

CASE STUDY

NHS Isolation Units, Norfolk and Norwich University Hospitals



ModuleCo's Isolation Units provide lobby protected, negative pressure ward rooms which prevent cross-contamination of the virus and are used for treating highly contagious patients.

Project: NHS Isolation Units

Client: [Norfolk and Norwich University Hospitals NHS Foundation Trust](#)

Main contractors: [ModuleCo](#)

Roofing contractors: Harold Jones Roofing and [Roofworx](#)

Waterproofing membrane: [IKO Armourplan P single ply membrane](#)

Introduction

When COVID-19 first hit the UK, NHS Trusts were faced with the demands of increasing specialized intensive care and isolation ward capacity to deal

with very sick and highly infectious patients. With the rate of infection escalating the biggest challenge was to create this extra capacity quickly.

Modular construction techniques are ideal for these situations and Norfolk and Norwich University Hospitals NHS Foundation Trust approached ModuleCo to provide a 10 bed High Consequential Infectious Diseases (HCID) Isolation Ward. With the rate of infections escalating rapidly the challenge was to design, construct and commission a fully working ward in only eight weeks setting a new benchmark in off-site construction timescales for these M&E complex facilities.

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Modular Units

ModuleCo's units are assembled almost entirely from pre-engineered components in a controlled factory environment. Each part of the modules such as roof, walls etc. are constructed on rigs in the factory. When each element is ready the module is then put together like a large jigsaw puzzle. This makes constructing units a safer and quicker process than traditional construction methods and it is possible to complete two modular roofs in a single day.

Having worked alongside NHS Trusts for over 20 years, delivering over 135 individual projects across the UK ModuleCo used their extensive experience to design, manufacture and deliver an isolation ward for the hospital which conforms to Department of Health guidance Health Building Note 04-01 Supplement 1. The HCID units provide lobby protected, negative pressure ward rooms which prevent cross-contamination of the virus and are used for treating highly contagious patients.

Rapid Programme

Creating a HCID ward with a quick turnaround requires experience, precise planning and total buy in from all parties, from the consultants to the site installation team.

SIG Design & Technology have worked with ModuleCo for a number of years and understanding the gravity of the situation were able to respond rapidly when they requested a roofing membrane which could be delivered to their factory at short notice.

ModuleCo specify single ply membranes for their modules, preferring the robustness of the product and SIG Design & Technology's Specification Manager Ian Hayward had no hesitation in recommending IKO's Armourplan single ply. Manufactured in the UK, SIG are exclusive



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distributors for the membrane he knew that the stock would be readily available.

One of the advantages of working with SIG is their nationwide network of roofing branches. With the country heading into lockdown and availability of products becoming difficult, Ian contacted SIG Roofing Birmingham.

With Sales Support from Kimberley Blackshaw in the SIG Design Technology office stock was ring fenced to support the orders. SIG Roofing Birmingham were then able to arrange timed deliveries to the factory when the product was required.

Working to Tight Timescales

Turning these units around quickly could only be achieved by ensuring that installers were available for every step of this project. SIG Design & Technology contacted their network of accredited contractors and Harold Jones Roofing, who regularly work with ModuleCo, and Roofworx were more than happy to help.

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Ryan Bernard from Roofworx said: 'When the call came in we literally dropped everything to make it happen. We phoned round our clients and reshuffled our jobs so that we could free up our guys and get them into the factory. In fact we even got the backing from one of our main contractors who insisted we put their job on hold just so we could support the NHS.'

The module units are installed with a tapered insulation scheme to the roof chassis covered by the IKO Armourplan membrane. These are then finished with an edge trim, three sides to the end modules and two sides to middle units. ModuleCo use their own team of installers within the factory to lay out the main single ply roof but they hadn't worked with IKO Armourplan before.

The DATAC contractors were able to support them in using the new membrane and also create and fix

the edge trims. Roofing Contractors do not normally work together on a project and having different teams on the same site could have been problematic. However, the experience of all the teams meant that the process flowed naturally and they quickly had a system in place.

Roofworx had not worked on a roof in a factory before and it was certainly different to working on their usual projects:

Ryan said: "Working in this type of setting was very different and it almost felt like being on a training course. Unlike most jobs we didn't have to worry about the weather and with the modules already built and ready to work on the job ran smoothly, in fact much quicker than normal. The only unusual part was having to wear full COVID-19 PPE equipment while working, not something we normally have to deal with."

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While work in the factory continued on the modular units, preparation for installation at the hospital was carried out in parallel. The completed units were then delivered to site and bolted together.

Harold Jones Roofing and Roofworx then visited the site to apply a 200mm wide strip of Armourplan P across the roofing joint which was hot air welded into place to create a homogenous waterproofed unit. Designed as standalone facilities, the modules were then connected to a power supply and water supply to become operational.

Teamwork

From purchase order to commissioning took only eight weeks with a second facility for another Trust provided only two weeks later! These isolation units have shown how successful a project can be when working together and trusting expert advice. This project has been an outstanding display of

coordination and teamwork from all involved to ensure that delivering these vital and complex facilities was a resounding success.

More information

- Visit the Armourplan product pages: <http://www.singleply.co.uk/flat-roofs/iko-armourplan-pvc/>
- Learn more about the 8 steps to the #PerfectRoof: <http://www.singleply.co.uk/perfectroof/>
- To find out more about Armourplan call SIG Design & Technology on 01509 505714 or visit www.singleply.co.uk
- To find out more about ModuleCo and Fast Track Isolation Wards visit www.moduleco.com www.moduleco.com/facilities/fast-track-isolation-wards/