into the interior of the library would irrevocably destroy the priceless historic treasures.

A unique benefit of the Kempertec® EP-Primer used to prepare the substrate after scarification is it acted as a

temporary waterproofing system and allowed for phasing of the project in stages. It also accommodated heavy traffic and machinery while the membrane was installed. In addition, the flexibility and durability of Kemper's primer was evident as the primer lay exposed over a six-month period to the adverse weather and climatic conditions resulting from the renowned New England winter.

The university appreciated saving a lot of time and expense because the Kemper System membrane tied into a difficult thru-wall flashing assembly so effortlessly without having to reconstruct the thru-wall at the building line.

Kemper System membranes are engineered to resist degradation from UV exposure and heat intensity and are resistant to biodegradation and most common chemicals, making them an excellent choice for buried applications where any failure is enormously expensive and inconvenient.

In contrast, many conventional industry products break down when exposed to chemical or petroleum products and biodegradable conditions such as microorganisms in soil in green roof applications or contamination from ponding water.

The Kemperol® BR membrane exhibits exceptional bond strength to substrate surfaces, to form full closure to field surfaces, irregular flashings and penetrations of every shape or material.

Historically, most roof failures are due to the weakness in conventional roofing and waterproofing systems' perimeter and penetration flashings, laps, and seams. This is where the Kemper membranes perform so much better. Because the university needed a system that could go edge-to-edge and could handle difficult transitions, an extremely intricate massive overburden assembly, and planters equipped with an irrigation system, the Kemperol® BR membrane, with an embedded reinforcement fleece, offered the best possible option for a long-term, built-to-last, worry free solution.

One of the most significant benefits that Kemper System, Inc. brings to its customers is its expert technical experience. Kemper provided the applicators with extensive training to ensure the quality of the project and the product's proper installation. On-site during the entire project before, during and after

membrane installation, the staff worked side-by-side with the applicators to install the project's first 10,000 square feet.

After project completion, the architect, Gardner Engineering, required a 48-hour water test, where specific areas of the project were cordoned off and flooded with two inches of water for 48 hours to ensure the integrity of the membrane.



**Building Owner:**

University of Massachusetts

**Consultant (Architect, Engineer):**

Edward & Kelsy, MA

**Contractor:**

GE Gardner Construction & Industrial Services, Inc.

**Year of completion:**

2006

**Surface size:**

65,000 sq. ft.