



Building envelope case study

Carlson Filtration, Barnoldswick, Lancashire

Client: Carlson Filtration Ltd

Main contractor: CW Construction
(North West) Ltd

Installation contractor: Norwest Industrial
Roofing Ltd

Cladding system: Trisomet® 333 System

Colorcoat® product: Colorcoat LG® in
Goosewing Grey
and Mushroom

Tata Steel provided 2500m² of the Trisomet® 333 System insulated roof and wall panel system for an ambitious factory rebuilding project.

Carlson Filtration Ltd's original old textile mill location in Barnoldswick Lancashire remained in operation as a new steel framed structure was installed directly over it.

The project demanded strict deadlines, upgraded thermal insulation levels and increased warehousing capacity.

Carlson Filtration now has a weathertight factory upgraded to current standards, with more storage space.



Carlson Filtration Ltd was established in 1923 and has been based at Butts Mill in Barnoldswick, Lancashire since 1950. The company has developed a strong market position in filtration equipment and filtration media in various forms, from depth filter sheets to high performance cartridges.

Originally built in the 1800's, but extensively altered since then, the company's home was a former textile mill and, as Managing Director Brian Gabbett explained, it was not without its share of problems.

"It was a typical old fashioned factory with a northlight roof and all the associated access and logistical disadvantages. The northlight roof was supported by cast iron columns.

"We had a very low roof height, limiting our storage capacity. The rooflights also suffered from UV degradation and had been replaced many times.

"The thermal efficiency left a lot to be desired too. At times it felt like we were heating half of Barnoldswick in the winter. The roof leaked and we had to issue umbrellas when people visited us in wet weather, which was embarrassing of course.

"Then about four years ago, we were approached by a developer with a view to repurposing the site and building a supermarket. This was a complicated exercise.

"Planners ultimately turned down the proposals, but we had carried out a range of feasibility studies that raised questions about our future direction.

"We recognised that we needed to find a permanent solution to the problems we had experienced with the existing building. In the past we had patched the roof up, with only limited success. So we asked consulting engineers to look at a long term answer.

"We could have undertaken further extensive repairs, but gradually began to consider an entirely new building.

"One of our key objectives was to remain in production, as we couldn't afford to be out of commission for an extended period.

"We then examined a radical answer that would enable us to remain on the existing Barnoldswick site - building a new factory facility over the old one, enabling us to maintain production as work continued.

"We started building work in May 2010. Indeed production was only ever halted for a few hours as the foundations and steelwork were started."

Once the steelwork was in place, a crash deck and safety netting was installed to maintain a safe working environment during roof construction.

Following this, 100mm Trisomet® 333 System roof panels in Colorcoat® LG in Goosewing Grey and 80mm Trisomet® 333 System wall panels in Colorcoat® LG in Mushroom were installed by Norwest Industrial Roofing Limited of Lowton, Warrington, Cheshire.

The installation took place prior to Carlson Filtration's traditional summer fortnight shutdown, which was extended by a further week to enable demolition of the old mill to be completed and services to be installed.

Colorcoat® LG pre-finished steel is an ideal solution where good performance is required at a competitive price. It has a leathergrain plastisol finish with an abrasion resistant top-coat and good corrosion resistance. It is available with a performance guarantee for up to 25 years.

Week three of the shutdown saw HVAC, electrical and safety equipment installation. Cladding rails were installed to allow for the 80mm Trisomet® 333 System wall panels.

Featuring a straightforward side lapping detail, the Trisomet® 333 System affords faster installation and a broad pan trapezoidal pre-finished steel external profile, providing optimised water drainage, strength and walkability.

Its autohesively-bonded polyisocyanurate (PIR) insulation uses the latest foam technology, providing exceptional thermal performance from a relatively shallow foam core, enhanced environmental benefits, together with fire performance approved by the Loss Prevention Certification Board (LPCB).

The Trisomet® 333 System is ideally suited to fast track projects such as Carlson Filtration. It is manufactured under factory-controlled conditions, enabling the speed of construction to be increased, allowing the project to be completed within the required timescales, bringing overall savings in terms of cost and time.

Norwest Industrial Roofing Project Co-ordinator Wayne Briddon was full of praise for the speed and efficiency of the Trisomet® 333 System installation: "The fact that we were installing the system during a factory shutdown made a fast, problem-free build programme essential.

"The Trisomet® 333 System was therefore a perfect choice for this project, providing us with a far better solution than a more traditional built-up system, especially in terms of its rapid and extremely straightforward fixing properties.

"It was competitively priced and we liked working with it, encountering no problems at all. The completed building looks really good."

Reflecting on the project, Brian Gabbett commented: "One key benefit we now have is the superior building height that has been afforded by having to construct the new structural steel frame over the old building.

"We now have a building height that ranges from 6.2 metres at the lowest eaves to 8 metres at the ridge. This has significantly increased our warehousing capacity."

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