POSTER EXPOSITION

WARWICK
THE UNIVERSITY OF WARWICK

Poster 14

Assessment of antimicrobial coated steels for indoor use

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ABSTRACT:
Steel is one of the most common materials in the world. One application of steel is as a substrate for antimicrobial coatings. A combination of the COVID-19 pandemic and rise in healthcare associated infections has resulted in heightened interest in infection prevention control measures. Studies have shown a link between contaminated surfaces and infection transmission rates, with some bacteria surviving for months at a time; antimicrobial coatings have shown to aid in the reduction of transmission. Coated steels embedded with potential antimicrobials were assessed using a combination of microbiological assays, scanning electron microscopy and X-ray fluorescence. Initials findings have been unable to confirm significant antimicrobial activity, potentially due to the irregular distribution of the antimicrobials within the coatings. This correlates to assays where reductions in bacterial growth were not always noted. These findings provide an insight into the future research direction for antimicrobial coated steels.

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