Longtime Emblems of City Roofs, Still Going Strong

For more than a century, water towers have capped city buildings and quenched the occupants’ thirst.

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THEY stand at the crest of the New York skyline like rustic, weathered sentinels. Their design has changed little in more than a century, and though they resemble a relic from a forgotten time, wooden water tanks remain a fixture of the cityscape.

And more are being built every day, because the tanks endure as a vital part of the water-supply system for many of the city’s buildings. New York is the only large American city where these structures are common; elsewhere, their numbers are dwindling.

Younger cities often rely on electric pumps to supply water to skyscrapers, but New York’s aged infrastructure, built on shallow bedrock that results in extremely low water pressure, doesn’t allow that technology. Architects outside New York may not even think of using a rooftop tank to hold a building’s water supply, and if they did, who would build it?

Two companies build water towers in New York — Isseks Brothers and the Rosenwach Tank Company — and both have been in operation for well over a century. Scott Hochhauser, vice president of Isseks Brothers, estimates that his company alone has built tens of thousands of tanks over the years and says his work crews build one to five a week, and repair and service many times that number.
To watch the tankmen practice their craft is to witness a construction technique that has transcended time, as was evident one day not long ago when a Rosenwach crew was building a water tank on the roof of a 24-story hotel rising near the Empire State Building. Three men moved nimbly around a narrow, rail-free scaffolding almost 300 feet above the street, while two others handed up planks from the rooftop below. It took less than two hours to construct the body of the tank, setting vertical boards in place using only a hammer and a rope.

Modern tankmen build in materials other than wood, but they don’t rave about it. Steel tanks cost up to four times as much and must be properly maintained to avoid rusting. Wood insulates better than many other materials, keeping water cool in summer and preventing freezing in winter. And wooden tanks are visually interesting.

“They’re an icon; they’re part of the tradition of this city,” said David Bonilla, a project manager for Rosenwach. “There’s just nothing that works as well.”

Atop the hotel roof where the tankmen were working this day, 150 wooden water tanks could easily be seen, distinctive silhouettes that resemble grain silos on stilts. Although they come in all shapes, sizes, and states of repair, most still play an active role in managing the city’s water supply. Indeed, new tanks are being built every day, in part because of the current building boom.

Their roots go deep into the city’s history. According to Kathleen Hulser, a historian with the New-York Historical Society, indoor plumbing began replacing well-drawn water in the 1840s. During those years, natural water pressure could supply all of the city’s buildings. Tanks began sprouting up in the city about 50 years later, at the same time as the tall buildings themselves, a symptom of the growth that followed the Civil War. Rooftop tanks were used because local water pressure was too weak to raise water to the upper stories; instead, buildings over six stories use a pump to fill tanks, after which gravity goes to work. This remains the case.

The original tankmen were barrel makers who expanded their craft to meet a modern need. Even today, no sealant is used to hold the water in; tank walls are held together with cables but leak through every gap when first filled. As the wood swells, the gaps close and become impermeable.

Fed from the pipes below the city streets, rooftop tanks store 5,000 to 10,000 gallons of water until it is needed in the building below. The upper portion of water is skimmed off the top for everyday use; the water in the bottom of the tank is held in reserve to fight fire. When the water drops below a certain level, a pump is triggered and the tank is refilled.

Though other systems are sometimes used to supply water to modern skyscrapers, New York’s system of municipal pipes and aqueducts is best suited to the water tank, a method developed more than 150 years ago. As Lisa Golowach, a Rosenwach office manager, said, “I don’t see the tanks disappearing until they start ripping up the streets in Manhattan and laying pipe.”

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