



TALK OF THE TOWN

With the help of David Cottrell, Technical Director at Corus Building Systems, we get to grips with what the Hi-Point roofing system can do and what winning part offsite building methods can play in delivering the Olympic regeneration plans on time and on budget.

For the 17,000 athletes and billions of fans anticipating the Games, the event is the biggest date in the international sporting calendar. But for the UK construction industry, the 2012 Olympics represent a global grandstand to showcase what our architects and builders are really made of.

The potential is enormous but so too are the possible pitfalls. Jack Lemley, the American engineer drafted in to oversee the building project, resigned at the end of October last year. His departure fuelled a new crop of claims that the UK is not capable of delivering the infrastructure for a world-class sporting event. We need to pioneer best practice across the industry to ensure that the £3.4bn regeneration plans do not go the way of other flagship projects, which have tumbled over budget and over deadline.

LEARNING FROM THE PAST

Hosting the 2012 Olympics will provide unprecedented scope for urban and environmental regeneration. The Lower Lea Valley will be home to a cluster of state-of-the-art sporting venues, leisure facilities and accommodation for more than 20,000 people. With ambitions to leave a lasting legacy for surrounding

communities, the industry cannot afford to ignore the lessons learnt from the past.

There have been winners and losers in the Olympic city stakes. The citizens of Montreal are still paying the bill for the 1976 Games and the world was treated to regular updates on the delayed build schedule that nearly crippled the 2004 Athens Olympics. Cost and delays are not the only concern. Despite the sell-out success of Sydney's 2000 Games, its Olympic Park and facilities are like a ghost town. Like so many cities before it, Sydney has struggled to convert the short-term publicity of the Games into long-term economic benefits. We have an obligation to deliver genuinely sustainable facilities that have an active afterlife, either as sporting venues or community assets. So, how can we ensure that London is a winner?

Offsite technology has been available for more than a decade and should be embraced as the mainstream method of construction to deliver the 2012 Olympic infrastructure. It is just the sort of approach that we need to realise our development ambitions and ensure improved quality, predictability and efficiency throughout the build programme.

Success will lie in engaging with offsite manufacturers at the earliest stage and taking the time to truly understand the circumstances in which offsite solutions can add value.

Embracing offsite methodologies can be leveraged to deliver elements of the Olympic infrastructure and reduce the risk of project delays or cost overruns. With the Games on the horizon, the construction industry has two choices – ignore the lessons learnt from other major flagship projects or integrate offsite principles that establish the industry as the forward thinking sector that the 2012 Olympics demands. One clear example is the roofing sector – where some companies have considered the technologies, materials and systems that will meet the challenge ahead. ■

Corus Building Systems recently launched Hi-Point – its new offsite roofing system – that has already been implemented successfully in a number of public- and private-sector buildings. Architects and contractors alike, are recognising benefits in terms of delivery efficiency and product performance. See overleaf for more of what Hi-Point can provide. ▶

In a product special, we take a quick look at the Corus Hi-Point roofing system, to see what it can do, and hear how it has proved a real boost to the Ministry of Defence in its ongoing refurbishment of the Marne Barracks, Catterick, North Yorkshire.



IMAGE: Hi-Point roof being craned into position

Hi-Point improves delivery, ensures quality and significantly reduces costs. Complete Hi-Point roofs, including primary and secondary structures, can be pre-assembled then transported to site. Alternatively, the components can be delivered as a kit of factory-manufactured parts that are ready for assembly and installation.

Hi-Point offers significant benefits in terms of safety and design flexibility. The main construction and assembly of Hi-Point takes place at ground level, minimising the dangers associated with working at height. The components and construction can be monitored under controlled factory conditions that require no scaffolding and fewer operatives. This encourages quicker project completion, while guaranteeing the quality of the final roofing system. The Hi-Point system can also accommodate mono-pitch, duo-pitch and barrel-vault roofs with virtually any finish. This underpins the systems exceptional versatility and its capacity to compliment any refurbishment or newbuild project.

As part of Project SLAM (*Single Living Accommodation Modernisation*) – the MoD's huge ten-year accommodation improvement programme – Hi-Point and the use of modular steel sections have played an integral part in the projects' ongoing construction.

Due to be completed by 2012, Marne Barracks comprises ten brand new accommodation blocks, with each three-storey building topped by a curved metal roof.

Each building houses 54 junior ranks in study bedrooms with ensuite bathrooms and each floor has a communal area, utility room and shared bathroom. These buildings offer comfortable, well-equipped living quarters for the service personnel stationed there. Hi-Point met the precise requirements of Project SLAM. The roof comprises a prefabricated steel frame, that is pre-assembled on the ground. Each 10m-long module consists of three primary frames, clad with Corus Kalzip aluminium standing-seam panels that are also fitted at ground level. At Marne, the modular roof units were assembled on a disused runway. Once the main building frame has been constructed the entire roof structure is lifted and secured in place.

Eight modular roofing sections were fitted onto each building – two for the central core, and two for each of the three wings. Once these were in place, the only work to be carried out at height was to secure the roof to the main building structure and 'zip' the separate modules together to provide a completely weathertight cover. Once the building frame was erected, the whole 650sq m roof was installed and secured in less than six hours.

A modular solution significantly reduces health and safety risk onsite, since very little work has to be carried out at height. Reduced costs, and the minimal number of trades required onsite helps to keep labour costs down, and ground level construction means that high quality standards can be maintained and very tight tolerances achieved, since detailed inspections can be carried out on the ground. The all-metal roof is lighter in weight than a timber and tile structure, and is not subject to warping or shrinkage. It also reduces the fire risk in the finished building.

Speed of construction is another major advantage gained through specifying the Hi-Point modular roof. The roof sections are assembled at the same time as the main structure – taking a significant amount of work out of the critical path. These two principle elements of the building are completed almost in parallel, rather than one after the other.

The Hi-Point roof system is constantly being refined and adapted with each new project. At Marne, the finishing details such as eaves and flashings were improved, based on the experiences at Gamecock Barracks – where streamlining the final stages of the installation created a higher-quality finish. This advanced modular roof provides an attractive, robust and cost-effective solution for largescale projects, where high-quality design has to be combined with repeatability and a tight construction schedule. ■

For further information visit the new Hi-Point website at www.corus-hipoint.com