



**THE CLIENT**

Biocomposites – manufacturers and engineers of world-leading products for use in infection management in bone and soft tissue, pioneering calcium compound devices to regenerate bone and carry antibiotics. With more than 30 years’ experience in manipulating the surface chemistry and crystalline properties of calcium compounds, Biocomposites engineer and manufacture products at the forefront of calcium technology.

**THE BRIEF**

Guardtech had previously constructed a new cleanroom suite for the client in an existing storage area featuring four process rooms. This was to strengthen the capacity for their innovative Medical Device manufacturing. This time around, Biocomposites tasked us with converting their IC4 laboratory into an ISO14644 classified packing cleanroom, housing Stryker moulding and Axomatic filling/sealing machines, with Personnel and Materials Airlocks (PAL and MAL).



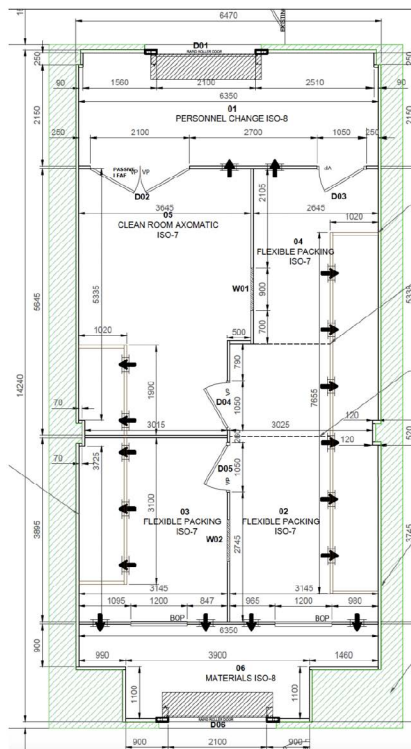
Packing



20+/-2C  
50% +/-10% RH



100m<sup>2</sup>



**“Constructed on time and on budget to usual high standards...”**

Elliott Pearce, Project Manager at Guardtech Cleanrooms, said: “Having already constructed a 300sqm ISO7 modular cleanroom suite for the client, we were contracted to return to the site in Keele to take on phase two of their cleanroom construction project.

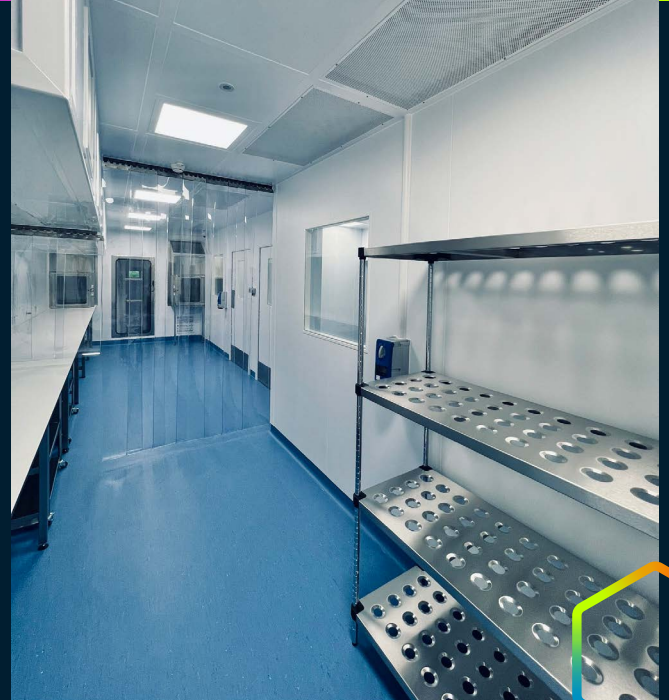
“This Packing Laboratory was required to support their Medical Device manufacturing process.

“The team worked brilliantly throughout this project to ensure it was constructed on time and on budget to our usual high standards.”

**Elliott Pearce**  
Guardtech Cleanrooms  
Project Manager



# PACKING LABORATORY



## THE TECH SPECS

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

◆ **Structural:** GT Shell Pro semi-flush de-ended wall panel system with Cleansafe 120 coating, GT Lid Plus aluminium powder-coated grid ceiling tile system, GT Rise Pro doors rapid roll doors, GT Access Plus semi flush single and double doors with interlocks, GT Strip Max PVC strip curtain, GT Deck Plus flooring system.

◆ **Electrical:** 13amp double sockets, 32amp outlets and CAT6 data sockets in surface-mounted trunking, smoke detectors, CCTV cameras, GT Lux Plus LED lighting achieving 500 lux.

◆ **Mechanical:** GT Flow Pro H14 HEPA Fan Filter Units with G4 Pre-Filters achieving 80 air changes per hour, GT Flow Pro Upflow CRAC Unit providing 40kW max cooling/heating.

◆ **Monitoring:** GT Scan Max 21 CFR Part 11-com-

pliant environmental monitoring system (EMS) measuring temperature, humidity and pressure connected back to client PC with 6 x in-room sensors and alarms.

## THE CHALLENGES

**Keep it tight:** By far the biggest challenge PM Elliott Pearce and the Guardtech Cleanrooms ModSquad faced on this build was cramming a lot of services and utilities into a tight footprint. "It wasn't just the number of rooms," explained Pearce, "it was the wide range of different systems we had to install – the fire alarm, aspiration detection system, 3-phase power, data network, Environmental Monitoring (EMS), active pass-through hatches..."

"There were bulkheads to accommodate more Fan Filter Units (FFUs) to ensure we achieved the ISO5 classification, door interlocks, auto openers on doors... the Design Team really pulled out all the stops to get it all into 100sqm of efficiently running controlled environment."

**University Challenge:** As ever with our Higher Education projects, conducting a construction project on an active university site requires inten-

sive attention to detail, the highest standards of cleanliness, heightened health & safety considerations and a general understanding that we must show respect for the institution's daily operation with our working practices.

For example, any foul smells created by our materials required immediate extraction, noise had to be kept to minimal levels and the distribution board changeover had to be completed out of hours. However, we now have a comprehensive back catalogue of university campus projects under our belt and so were prepared for any eventualities in this regard.





# PACKING LABORATORY

Contact Us

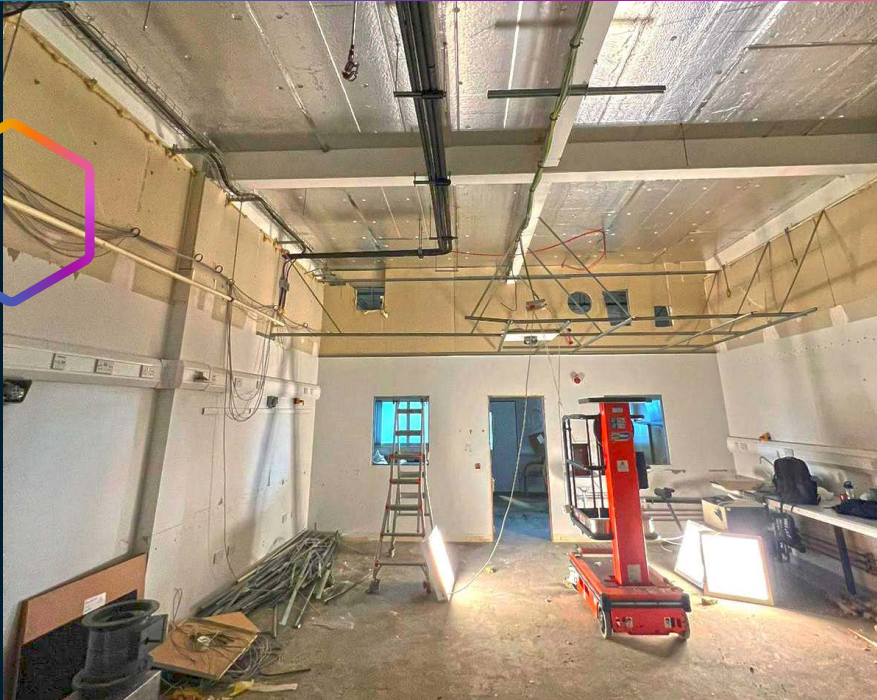


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## THE RESULT

Elliott Pearce, Project Manager at Guardtech Cleanrooms, said: "Having already constructed a 300sqm ISO7 modular cleanroom suite for the client, we were contracted to return to the site in Keele to take on phase two of their cleanroom construction project.

"This Packing Laboratory was required to support their Medical Device manufacturing process.

***"The team worked brilliantly..."***

"The team worked brilliantly throughout this project to ensure it was constructed on time and on budget to our usual high standards.

"The Group is now committing to more concurrent builds than at any point in our history and it's important to us that each client still receives the same diligent, professional and high-quality service as before – and we're confident we achieved this once again with Biocomposites' latest controlled environment."

