Kemper System Enables Barnsley Town Hall To Keep Heritage Intact

With its Portland Stone façade and its classical architecture, Barnsley Town Hall is one of South Yorkshire’s most distinctive landmarks and best loved buildings.

When Barnsley Council commissioned a project to refurbish the roof as part of a programme of improvements to the building, KEMPER SYSTEM not only had to ensure that the roof was upgraded successfully without any disruption to council services but also had to complete the scheme without any impact on the rest of the building.

Explains Victoria Ramwell, technical sales representative of KEMPER SYSTEM: “The project involved installation of a new warm roof system to enhance the thermal performance of the building as well as providing a new waterproofing surface.

“The town hall remained occupied throughout the programme and the building not only involved challenges in terms of the roof build up and complexity but also has delicate features that we had to protect during the works, affecting the way in which the programme was designed.”

To address these challenges, a STRATEX warm roof system with KEMPEROL® 2K-PUR liquid waterproofing membrane was specified by KEMPER SYSTEM. KEMPEROL® 2K-PUR is solvent-free and odourless; ideal for use on occupied buildings where the odours from solvent based or so called low-odor products can be disruptive. KEMPEROL® is also cold applied and therefore can be installed without hot works or the fire risk associated with them.

The existing roof build up consisted of asphalt, followed by a screed and a further layer of asphalt. Barnsley Council were keen to reduce the weight on the roof and so the top two layers had to be removed before installing the new roof.

The remaining asphalt surface varied in condition and a new vapour control layer had to be installed over large areas of the roof surface before installation of KEMPER SYSTEM’s KEMPERTHERM insulation board. A tapered insulation scheme was chosen to aid with rainwater drainage.

Stuart Hicks, marketing manager from KEMPER SYSTEM explains: “The STRATEX system is designed to enable the installer to choose between mechanical or adhesive fixings for the insulation and initially the contractor planned to use mechanical fixings. However, it was clear when the installation team started to drill pilot holes that the vibration could cause damage to the internal décor and potentially the ornamental glass dome inside the building. As a result, adhesive was used to fix the insulation.”

As the level of the new insulation was above the lower edge of the glass on the large lantern rooflight, and so as not to interfere with the structure, a drainage channel was created around the roof light and lined with the KEMPEROL® 2K-PUR membrane.

Stuart continues: “The complexity of the roof meant that it would have been extremely difficult to install a new waterproof surface with anything other than a liquid membrane.

“In addition to the roof light, above the internal glass ceiling dome, and the channel we had created around it, we had to contend with a high parapet wall and the outlets that come out of it, numerous skylights, a central plinth and two plant rooms on the roof.”

The KEMPEROL® 2K-PUR liquid system enabled the contractor to install the waterproofing to the exact contours of these roof details and seamlessly incorporated all adjoining areas and drainage channels into a single monolithic membrane. Applied wet-on-wet in a single process, the liquid resin saturates a reinforcement fleece and cures to form a tough, flexible substrate that cannot delaminate.

After completing the entire roof, red aggregate surfacing was applied to designated areas to create non-slip maintenance walkways.

“We needed a roof refurbishment that would improve the town hall’s thermal performance and protect against water ingress” comments Tony Taylor from Barnsley Council. “The solution from KEMPER SYSTEM not only answered these requirements but, being sustainably sourced and solvent-free, also conformed to our environmental objectives and ensured that we could carry on using the building as normal without any unpleasant odours or disruption.”

At a Glance:

Project: Roof refurbishment with warm roof upgrade
MATERIALS: KEMPEROL® 2K-PUR
Contractor: Surface Protection
Client: Barnsley Council
London (UK)

Green Roof
Waterproofing A Walk In The Parkside

The Leela Palace New Delhi (India)

One Of The World’s Best Of The Best Hotels

Cleethorpes (UK)

Refurbishment Scheme Makes A Splash In Cleethorpes

A Greener Approach To Private / Social Schemes...
NY Resorts World & Casino, NY (USA)

Finish “In the Money” At NY Resorts World

No contractor can count on the weather. The worst writer in the New York area in decades put The Jobin Organization, Inc. (Farmingdale, NY) to the test in extending installation deadlines for NY Resorts World & Casino.

KEMPERO® V20 is specified for roof and wall waterproofing to the tune of 6,000,000 sq. ft. ofstatin roof deck restoration alone over a spectral area of Aqueduct Raceway, now part of the combined racetrack complex.

The self-leving liquid applied membrane was ideal for flowing around the many penetrations, from steel support beams and angled curves to electrical raceways and conduits. Also, the Kemporo® V20 could be applied in cold weather (as low as 5°C), which ensured a consistent application, but the endless cured was not.

The job was originally scheduled to begin in early January with a late-year finish date. However, a record number of snowstorms pushed the actual start for roofing into March. Penalties incurred for late completion, yet with reputations on the line, there was no room for compromise.

“Both the scheduling and logistics were challenging,” says John E. Stuendl, branch manager of Holl in Farmingdale. “The contractor had to bring in crews, steel support beams and angled curves to electrical raceways and conduits. Also, the Kemporo® V20 could be applied in cold weather (as low as 5°C), which ensured a consistent application, but the endless cured was not.”

The museum exhibition rooms below the HVAC plants are protected by Kemporo® waterproofing.

Professional knowledge, cost-effective solution

The installation of liquid-applied waterproofing demands a high level of professional knowledge and practical expertise for the architect. It was very important that the partner chosen for this complex task was reliable, experienced and highly skilled. Robert Leander, branch manager of Holl in Farmingdale, says Kemporo® was selected for the job.

The liquid-applied waterproofing is reaction resin based. A chemical reaction ensures that the waterproofing is permanently elastic and crack bridging after curing and bonds fully with the substrate across the entire surface during the curing phase. Therefore, in the event of a leak, the risk of water infiltration is fully eliminated. Any liquid collects on the surface of the waterproofing and either drains out or remains on the surface and is drained or soaked off under an emergency drain. Liquid material is completely cold applied, i.e. without the use of a baked flame, and adapts to every shape of the substrate. Architectural details are much easier to waterproof than with traditional products. And minimum system thicknesses are sufficient to solve any problem.

Protected exhibits

The Kemporo® seamless liquid waterproofing was installed as high as possible on the side walls, over concrete plinths of the HVAC plants and at all upwards and penetrations. Thanks to this “faithful design”, water can be drained off in a controlled manner via an emergency drain in the event of leakage or accidents. The surface is able to withstand mechanical loads for many years and can be walked on for maintenance purposes. Since the HVAC plants are running, the exhibition rooms below in the West of the museum leak leading to liquid spillage during cleaning and renovation was made possible from above, hereby no damage to the HVAC plants were waterproofed.

Protective galleries

The Jobin Organization’s highly-skilled team of roof mechanics – all trained by Kemporo® System – met the challenge. The team satisfied all job conditions by completing the work on time and budget, as well as to the customer’s satisfaction.

The LVR-LandesMuseum Bonn, the Rhineland State Museum for archaeology, art and cultural history, is one of the oldest museums in Germany. It now been completed using Kemporo® waterproofing.
Hamburg (Germany)

Hamburg's Highest Hotel Roof Sealed With KEMPEROL®

For 30 years it was regarded as the highest building in Hamburg, until the new 80-floor Phi-Building was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The vertical, structurally high-rise building has nine segments set against each other, with staggered roof tops each over 100m high surrounded by a closed parapet.

Up here even in the sunny summer weather a stiff breeze still blows. The uninhibited view of the Hamburg city landscape is unique. Hotel guests however do not come quite as high as the access is prohibited. The façade is quite a technological and service area. Electrical engineering, communication systems, air conditioning, and the “core center” of the hotel elevators are all housed here. Part of the roof is rented by telecommunications providers where their technical equipment and reefs are installed.

Due to age and deterioration of the existing roof covering the roof had begun to fail with moisture finding its way into the building that may affect the guests and spoil their stay at the hotel.

For fire safety reasons work had to be done on the reception and waste areas. Nor did the many detail points in confined spaces. The refurbishment also involved external refurbishment, including stone cleaning and a waterproofing that can delaminate. The pond are... ducks; a nice wink to India’s home in the UK, will continue to offer a prestigious venue for generations to come thanks to a KEMPEROL® installation designed by architects, contractors and suppliers of the waterproofing and roof finishing industry. The后的 renovation building in Clerken Cross has undergone a complete external refurbishment, including stone and brick repairs, stone cleaning and a new roof covering using the KEMPEROL® V210 cold liquid applied waterproofing system.

The KEMPEROL® V210 liquid resin saturates a non-woven reinforcement fabric that is automatically dry and tear resistant, and cures to form a permanent, elastic, waterproof membrane that cannot delaminates it is tough and durable. It is resistant, and can even accommodate standing water. The platinum, various C3glutestrengths and details on the roof are all waterproofed by the KEMPEROL® team using KEMPEROL®.

The installation dealt with the application of the KEMPEROL® membrane to the asphalt substrate of the building’s feature balconies. The large plastic wall was surrounded by golden mermaids and dolphins spraying water.

In order to ensure that the water remains in the circuit and does not gradually seep into the subsoil, the lower basin was first given a coat of KEMPEROL® DP Primer and then waterproofed with KEMPEROL® 2K-PUR. As polished stone elements were laid on the waterproofing, protection against alkalis was also provided. Once the KEMPEROL® 2K-PUR had cured, the surface was given a coat of KEMPERTEC™ EPERTEC® 7672 Natural Quartz worked onto the surface.

A white solution was required for the basin on top of the central white pedestal. In this case the waterproofing was carried out with KEMPEROL® 2K-FUR, which is a single component resin, applied directly out of the container. Once cured a high quality surface was ensured by applying KEMPERTEC™ 2K-FUR Finish. Marble stepping were worked into the wet coating and the surface finished with a coat of KEMPEROL® Finish. The fountain is covered by a third, smaller basin of bronze.

For 30 years it was regarded as the highest building in Hamburg, until the new 80-floor Phi-Building was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.

The Radisson Blu Superior was built in 2013, and surpassed it by a few metres. What is still undisputed, however, is that the 4 star Radisson Blu Superior with its 556 rooms continues to be the largest and tallest hotel in the Hansestadt with the best views.
Founded by Royal Charter in 1829, King’s College School in Wimbledon is one of the most academically successful schools in the world. The school caters for boys aged 7-18 and admits girls aged 16-18 to its sixth form, putting a significant emphasis on sports alongside academic study.

Ensuring the facilities match the prestigious school’s reputation is a key priority at King’s College and the school put in place a £30-40 million master plan in 2012, which is currently being rolled out. Alongside the capital investment programme, the school remains focused on maintaining and upgrading its existing estates, including a recent project to replace the roofs on both the sixth form centre and the cricket pavilion.

Roofing Considerations

The initial requirement was to replace the ageing felt surface on the sixth form centre roof. The roof structure itself was sound but deterioration of the felt substrate was in danger of compromising its integrity.

The school’s maintenance team considered stripping out the felt roof and re-felting it but this would have involved practical and potentially financial implications.

Explains Paul Brown from roofing contractor, Avante-Garde Roofing: “There is a considerable amount of air handling equipment on the roof of the sixth form centre and any project to re-roof the building with felt would have necessitated removing the plant and replacing it after the project. That complication would have added both time and cost to the programme.

“Re-felting would also have required hot works, which has health and safety implications in a live school environment. It can also be very difficult for some felt roofing contractors to get insurance on these types of roofs because of the fire risk associated with the torches.”

Practical Solution

The chosen alternative to stripping out and replacing the felt on the sixth form centre roof was KEMPEROL® V210; a cold liquid-applied waterproofing membrane that bonds to the existing substrate. The membrane is applied in a single process as a liquid resin which saturates a non-woven reinforcement fleece which is immensely strong yet flexible, durable and tear resistant. The system then cures, creating a UV resistant, monolithic membrane that provides seamless waterproofing protection with a BBA accredited service life in excess of 25 years.

One of the key benefits of using the KEMPEROL® waterproofing system for the sixth form centre roof was that it enabled the contractor to simply raise the extensive air handling equipment located on the roof and apply the system beneath it, lowering the units back into place once the membrane had cured. Not only did this avoid any time-consuming and logistically complex plant removal element to the scheme but it also ensured that there is a seamless waterproofing membrane that protects the entire roof, including the areas underneath the equipment.

Use of the cold liquid-applied system also made it easier for the Avant-Garde team to install the waterproof membrane around the roof’s numerous skylights ensuring a watertight seal around each one.

Finally, as Paul Brown points out: “Because KEMPEROL® is cold applied, there is no fire risk whatsoever.”

From Classroom to Cricket

King’s College was surprised to find that a re-roofing project anticipated to take several weeks in fact took less than a month.

“Avant-Garde did such an excellent job,” comments King’s College head of maintenance Jason Sprague, “that we asked them to re-roof the cricket pavilion, which had started to leak.”

Replacing the pavilion’s asphalt balcony roof entirely would have been cost prohibitive so the school chose KEMPEROL®, which was installed onto the existing prepared asphalt substrate. Rubber matting was then installed on top of the KEMPEROL® for extra protection against cricket shoe studs.

At a Glance:

- Project: 600m² Roof Refurbishment
- Materials: KEMPEROL® V210
- Contractor: Avante-Garde Roofing

Jason adds: “We have been impressed by both the speed of installation and the lack of disruption during both roof refurbishment schemes and the seamless finish the KEMPEROL® provides will ensure our students enjoy dry classrooms and match breaks for generations to come.”