

## Kemper System Answers Towering Challenge in New York

### Freedom Tower, World Trade Center, New York



Kemper System's Kemperol 2K-PUR cold liquid applied membrane has been used as the waterproofing system for the tallest building in the Western hemisphere: the 1,776ft One World Trade Center in New York.

Rising to 104 storeys and constructed in a \$3.9 billion project lasting more than a decade, the One World Trade Center, also known as the "Freedom Tower" is the centrepiece of the re-built World Trade Center complex constructed on the site of ground zero.

The 1800m<sup>2</sup> roof is not only extremely high, but also features extensive exposed steel details and up to 400 penetrations, including the spire, with no area larger than 10ft x 10ft without some form of penetration; all of which had to be sealed effectively using a system that could be applied by a small team, with restricted access and without the use of hot works or heavy equipment.

Kemper System's Kemperol 2K-PUR liquid-applied resin membrane was specified for the main roof and the louvre areas on lower floors. The penetrations, drains, curbs and perimeters were all protected and then overlapped by the membrane in the larger expanse to provide a seamless, durable and reinforced waterproofing membrane across the entire roof. As the cold-applied resin bonds directly to the substrate it is particularly effective in coping with wind-uplift which was a major consideration for the chosen system.

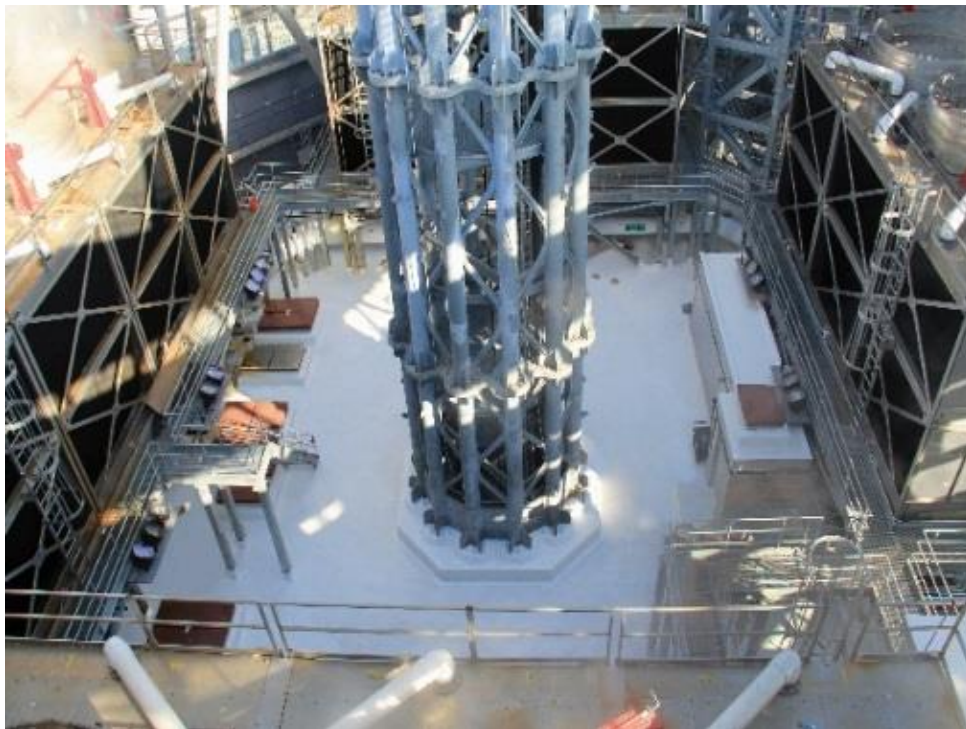
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In line with US Building Code requirements, the system was completed with a white reflective coating to reduce the urban heat island effect.

Stuart Hicks from Kemper System comments: "Few projects are as iconic or as challenging as the One World Trade Center scheme but Kemperol 2K-PUR's ease of application and long-term waterproofing performance made it ideally suited to both the installation challenges and the long-term requirements of the building."

### Sustainability

The Kemperol 2K-PUR resin system is 80 percent from renewable materials, which fit with the overall design goals for the project. Nearly 75 percent of 1 WTC is made from recycled or eco-friendly building materials, and the building's green design earned LEED Gold Certification.



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