

Technical Information Sheet ED010

Light Steel Solutions for All Applications

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Light steel framing can be used in a wide range of building types and applications. This versatility is demonstrated by the case studies presented in this technical information sheet. The information used to produce these case studies was supplied by members of the Light Steel and Modular Framing Group, who are some of the leading manufacturers and system suppliers of light steel framing, operating across all sectors of construction in the UK.

Hotels

The main structure of a £12 million Travelodge in Liverpool, which opened in Spring 2012, was erected in 12 weeks thanks to use of a prefabricated light steel frame solution.

David Smart, Construction Manager at Marcus Worthington & Co, says, *“The system is a strong robust panel system with concrete infill floors. The main advantages of the system for this tight city centre site were speed of erection, efficient working, minimal waste, with a good back-up service from the Kingspan Profiles and Sections design and onsite teams, which solved any issues encountered quickly and efficiently”.*

Some of the key benefits of a light steel solution are: fast build speed, quickly achieving a watertight shell, enabling access for follow on trades, and a sustainable, safe and cost effective construction method with a fully BIM capable 3D model.



Hospitals

The use of light steel framing as infill wall panels on the new Victoria Hospital in Kirkcaldy, Fife, demonstrates the versatility of this construction system compared to more traditional options. Ayrshire Metal Products provided the structural design, elevational CAD drawings and the materials on this project. The successful installation was carried out by Pegasus Fire Protection of Edinburgh.

Boyd Sinclair, Managing Director of Pegasus Fire Protection confirms the success on the project, *“We were given the task to supply and install 19,750 m² of light gauge steel, which was designed and manufactured by Ayrshire Metal Products. Between our companies, we completed the works ahead of schedule, installing in excess of 200 tonnes of cold rolled steel sections”.*



Case Study Manufacturers

Ayrshire Metal Products Ltd - www.ayrshire.co.uk

BW Industries Ltd - www.bw-industries.co.uk

Fusion Building Systems - www.fusionbuild.com

Kingspan Profiles & Sections - www.kingspanprofiles.com

Metek UK Ltd - www.metek.co.uk

Residential

Farnborough is more associated with innovation in aviation, but is breaking new ground with the construction of a new Sainsbury's supermarket, casino and other major retail outlets, combined with three storeys of apartments built on the podium level.

Metek's light steel framing was used for the three storey residential part of this project. The load-bearing cross-walls consist of 100×1.6 C sections at a spacing of 600 mm; delivered to site as pre fabricated panels. The project was completed ahead of programme and included stairs, lift shafts, and light weight gypsum-based flooring which achieves 90 minutes fire resistance. The vaulted roof shape was formed by the shape of the cross wall panels.



Student & Key Worker Accommodation

Light steel framing was used to form 50,000 m² of load-bearing structures of up to six storeys at St George's Hospital, London. The scheme was spread across four phases and comprised three blocks of student accommodation and a further three blocks of Key Worker accommodation. The Key Worker scheme is the largest of its kind in the UK. The three student blocks were delivered from start to finish inside the critical 12 month window. The scheme had a total value of over £60 million.

Gordon Runcie, Operations Director at Willmott Dixon commented, "The working relationship between Fusion and Willmott Dixon was positive throughout the build and meant the superstructure was completed ahead of programme".



Offices

Three-storey office accommodation for Jaguar Land Rover was constructed using prefabricated light steel framed modules. The large clear spans of the modules resulted in a versatile open-plan office space, the nature of which belies its form of construction. The modules are designed to be fully building regulation compliant and are 60 minutes fire rated internally and externally. They are highly thermally insulated, to achieve low energy use.

The steel framing for the modules was manufactured and assembled by BW Industries. The modules were fitted-out and installed by Elliott Modular Buildings.



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