

Sure-Flex™ KEE HP
Roofing Systems

CASE STUDY

North Charleston Aquatic Center



JOB PROFILE

PROJECT LOCATION:
North Charleston, SC

CARLISLE APPLICATOR:
Bone Dry Roofing Company

BUILDING OWNER:
North Charleston Aquatic Center

- ROOFING SYSTEM:**
- » Sure-Flex KEE HP PVC Membrane
 - » DensDeck® Prime Roof Board
 - » InsulBase Polyiso Insulation
 - » SureMB 90TG Torch-Grade SBS Base Ply

The North Charleston Aquatic Center opened its doors to the public in August of 2020. It is the Lowcountry's first aquatic center and boasts an Olympic-size pool. The 53,000-square-foot center is capable of hosting large-scale events, at both the national and state competition level.

This state-of-the-art facility contains a 50-meter, 10-lane pool, a 25-yard therapeutic pool, and spectator seating for 1,000 guests, plus locker rooms, administrative offices, and community meeting space. "The facility not only offers a controlled environment for youths to learn to swim year-round but also provides the city with a venue suitable for high school and college competitions," said North Charleston Mayor, Keith Summey.

The aquatic center will serve as the dedicated practice and swim meet facility for three local high schools, as well as a space for swim lessons as part of a physical education curriculum for local elementary school students.

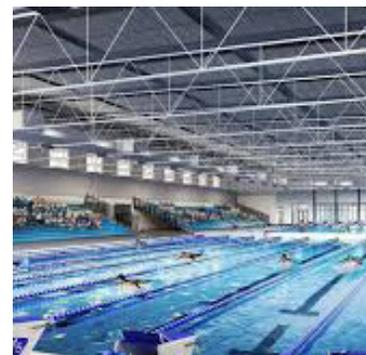
CASE STUDY

Bone Dry Roofing Company, a Carlisle SynTec Systems' Authorized Applicator headquartered in Athens, GA, was selected to install the roof on the Aquatic Center. Bone Dry Roofing, founded in 2003, was chosen because of their commitment to excellence, striving to make the process of achieving a high-quality roof system as painless and headache-free as possible. Bone Dry Roofing specializes in residential and commercial roofing, as well as commercial repair and maintenance, and serves three regions in the Southeast: Athens, GA, Saint Simons Island, GA, and North Charleston, SC.

Construction on the roof began on a 22-gauge steel deck. Bone Dry Roofing Company used ½" DensDeck Prime as the substrate, which was mechanically attached to sloped metal decking using Carlisle's InsulFast Fasteners and 3" Insulation Plates. Bone Dry then chose to install a vapor barrier, Carlisle's SureMB 90TG Torch-Grade SBS Base Ply, which was torch-applied directly to the substrate. SureMB 90TG is reinforced with a fiberglass mat that is saturated and coated with high-quality asphaltic bitumen and SBS elastomers, offering durability, flexibility, and easy maintenance.

Once the vapor barrier was installed, Bone Dry Roofing Company chose Carlisle's InsulBase Polyiso Insulation, a rigid roof insulation panel composed of a closed-cell polyisocyanurate foam core that is bonded on each side to glass-reinforced felt (GRF) facers. One layer of 2" and one layer of 1.5" InsulBase Polyiso were installed over the vapor barrier using Carlisle's FAST™ Adhesive, providing an R-value of R-20. A ½" DensDeck Prime Roof Board was then adhered to the insulation, improving the roof's resistance to foot traffic and hail.

Once the insulation and cover board were in place, Bone Dry Roofing selected Carlisle's Sure-Flex KEE HP (High Performance) 60-mil membrane, which they installed over the cover board using Carlisle's Low-VOC PVC Bonding Adhesive. Sure-Flex KEE HP membrane utilizes DuPont® Elvaloy KEE HP, a resin modifier that results in enhanced low-temperature flexibility, increased UV resistance, and improved long-term weathering. Additionally, membrane enhanced with KEE HP and antimicrobials is highly resistant to algae and other microbial growth and provides



longer term resistance than a lacquer coating which can quickly wear off. Carlisle's Sure-Flex KEE HP is ideal when the roofing membrane will be subjected to harsh chemicals and conditions like air-conditioning coolants and intense sunlight. This was a perfect choice for the Aquatic Center, as KEE HP membrane is resistant to the chlorine used in pools that can be generated through condensation.

With Carlisle's fully adhered Sure-Flex KEE HP membrane installed by one of the Southeast's leading commercial roofing applicators, the long-awaited North Charleston Aquatic Center will be a place that students, athletes, and the community can enjoy for many years to come.