



Building Contractors Ltd

## **CASE STUDY 00001 - Mail House, Kempston**

Commercial Building Envelope Refurbishment

# CASE STUDY

PARA01/0001

- ▶ **Date of Project:**  
July - October 2019
- ▶ **Project Location:**  
Mail House, Kempston, Bedfordshire
- ▶ **Project Type:**  
Commercial Warehouse and office /  
Building Fabric Refurbishment.
- ▶ **Contract Type:**  
Sub-Contractor
- ▶ **Contract Value:**  
£210,000.00



# Mail House, Kempston

## Commercial Building Envelope Refurbishment

Tritec Building contractors were awarded with the following works:

- **3695 m2 of liquid coatings** - Applied across No. 4 roofs, 2 No. small metal pitched roofs to the office block, 2 No. large metal pitched roof to the main warehouse and 2 No. metal pitched roofs to an extension high roof.
- **274 m2 of roof lights replaced** - A total of 49 No. outer roof light skins replaced across all roofs.
- **325 m of gutters refurbished** - A total of 6 No. gutters lined, with the main warehouse roof having liners installed and the high roof extension gutters receiving a liquid coating system.
- **1135 m2 of cladding refurbished** - All external vertical metal profiled cladding sheets prepared and re-coated.
- **800 Lm of powder coated glazing frames refurbished** - All external glazing frames washed and rejuvenated.

*Tritec Building Contractors are experienced refurbishment contractors that provide efficient services to extend the lifespan of commercial building fabrics.*



# Commercial Roof Refurbishment - Liquid Coating Application

The roof area consisted of two small metal pitched roofs over the office block, two large pitched roofs to the main warehouse and two small roofs to the ware house extension, with a total area of 3695 m2 to be coated.



Before

The original factory applied coatings to the metal sheets has had completely perished due years of degradation owing to UV exposure and general weathering.

There was various surface corrosion and ginging through out the roof, the flashings and capping's to the system where also suffering from degradation.

The roof sheets and flashing all suffered from cut end corrosion that would need to be addressed prior to coating the roof area.

There was also a need to remove 26 existing flues that penetrated the roof and make good the roof sheets.



In Progress

In preparation for the coatings works, the roof was jet washed at high pressure to ensure that all loose coatings, dirt films and general contaminates where removed.

All present corrosion to the cut ends of the sheet laps, gutter edges and to the flashings are removed via machinal means.

All loose roof fixings are tightened, and any corroded fixings replaced.

The redundant flues are removed and patched over using small sections of matching profiled sheeting they are fixed down and sealed to leave water tight.

On this roof we also replaced the foam fillers to the underside of the ridge capping to both main pitches.



Completed

Once all the relevant preparations had been completed, all roof fixings where primed and sealed to completely encapsulate all vulnerable areas that could be subject to premature corrosion issues, this also included the priming of the prepared cut edges.

A primer is applied to the complete roof area using airless spray system, followed by a final topcoat of Liquasil MetalSeal 20 in Goosewing Grey to all roof areas, this is a BBA approved coating system complete with a 20-year manufacturers guarantee.

The Liquasil roof coating will extend the lifespan of the roof sheets by a further 20 years.

# Commercial Cladding Refurbishment - Industrial Coatings

*The external cladding consisted of horizontally laid trapezoidal cladding sheets, the measured area allowing for profile allowance was a total of 1135m<sup>2</sup>, the cladding had been previously painted and had weathered. Tritec Building Contractors recommended Giromax Girocote for the works.*



Before

The existing trapezoidal cladding sheets were blue and white in colour, the existing coatings at time of survey had been hand applied.

The coatings had weathered and showed signs of degradation with loose de-laminated areas of paint to the top edges of the profile.

The client had requested that the colour scheme be changed from blue and white to two shades of contrasting grey.

Redundant fixing holes and flue penetrations would need to be addressed prior to the application of coatings, there was also large areas of impact damage to a small quantity of cladding sheets, drip and delivery door flashings.



In Progress

In order to prepare the cladding to receive the industrial grade coatings we carried out a high-pressure jet wash to remove all loose coatings and thoroughly wash the cladding to leave it clean and free from all soiling and contaminants.

All redundant fixing holes were filled using a two-part body filler and larger redundant flue penetrations were patch repaired by overlaying and sealing with small sections of cladding sheet to leave water-tight.

We then removed all impact damaged cladding sheets, drip and delivery door flashing details and replaced like for like with new.

We also replaced perished foam fillers to the vertical cladding details where the warehouse cladding meets the masonry of the offices to the front of the building.



Completed

Once all the preparation works had been completed, all areas of bare metal were primed using a ZP primer and allowed to cure.

The paint system that we specified for the works was Giromax Girocote which is a low odour coating system specifically designed for the refurbishment of metal cladding systems.

The blue cladding band was painted in a dark shade of grey (Merlin Grey) and the lower band in a light shade of grey (Goosewing Grey), all coatings were applied using an airless spray system.

Once the works had been completed a Giromax representative attended site to inspect the works, upon manufacturer's sign off a 10-year guarantee was issued to our client.

# Commercial Gutter Refurbishment - Liquid Coatings & Liners

*On this project we had various gutter refurbishment options, the three gutter channels to the main warehouse roof had received many past treatments that were beyond economical recovery so the client opted for a physical liner to be installed with the remain gutters to the extension high roof receiving liquid coating treatments, in total we refurbished 325m of gutter.*



Before

The existing gutters to the main warehouse roof has received various treatments of the years which left a cracked and unworkable substrate, the thick layers of treatment would require a significant amount of labour to completely remove and no guarantees to what would be left of the gutter.

The gutters to the warehouse extension high roof was installed as part of the extension and had not received any treatments, however due to lack of maintenance the joints were leaking and causing water ingress to the warehouse directly below.



In Progress

All gutters had to be cleared of debris and silt that had been built up in the gutters, these were collected, bagged up and removed from the roof.

Once cleared of standing water and any debris, the gutters to the main warehouse were laid with insulating boards ready for the WeatherFold liner to be installed.

The gutters to the high roof had the joints prepared. Primed and sealed ready to receive to the Liquasil One gutter coatings.



Completed

After the preparations had been completed to the main warehouse roof gutters the WeatherFold gutter liner system was installed over the insulation boards previously laid along with new closure flashing detail. This was complete with a 10-year manufacturers guarantee.

The gutters to the extension high roof received the final encapsulating coating to the complete gutter floors and upstand's with the Liquasil One system complete with a 15-year manufactures guarantee.

# Roof Light Replacement - Installation & Cleaning

*The existing outer roof lights had been effected by UV degradation and general wear and tear, as a result they were opaque and not transmitting much natural day light into the warehouse's below, we were able to retain the inner sheets and restore them with a cleaning process to save our client some money.*



Before

The existing outer GRP roof light sheets had eroded and started to breakdown due to UV exposure and general weathering, the condition of the sheets had seriously reduced the amount of natural day light that could transmit through the GRP and into the warehouse.

Not only does this reduce the light but makes the building consume more energy in lighting the warehouse during day light hours.

The GRP sheets had become fibrous and small holes and cracks had formed into the outer sheets causing water ingress on to the inner sheets below.



In Progress

After our initial survey of the roof lights we advised the client that we could make a substantial cost saving as the inner sheets only looked dirty because of the water ingress from the top sheets.

Once the outer roof lights had been removed, we managed to sufficiently clean the tops of the inner skins from above in the void ensuring that they can be kept rather than replacing.

The outer defective and redundant roof sheets were carefully removed and transported from the roof and disposed off in the site skip. All previously sealants and corroded fixings were removed ready to be replaced with new.



Completed

We replaced the outer roof lights with new ensuring that we phased the works to reduce the amount of exposure to the inclement weather conditions.

Once we removed the redundant top sheets, we removed all traces of previous residue, cleaned the top of the internal sheets, fitting the new sheets with brand new fixings and butyl sealants to leave watertight.

We used bright poppy red capping's over the heads of the new fixings to high-light the fragile roof area. The difference in light transmission was instant lighting up the warehouse.

# Glazing Frames - Powder Coating Restoration

*The existing frames to the windows and doors to the office block where looking tired and 'chalky' due to UV exposure and general wear and tear, as cheaper option respraying the frames we offered to clean and apply a clear non-sacrificial coating to restore the colour and gloss back complete with a 5 year manufacturers guarantee.*



Before

The glazing frames to the windows and doors on the office block to the front of the building were looking tired and worn, the powder coated coatings had eroded due to UV exposure and chalked, on touch you could rub the surface and a white residue would transfer.

The gaskets to the doors and windows had perished and were hanging loose throughout, there were areas that impact damage and the windowsills had begun to corded with areas of coatings that had failed and ginging and surface corrosion present.



In Progress

The glazing frames were cleaned down with water to remove all traces of dirt built up and any films, once cleaned a second clean was undertaken with a specialist alcohol cleaner to remove any oils and grease.

The windowsills were rubbed back and a colour matched paint was applied covering the full length of the sills, this was due to the corrosion.

All perished gaskets removed, and areas cleaned ready for new gaskets to be installed.



Completed

Once all preparation works had been completed a clear non-sacrificial coating was applied to all frames, the coating removed the chalky finish and restored the original factory colour of the powder coating applied.

The coating leaves a glossy protective finish which is guaranteed for 5 years.

All gaskets replaced with new.

BEFORE



AFTER





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