

CASE STUDY:

PROVIDENCE TOWER at New Providence Wharf London

Customer: Briggs & Forrester (MEP) Ltd.

Region: UK

Industry: HVAC System

Project: Multi-Storey, Multi-Occupancy Building

Product Solution: GRINNELL Grooved Mechanical Products

Materials: Flexible Grooved Couplings and Fittings, Control Valves, and Suction Diffusers



Profile

2015 is set to see the expansion of New Providence Wharf (NPW), a premium riverfront development that stands against the world famous, high profile backdrop of Canary Wharf. The NPW complex, currently made up of the Ontario Tower and the Radisson Edwardian Hotel, will be joined by the Providence Tower, adding to London's iconic skyline.

The 43 storey mixed-use scheme, awarded by Ballymore Properties to main contractor Balfour Beatty, serves as the final piece of the jigsaw at NPW, cementing the district's prominent position as an exciting investment opportunity in the heart of the capital. A key factor in the successful completion of the Providence Tower construction was ensuring that the project stayed on time and on budget. To achieve this, MEP contractor Briggs & Forrester (MEP) Ltd. looked to work with a building services partner that could guarantee a pipe jointing solution that ensures fast and efficient installation and helps overcome the construction challenges in multi-storey, multi-occupancy buildings.

Scope of Works

As with any high rise structure, the construction posed various challenges which, in turn, would affect the contractor's choice of system. The height of the tower, combined with the weight of the pipe and its contents throughout the building, generated considerable loads on the structure and pipework, meaning that the products selected for the project had to be fit for purpose. Briggs & Forrester (MEP) Ltd. selected a complete GRINNELL grooved mechanical solution from Johnson Controls to meet the heating, ventilation and air conditioning (HVAC) needs of this landmark building. Fitting of the products, chosen specifically for their ease of installation, flame-free jointing technology, proven performance and value engineered flexible offering, started in March 2014. The GRINNELL team presented drawings and design calculations to demonstrate the capabilities of its grooved pipework solution for use in high rise and high end load situations. Individual elements in the range, including couplings, control valves and suction diffusers, combine to offer an innovative, robust and cost-effective total grooved pipework solution for optimal efficiency and superior quality, compared with traditional pipe joining methods.

A further challenge to overcome was the installation of services in a confined plant space, where many services converge. Mechanical joints offered trouble-free installation and were assembled in situ for optimised installation in the confined area. Due to their effective space saving design, suction diffusers were installed to replace the straight pipe normally required to reduce turbulence, which was reinforced by their ductile iron body and integral vanes. These elements also provide optimum flow conditions for better results.

WHY GRINNELL Grooved Mechanical Products?

"The high quality and reliable solutions from GRINNELL, combined with the team's technical knowledge, ensured efficient and successful installation of components for the building's HVAC applications. The savings made in both time and money didn't compromise on quality in any way and we're thoroughly impressed."

Paul Campbell, Project Director
Briggs & Forrester Ltd.



GRINNELL Mechanical Grooved HVAC System Installation



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Profiled Project

The Providence Tower required building services components that keep vibration transmission to a minimum. A bellows or flexible hose would typically cater for this challenge, however GRINNELL Technical Services was able to value engineer this element using its flexible grooved coupling. This solution manages the vibration of flowing media through the pipes and offers Briggs & Forrester the same performance without the need for additional bellows or hoses. It also facilitated installation in close proximity to save space in confined areas of the building.

The expertise provided by the GRINNELL team, along with their technical support service, generated a positive experience for the contractor. All on-site operators were trained by GRINNELL to ensure safe and correct methods of pipe grooving and installation, and company personnel continued to visit the site throughout the installation period to provide additional support, training, advice and reports, as well as tend to any unexpected issues as they arose.

Benefits

Compared with traditional alternatives, GRINNELL grooved mechanical products also contribute towards a reduced installation footprint, constituting a 'greener' solution.

Additional benefits of opting for grooved couplings and fittings over welded or flanged systems include faster installation time and safer operations due to no hot works, thereby eliminating special health and safety requirements and the need to isolate work areas due to fire risk, electric arc or fume generation that occur during welding.

Not only do the GRINNELL grooved couplings facilitate quick and easy jointing, but they also require fewer operators than a traditional system, helping to save costs and keep to timescales. Due to the fast track nature of this installation, GRINNELL involved their logistics team right from the start - working closely with Briggs & Forrester and our distribution partner to pre-order and allocate sufficient stock well in advance of actual requirements. This ensured clear communication and fast resolution and resulted in deliveries that were planned and timely and which minimised site delays or waiting time. This, along with the company's product knowledge, technical expertise, application understanding and value-added service, contributed towards the successful installation of the Providence Tower's building services components.

Paul Campbell, project director, Briggs & Forrester Ltd., confirmed his satisfaction with the total offering from GRINNELL: "The high quality and reliable solutions from GRINNELL, combined with the team's technical knowledge, ensured efficient and successful installation of components for the building's HVAC applications. The savings made in both time and money didn't compromise on quality in any way and we're thoroughly impressed."

GRINNELL is part of Johnson Controls, a global diversified technology and multi industrial leader serving a wide range of customers in more than 150 countries. Our 117,000 employees create intelligent buildings, efficient energy solutions, integrated infrastructure and next generation transportation systems that work seamlessly together to deliver on the promise of smart cities and communities.

Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat. We are committed to helping our customers win and creating greater value for all of our stakeholders through strategic focus on our buildings and energy growth platforms.

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