

Over-cladding of 8 industrial sheds using steel outer liner and insulation to achieve current building regulation with regard to thermal performance. Each of these sheds required 16,000m² of steel liner and about 3 of these building have already been completed.

OVER-CLADDING OF INDUSTRIAL SHED USING BUILD UP SYSTEMS IN MILTON KEYNES, UK



Before over cladding of roof and wall



After over cladding of roof and wall



The building is located in central England and is one of the eight buildings currently over-cladded. The work involved the installation of 16, 000m² of over-roofing and over-cladding of an existing roof cladding on a building in Milton Keynes, UK using build up system.

The building is a typical 1960s large steel frame industrial shed, which are partitions into small units. The building envelope consists of dwarf wall and asbestos cement sheet. The dwarf wall is an uninsulated cavity brick wall. On top of the wall is a single skin asbestos cement sheet. The roof is cladded with a single asbestos cement sheet and a single glazed roof light, which runs

along the centre of the roof and down on the north elevation. On the west side of the building are a series of a single glazed windows.

Each unit composed of a two storey offices, toilets and communal area on one side and large open plan single storey warehouse on the other side. The majority of the units within the build are occupied and this demands a refurbishment solution without internal disruption.

The building was over-cladded using steel brackets on the existing cladding, mineral wool insulation and new steel liner to provide weather tight building and improve thermal performance.

Sustainability Benefits:

- No disruption of internal operation as existing roof sheeting is retained in place
- No loss of revenue due to non-closure of building
- Aesthetically enhances the appearance and prolongs life of the building
- Improve users' comfort and internal air condition
- Upgrade thermal performance of building by adding insulation between old and new roofs
- Lower heating demand and cooling load thereby lowering CO₂ emissions

Project Team:

Client: Universities Super Amunation Team
Project Manager: K1 Construction Ltd
Contractor: Hawkins Roofing



New rail and brackets attached on the existing wall cladding



During over cladding of front elevation



Outer steel profile attached to the existing cladding



After over-cladding of the front elevation

Construction Details:

Steel brackets and bar spacers were attached on the existing cladding and fastened to the existing steel prulins. 180mm and 120mm thick mineral wool insulation were installed on roof and wall to achieve thermal regulatory U-Value requirements of 0.25 W/m²K and 0.35 W/m²K respectively. 0.7mm thick steel profile outer

liner was used to provide a weather tight building.

The whole project was completed on time and to budget without any disruption to internal activities.