

Weston's Grand Pier has undergone a £51m redevelopment programme after being burnt down in July 2008.



Pier we go

The redevelopment of the Grand Pier in Weston-super-mare has succeeded in creating a state-of-the art 21st century seaside attraction. **Russell Drury** explores the challenges it involved for **Cablofil**.

What could be more quintessentially English than a stroll along the pier at a traditional seaside resort? The Grade II listed Victorian pier in Weston-super-Mare originally opened in 1904 and was one of the UK's finest until the town awoke one July morning in 2008 to find that it had been burnt to the ground. The fire had come just as the pier was undergoing a refurbishment to increase its appeal to a new generation of holiday makers and day trippers and it was a massive shock to the town. But now, a new era is dawning for Weston-super-Mare's Grand Pier as a £51m re-build programme to deliver a traditional pier with a contemporary twist draws to a close.

Attractions

Designed to appeal to the whole cross section of its anticipated four million-a-year visitors, the re-built Grand Pier will offer all the attractions usually associated with an English seaside resort, such as a ghost train and a helter-skelter, but its famous pavilion will be re-invented as an enormous indoor entertainment centre with hi-tech amusement park rides, a state-of-the-art 4D cinema, shops, cafes and restaurants. In keeping with the design of the original structure, all of this will be situated at the sea end of a 400m promenade which, along with the pavilion, will be lit every evening.

Delivering the electrical power and data capabilities needed to make all of this a reality has been no simple task, and the electrical installation has been the remit of electrical contractor, Barrie Beard. Added to the complexity of the installation itself has been the extremely tight schedule that the contractor has been working to. These two aspects of the installation have been significant influences in the specification of the containment system for the job.

Wayne Bedford, from Barrie Beard, explains, 'The consultants had allowed us to choose whether to use

perforated steel tray or a steel wire containment system and for us it was an obvious choice: using a steel wire tray system meant that we could cut, bend, shape and create tees on site with maximum speed and minimum tools, giving us the flexibility we needed to overcome the complexities of the job. What's more, it also speeded things up a lot – I would estimate that using a steel wire system was about 30 per cent quicker than a perforated steel system would have been.'

Familiarity

The steel wire tray system chosen by Barrie Beard was Cablofil, a system that the company uses frequently, ensuring that the installation team was familiar with best practice installation techniques and the use of Cablofil couplers and brackets. In all, the contractor used around 2.5km of the Cablofil system in various widths and depths to suit the requirements for high voltage, small power and data cabling both externally and within the pavilion. But it wasn't just familiarity with the system and the breadth of sizes within the range that made Cablofil the first choice for this application.

Wayne continues, 'All the high voltage cabling is located beneath the promenade on the exterior of the structure where it is not only open to the wind and rain but is also regularly lashed by the sea. Even inside the pavilion, the sea air is a consideration and protecting the containment from damp and salt was part of the brief. As a result, we used marine grade stainless steel Cablofil with enclosed lids for the external containment which was post-coated with an anti-corrosion coating by Cablofil prior to delivery to site. And for the interior containment we used hot-dip galvanised steel wire tray to offer more modest, but still significant, anti-corrosion protection.'

Before work began on site, Cablofil southern sales manager, Carl Brambani, met with Wayne on site to discuss the most appropriate bracketry for the job. Explains Carl, 'Our approach is to help the customer specify the most appropriate elements from the system to ensure that they don't over-specify or over-complicate the job. If a specialist accessory is required we can custom design something for them and in this case we provided pre-coated anti-corrosion brackets for the external installation.'

The pier is connected to two electricity supplies, with high voltage cables connected to a transformer at the sea end of the pier and low voltage cables providing small power to the buildings at the shore end. All of these cables were installed underneath the external pier structure using 200mm marine grade Cablofil with lidded enclosures which has been pre-coated with an anti-corrosive treatment prior to installation.

Wayne continues, 'On paper, this aspect of the installation was relatively straightforward. However, it involved the installation teams working at height on scaffolding under the pier, in freezing cold December temperatures with the sea raging beneath the teams as they worked. The data cabling installation was more complicated but it didn't involve such hazardous and unpleasant conditions!'

Wow factor

Category 5 data cabling has been used throughout the pavilion to join different elements of the indoor entertainment venue together and provide the controls



that have helped to bring the 'wow factor' to the revamped pier. For example, one of the most striking visual elements of the new pier is the LED lighting that runs along the whole length of the pier from the shore end to the pavilion and then rises up the three levels of the pavilion before travelling back to the shore end again. The lights are configured in a chasing sequence and the controls for this are all provided by Category 5 cabling which is housed at high level using Cablofil containment.

Indeed, data cabling has an important role to play in providing all the indoor lighting too. An advanced lighting control system has been installed to ensure that the lighting throughout the venue is both energy efficient and flexible enough to adapt to different events and the changing seasons. Thanks to Category 5 cabling installed throughout the ceiling voids using Cablofil steel wire tray containment, the lighting uses a wide range of detectors and offers pre-programmed 'scenes'.

Data cabling was also installed in floor voids across all three levels of the pavilion, providing data communications to all floor boxes and to the turnstiles at the entrance to the indoor attractions. In the ceiling voids, further data cabling was installed to provide Wi-Fi capabilities, and control both the CCTV system and the technically advanced audio visual systems.

Wayne continues, 'While the project has the conventional data cabling needs of any commercial environment, such as providing Internet capabilities to office areas, for example, the specification at the Grand Pier was much more complicated as the development has set out to be a 'space age' visitor attraction. What that meant for the installation was that some areas of

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project focus



All the high voltage cabling is located beneath the promenade on the exterior of the structure where it is exposed to the wind, rain and sea.

the building require large amounts of data cabling and, of course, we needed to futureproof the containment installation in case further cabling needs to be added in years to come. The variety of sizes within the Cablofil range enabled us to adapt the containment in different areas of the building to suit the installation for that location, so in some areas we used 50mm steel wire tray, in others we needed to go as big as 600mm.'

The space age nature of the visitor attraction is not just in the state-of-the art rides and entertainment facilities, even the foyer areas and the cafes are high tech. Throughout the foyers flat screen TVs display real time information about what's happening across the pavilion with information streamed directly onto the screens using the data cabling network. Meanwhile, in the cafes and restaurants, TV screens are used to display menu information and, once an order has been taken, the data network ensures that it appears on screen in the kitchen area communicating effectively between front of house and kitchen staff.

Challenging task

Completing such a wide ranging installation within a nine month programme has been a challenging task for Barrie Beard, but, amazingly, the contractor has managed to keep the schedule on track, despite the atrocious weather conditions in December and January which did cause some disruption to the entire build programme. The company has achieved that by ensuring that experienced installers were on site in sufficient numbers – averaging a team of 65 people on site throughout the programme – and for a period of four months the contractor implemented 24/7 work schedules.

Wayne adds, 'The complexity of the project would always have made it an intensive programme and the simple-to-use nature of the steel wire containment system really helped us to address things like tight beds and restricted working space. But even more significantly the big advantage of using the Cablofil system was the amount of time it saved us. Without the time saving advantages that we gained, we simply would not have been able to complete the job on time, regardless of the 24/7 timetable we put in place.' ■