

# SOLAR PANEL MANUFACTURING



## THE CLIENT

Pioneers and technology leaders in the field of perovskite solar cells. Established in 2010 as a spin-out from the University of Oxford, the client have the largest global team exclusively focused on developing and commercialising a perovskite-based solar technology, as well as building the world's first volume manufacturing line for perovskite-on-silicon tandem solar cells.



Microelectronics



20C +/- 2C  
37% +/- 2% RH



20m<sup>2</sup>



## THE BRIEF

Guardtech Cleanrooms were commissioned to design and build a 20sqm controlled environment to support the client's solar panel manufacturing application. The client required an ISO8 modular cleanroom to provide tight temperature and relative humidity parameters to improve their process, particularly in the colder months.



**“Very happy with the final product...”**

“Thanks again for all your efforts and for the professionalism of your colleagues at Guardtech, we are very happy with the final product and are hopeful that it will meet all expectations in the future.”

The Client



**Guardtech**  
group



**Guardtech**  
cleanrooms

# SOLAR PANEL MODULAR

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## THE TECH SPECS

*A controlled environment designed, installed, cleaned and commissioned by Guardtech built to the following specification:*

◆ **Structural:** GT Shell Plus PIR wall panels, GT Lid Pro ceiling panels, GT Access Plus double door with semi-flush vision panel, GT Deck Lite vinyl floor capped & covered in Sapphire Blue colourway, 2 x 900mm x 900mm glazing panels, breakout panel.

◆ **Mechanical:** GT Air Pro Upflow Unit positioned adjacent to cleanroom and ducted through wall via grille, GT Dehum Pro dehumidification unit dissipated via fan coil unit for air handling, ductwork – return air drawn at low level through exhaust grille, GT Flow Plus HEPA 14 Fan Filter Unit with G4 Pre-Filters.

◆ **Electrical:** 4 x 600 x 600mm GT Lux Lite LED panels providing 500 lux at bench level.

## THE CHALLENGES

As a smaller-scale modular cleanroom build, this project presented the team with very few challenges and issues to tackle. There were, however, some difficulties presented by the dehumidifier.

The supplier and commissioner of the dehumidifier provided a probe that was compatible with both the humidifier and dehumidifier. As a result, they were able to communicate and be commissioned together.

However, the humidifier ordered for the project had extensive lead times and the required probe exceeded the unit's lead time.

Fortunately, the Guardtech team worked diligently to find a solution that meant that other aspects of the build weren't compromised by this slight hold-up.

## THE RESULT

**A highly experienced Equipment Engineer working for the client said: "Thanks again for all your efforts and for the professionalism of your colleagues at Guardtech, we are very happy with the final product and are hopeful that it will meet all expectations in the future."**

**Guardtech Cleanrooms Modular Cleanrooms Project Manager Arran Williams added: "As with every build, we endeavour to work collaboratively with our clients to deliver their projects in time, to cost and to a high-quality standard."**

**"The client was accommodated throughout the build and commissioning process, allowing the installation of their new ISO8 modular cleanroom to be completed successfully in a timely manner."**

**"I thoroughly enjoyed working with the client and would like to thank our install team for producing another fantastic build that we could all appreciate and be proud of."**

