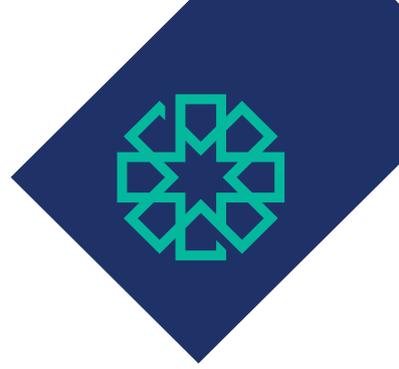


# CASE STUDY |

## Glass Attenuation Study for UV-C Light with Royal Bournemouth Hospital



**AIM:** To investigate the ultraviolet C light (UV-C) attenuation properties of interior and exterior windows at a Trust to verify that it would be safe to operate the Ultra-V decontamination system.

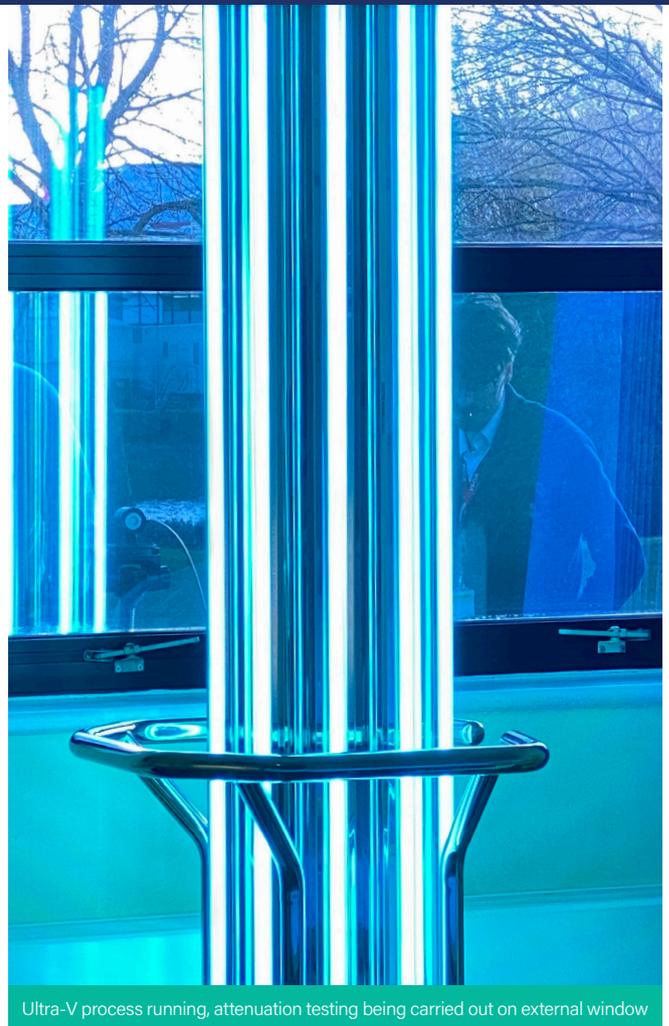
**OUTCOMES:** The UV-C doses recorded during test 1 (exterior window), test 2 (interior window), and test 3 (worst-case) were all 0 mJ/cm<sup>2</sup>, indicating that no UV-C light was able to penetrate through either of the windows, regardless of the Ultra-V's proximity to a window. During a control test the UV-C sensor measured 263.43mJ/cm<sup>2</sup> inside the treatment space.

**PROCESS:** UV-C can be harmful to the skin and eyes. When deciding to integrate automated UV-C decontamination into their infection prevention and control strategy, Royal Bournemouth Hospital had flagged some potential risks around the use of this technology and so the Director of Facilities sought reassurances around risks of exposure from UV-C processes to staff and patients. Inivos responded to the query immediately and partnered with Test Labs, a UKAS accredited testing laboratory, to conduct a glass attenuation study on-site to measure UV-C strength throughout the longest process on the Ultra-V.

Four different tests were performed in a standard side room, each measuring the UV-C dose on the other side of a window from where the decontamination process was running, including a control test where the UV sensor was placed inside the treatment room to verify that it was capable of measuring UV-C light. Inivos and Test Labs were conscious of the need to have minimal impact on the business as usual activities of the Trust, and so were able to work with little staff involvement, simply keeping the Ward Sister aware of their presence. At the end of the testing, Inivos were confidently able to report on the attenuation properties of the viewing panel of the side room door and the exterior window.

After testing, Test Labs produced a comprehensive report summarising the findings with a rapid turnaround time of three working days, taking the overall turnaround time from query receipt to issuing the report of findings to 3 weeks, working around the Trust's availability to conduct the testing at a convenient and low-impact time. A report from HSE was also provided to the customer which addressed the odour produced by Ultra-V processes proving its safety.

All test results proved that the glass could not leak UV-C light, putting the Trust's mind at ease who in turn went on to place an order for the Ultra-V to incorporate into their infection prevention strategy.

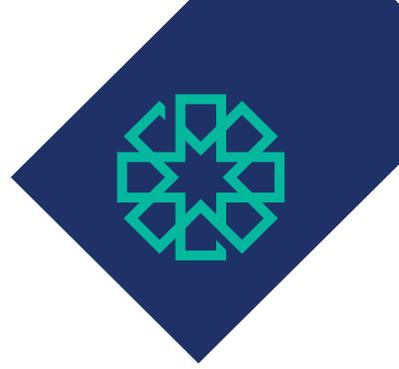


Ultra-V process running, attenuation testing being carried out on external window

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Call **0845 270 6690** or email [customerservices@inivos.com](mailto:customerservices@inivos.com)





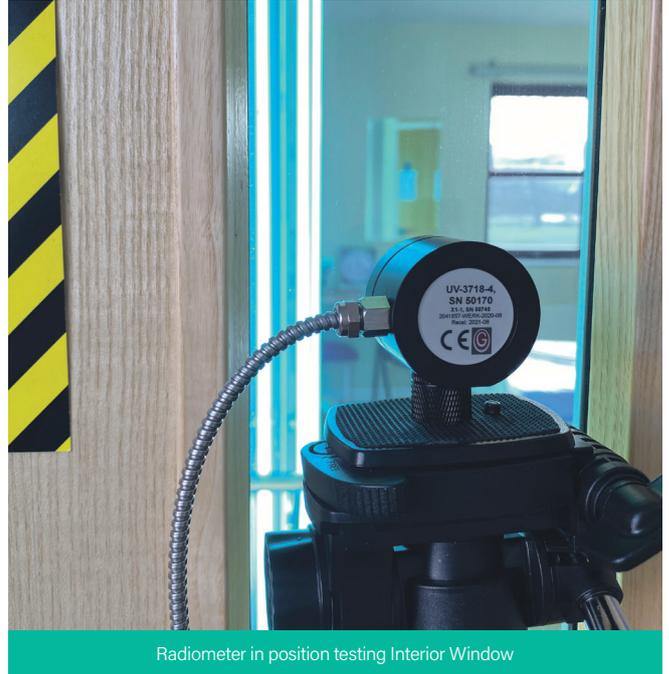
| Test                    | Process Duration (minutes) | UV-C dose (mJ/cm <sup>2</sup> ) |
|-------------------------|----------------------------|---------------------------------|
| Test 1: INTERIOR WINDOW | 45                         | 0.00                            |
| Test 2: EXTERIOR WINDOW | 45                         | 0.00                            |
| Test 3: WORST CASE      | 5                          | 0.00                            |
| Test 4: CONTROL         | 5                          | 263.43                          |

“The safety of our patients and staff is a top priority. Inivos listened to our concerns regarding UVC light and worked quickly and efficiently to carry out testing and provide validated assurance that their decontamination technology would be safe to use on site. As a result of the testing carried out by Test Labs, we have proceeded to purchase the Ultra-V decontamination system and look forward to using this in our healthcare facilities.”

Michael Richardson, Director of Facilities at University Hospitals Dorset NHS Foundation Trust.

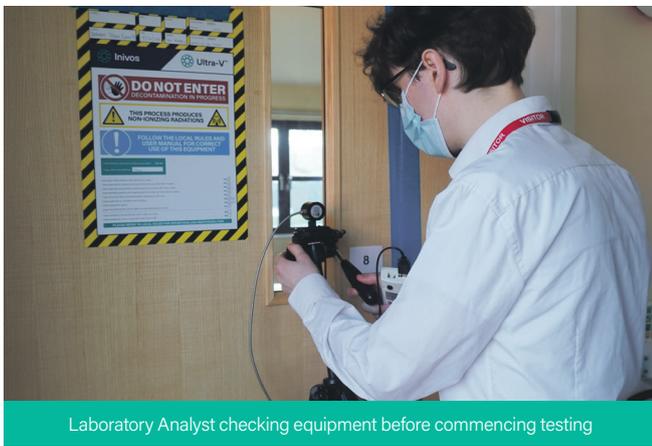
“We had a fantastic opportunity to support the University Hospitals Dorset NHS Foundation Trust with their acquisition and implementation of the Inivos Ultra-V decontamination technology. UVC light, used for decontamination, is at a germicidal wavelength which is dangerous to us if we are exposed directly to it. With this in mind, we worked with the Trust and Test Labs, to better understand the effect of glass on UVC light. Our findings supported our hypothesis that glass does attenuate UVC light, and patients and staff alike are safe on the opposite side of glass when UVC decontamination is in operation.”

Dean Remmington, Head of Sales at Inivos.



Radiometer in position testing Interior Window

This activity demonstrated Inivos’ responsiveness and flexibility in supporting the risk assessments of a Trust, and commitment to providing industry-leading, competitive options for hospitals seeking automated decontamination equipment. The question posed by the customers demonstrated their dedication to the safety of their staff and patients – regardless of existing reports or information, they wanted to prove without a doubt that the glass on their site would be enough to protect staff/patients from UV-C light exposure. Inivos grasped the opportunity, choosing to answer a query real-time, out in the field rather than in a laboratory setting. The ability to uniquely partner with a UKAS accredited testing laboratory enabled test results specific to the customers site, and going the extra mile rather than issuing pre-existing data and reports. This has made Inivos fully accountable for the results and a positive partner for the Trust in infection prevention and control.



Laboratory Analyst checking equipment before commencing testing

**Did you know...** Inivos have a 24/7 On-Call Decontamination Service that can respond anywhere in the UK within 8 hours



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