

## TD041 – MRC Systems FZE Testing

### *Aims;*

To determine the compatibility of Glass Reinforced Polyester (GRP) panels used in the construction of clean rooms to Hydrogen Peroxide Vapour (HPV) decontamination cycles.

### *Method;*

The MRC samples provided were numbered

A BIOQUELL Z (Serial No: 200811BZ00185) was placed in a room of the following dimensions: 3.1m x 2.5m x 3.5m which has the total volume of 27m<sup>3</sup>

An R30 Aeration unit (Serial No: 201008R30000) was connected to the BIOQUELL Z to reduce the Aeration time.

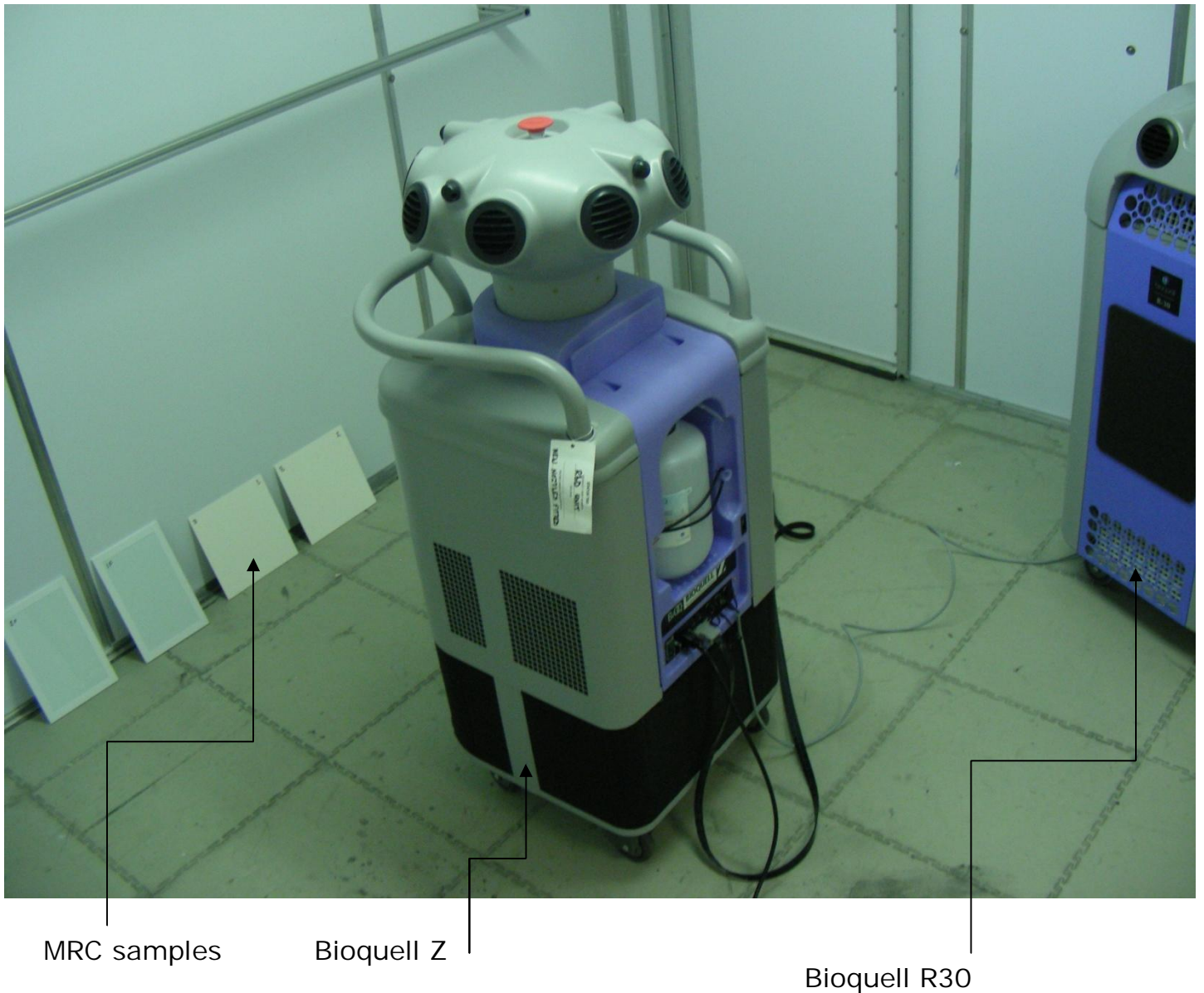
A timed gassing cycle was run; the room was then returned to an ambient temperature of 20 to 25°C before each cycle. Photographs were taken of each sample at the start, and at the end, and were also regularly inspected during the test period. A total of 40 cycles was run.

It has been found by Bioquell that 40 cycles at 14g/m<sup>3</sup> will determine with a high degree of confidence whether products are susceptible to deterioration from HPV.

*The cycles were run with the following parameters in accordance with TD041-SOP-001;*

- Conditioning: 5 minutes
- Gassing: 13 minutes at 20g/min injection
- Dwell 25 minutes at 5g/min injection
- Aeration: End when the test room is between 10 and 0ppm H<sub>2</sub>O<sub>2</sub>
- Total Dose: 385g (14.2g/m<sup>3</sup>)
- 35% Bioquell (Lot no: DBC500022314289) Hydrogen Peroxide was used

*Layout;*

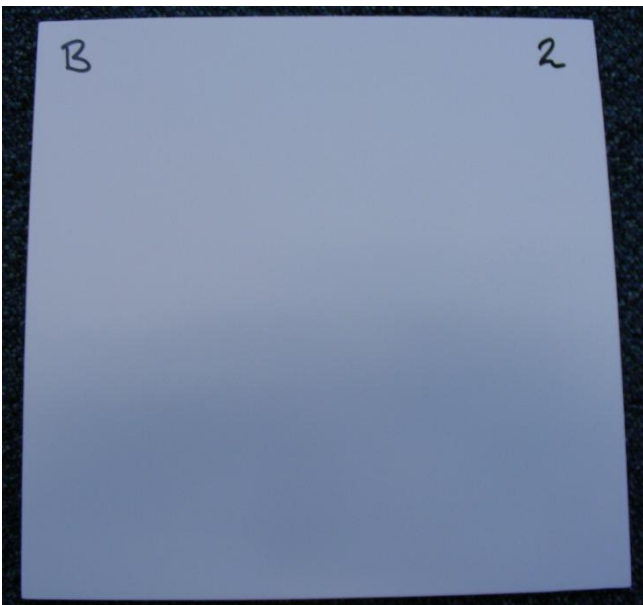
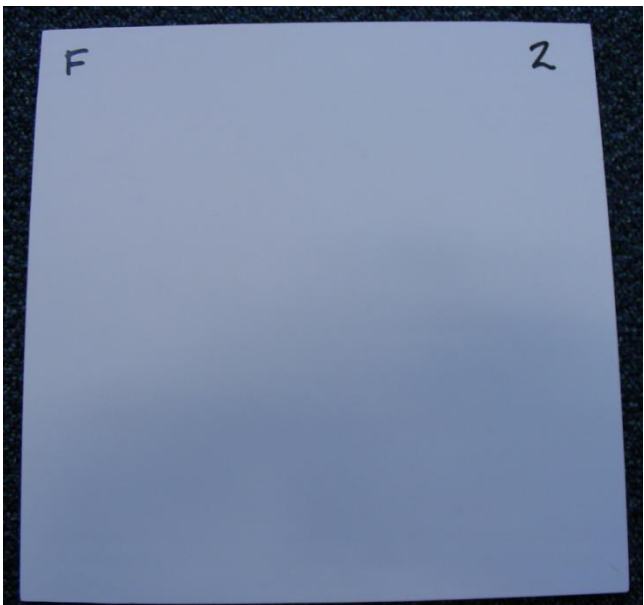
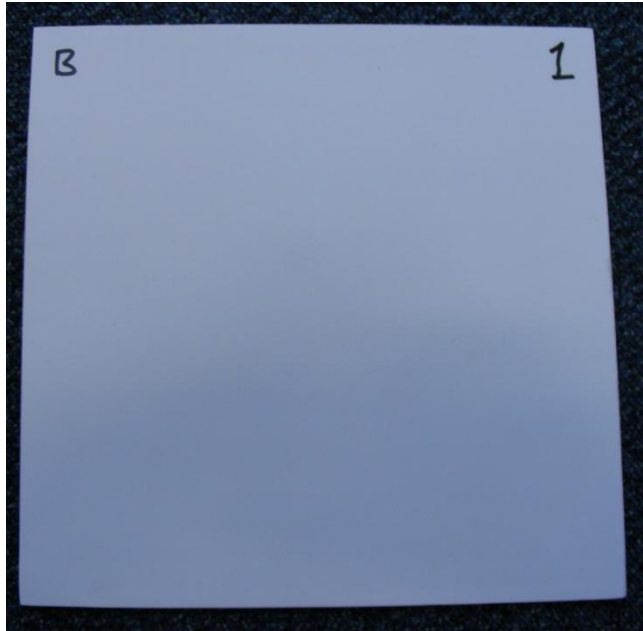
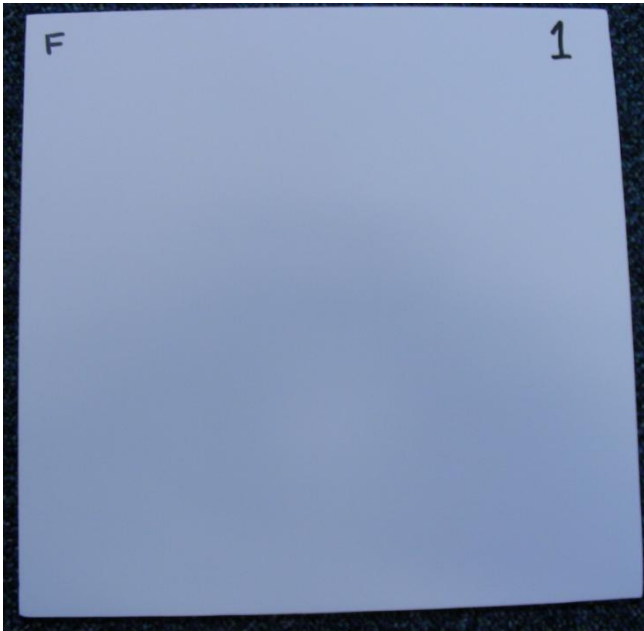


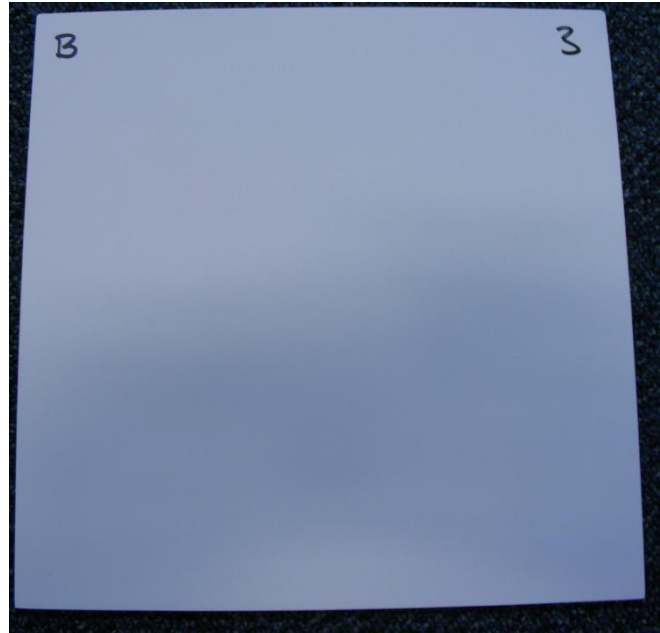
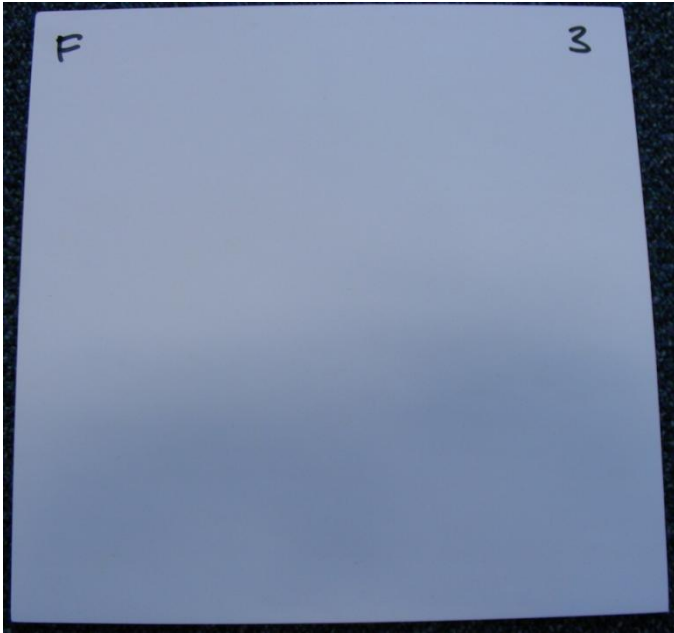
The samples were leant against a wall of the test room, approximately 1.8 meters from the gassing nozzles of the BIOQUELL Z. An R30 Aeration unit was situated in the corner of the test room away from the gassing line to reduce aeration time.

*Results;*

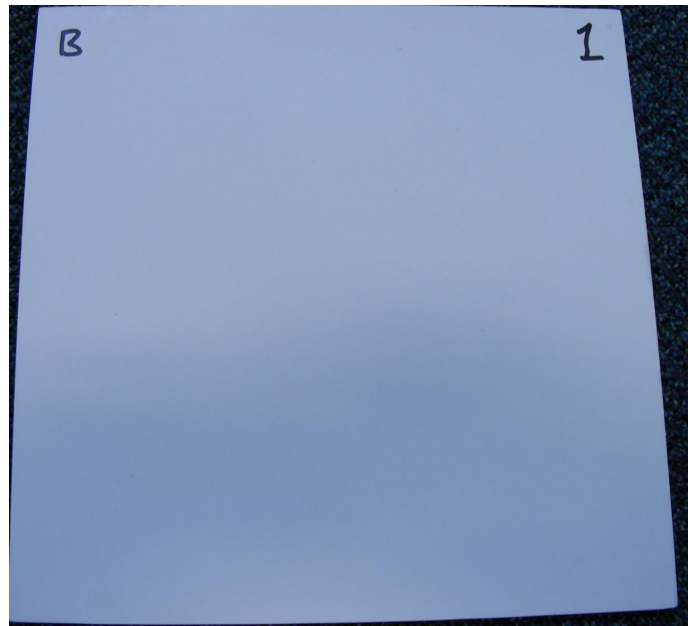
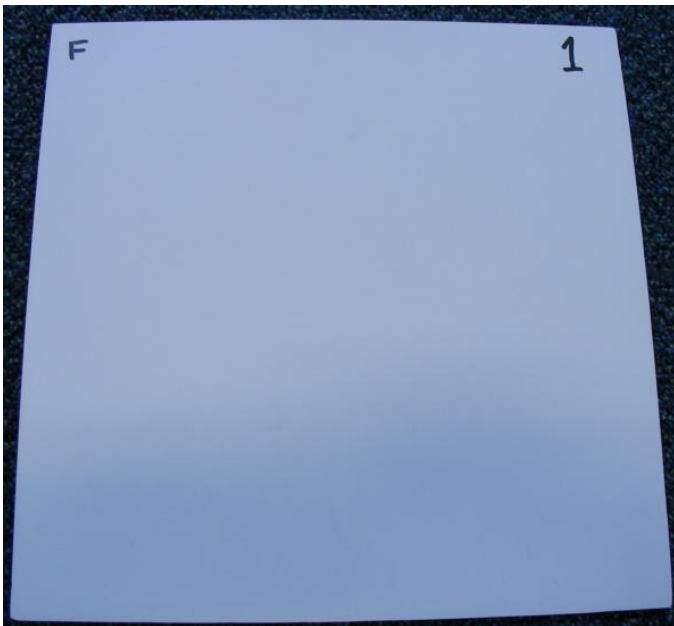
The samples were photographed pre-test and post test (40 cycles). The three photographs are shown for each sample. Note sample 1 was left outside the room as a control to compare against at the end of the test. Each sample was photographed front (F) and back (B).

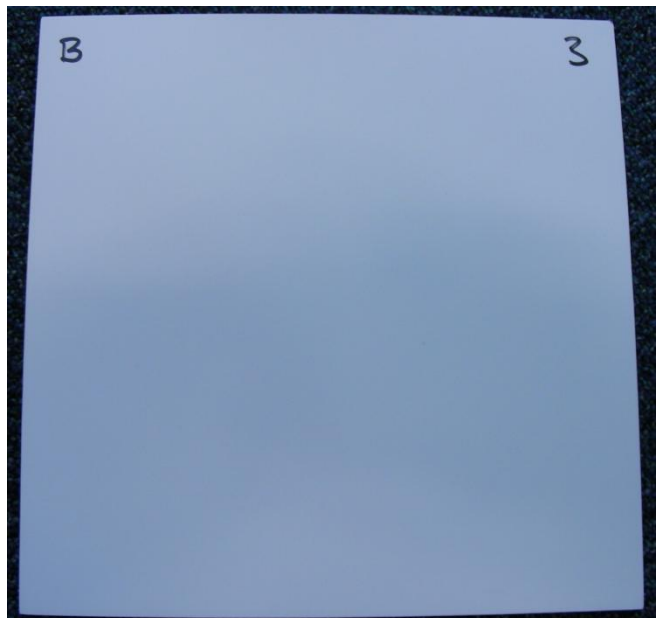
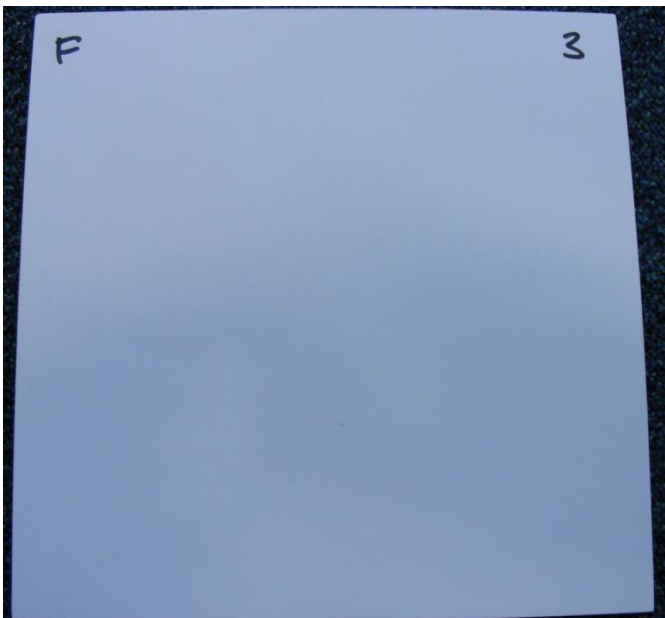
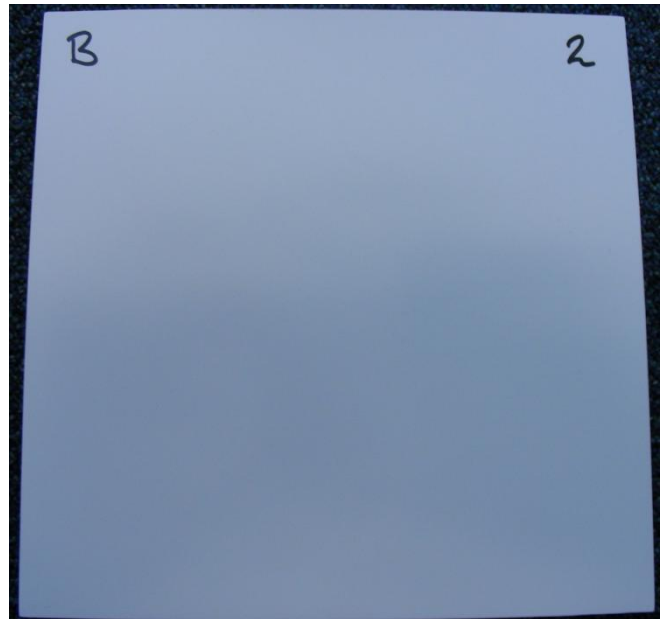
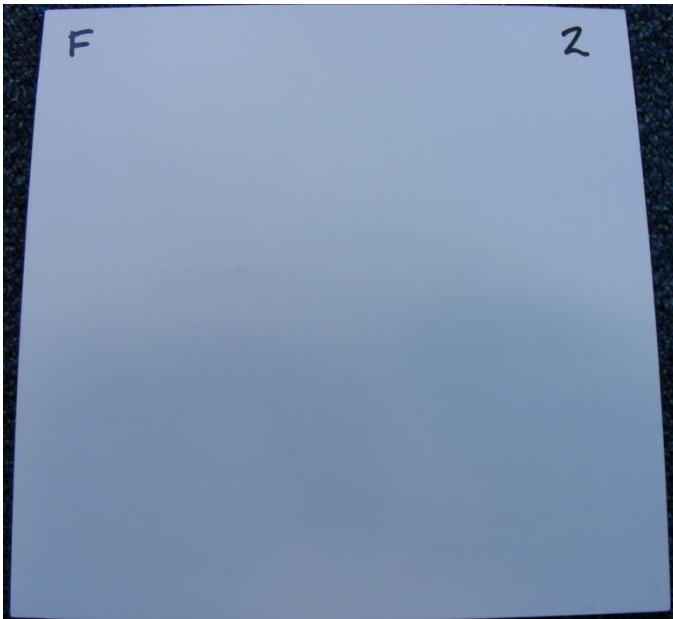
Start Photos





At End





*Conclusion;*

The MRC GRP panels showed no signs of being affected by the 40 cycles of HPV. When sample 1, which was not exposed to the HPV was visually compared with the two samples which were, no visible difference could be exposed.

The results are consistent with previous testing of GRP.

It can be stated with a high degree of confidence that if this material is exposed to HPV in application it will not demonstrate any adverse affects.