

PROVIDENCE TOWER

2015 is set to see the expansion of New Providence Wharf (NPW), the 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 joining solution that ensures

Why GROOVED

fast and efficient installation and helps overcome the construction challenges in multi-storey, multi-occupancy buildings.

They selected a complete grooved mechanical solution from GRINNELL, part of Tyco Mechanical Products, 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 joining technology, proven performance and value engineered flexible offering, started in March 2014.

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. 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.

Compared with traditional alternatives, they 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.

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 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.

**Why
GRINNELL**

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.

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-add 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."



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INDUSTRY: HVAC System

MAIN CONTRACTOR: Balfour Beatty

CONTRACTOR: Briggs & Forrester (MEP) Ltd.

ENGINEERING CONSULTANT: Troup Bywaters & Anders

PROJECT: Multi-Storey, Multi-Occupancy Building

SOLUTION: GRINNELL Grooved Mechanical Products

MATERIALS: Flexible Grooved Couplings & Fittings, Control Valves and Suction Diffusers