

Modular Service Risers

The Delivery time for a new 4 storey 8200m² office and restaurant facility was dramatically reduced by implementing 10 No. Modular service risers at design conception stage.



A Bank of 3 Riser Modules.



2 Gable Riser Modules.



A Typical View at Floor Level



Offsite Module Inspection

Key Points:-

1. Completely fabricated offsite and fully kitted out, the modules were delivered to site and installed on key dates to co-inside with construction of the various phases. This required good co-ordination and planning from the various teams involved.
2. Early design development and good team-work were critical to the success of the project.
3. The largest module was 2.4m x 4m x 8.5m and weighed 6.5 Tonne. Detailed build up, transport and installation procedures were produced including centre of gravity locations. Specific support plates were provided.
4. Special "bogies" designed to aid offsite installation allowed movement around the workshop.
5. The steel frames were fabricated from 150x75PFC's and 70x70x6L bracing. All bracing could be removed once the modules had been erected and tied in. The Galvanised finish should require no maintenance.
6. Removable lifting lugs were used both on & off site and switched between modules.
7. Main floors consisted of 6mm durbar plate which were fitted offsite around the ductwork and pipes.
8. Heavy Fire rated ductwork was much easier to install offsite using the workshop overhead cranes.
9. The larger modules were specially designed to be built up on the low side and turned through 90 degrees prior to delivery on a low loader. This reduced working at height and prevented costly wide load transportation.
10. A variety of different services were installed including Supply & Extract ducts, Power Trays, Lighting Trays, Ladder Racks, Low Pressure Hot water, Chilled Water, Domestic water supplies, Drainage, Rainwater pipes, Ply boards for fixing electrical distribution boards and additional space for future DX Pipework.
11. All services were fully tested offsite and the whole module was weather protected prior to delivery.
12. Site time and working at height was dramatically reduced, as too was the number wagons delivering to site.
13. The additional cost of the steel frames was offset against time saved on site, retrofitted floors and increased safety. A cost analysis showed a net saving for the project compared to conventional construction.

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