

RiserSafe® - total riser protection

Case Study – Lister Hospital, Stevenage

Ambar Kelly

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Project Overview

Client - East and North Herts NHS Trust

Type of development - Surgicentre

Project Value - c. £31 million

Structure - Reinforced concrete frame

Main Contractor - Carillion

Contractor - Morrisroe

RiserSafe installation - September 2009

Order value - c. £28,000

Carillion secured the £153m PFI contract to construct a new surgicentre for the East and North Hertfordshire Trust in April 2009, work commenced immediately on the £31million 3 storey building with the reinforced concrete frame being awarded to A J Morrisroe Ltd.

Carillion opted for RiserSafe as their preferred method of riser protection following presentations from Ambar Kelly Ltd in which the Safety, programme and cost benefits of using the RiserSafe system were demonstrated. Carillion, Morrisroe and Ambar Kelly coordinated to ensure that the RiserSafe units were detailed to take into account shear walls and fire stopping requirements. Production drawings were then produced by Ambar Kelly with the first units being delivered to site 2 weeks later.

The penetrations through the floor slab to be protected by RiserSafe were significant in size being up to 7.3m x 2.0m in plan with the floor slab being 300mm deep. 6mm thick mild

steel embedment tangs were welded at 600mm centres in order to transfer the imposed load into the concrete floor slab which was cast against the RiserSafe units. A number of the riser penetrations through the concrete frame were detailed as requiring a 1 hour fire barrier, in these instances the dropped plate RiserSafe option was used to enable fire stopping to be carried out later in the project to achieve a flush finish with the surrounding slab.

Several of the penetrations were located against either 1 or 2 concrete shear walls, in these cases the RiserSafe shear wall option was utilised. Here the standard 100mm bottom flange is reduced in size to 25mm and turned into the unit and the embedment tangs are replaced by shear wall attachment plates, allowing the RiserSafe unit to be abutted directly to the shear wall. Imposed load from the unit is transferred to the shear wall by chemi bolting through one hole on each plate (3 holes are provided to ensure that reinforcement is missed).

