

## Abstract

This thesis deals largely with the influence of UV radiation on the antimicrobial effects of several paint coats, which differed only varying concentrations of zinc oxide. Therefore, the relationship of concentration of oxide to the antimicrobial effects was studied, too. In this work, paints were tested by three different methods. As the test microorganisms were used *S. aureus*, *E. coli* and *C. albicans*. Using the first method, tested paints were not irradiated with UV light at all. Using the second method, paints were irradiated 30 minutes before applying the bacterial suspension. Using the third method, tested paints were irradiated simultaneously with bacterial suspensions. After cultivation of removed samples, CFU numbers were determined. By processing the values was found that the paints tested using the third method had the best effect. Thus the influence of UV radiation on the antimicrobial properties of the examined paints was proved. Results also showed that the most effective paint contained 7.9% ZnO. Testing demonstrated the greatest sensitivity of Gram-negative bacteria *E. coli*. The paints had the smallest antimicrobial effect on *C. albicans*.