

Antimicrobial Effectiveness of Dexo Technologies Coating

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Aim: This study aimed to assess the effectiveness of a metal powder coating impregnated with Dexo Antimicrobial Technology using a modified ISO 22196 method.

Bacteria Used: *Staphylococcus aureus* ATCC 6588 and *Escherichia coli* NCTC 10418 were used representative of Gram-positive (*S. aureus*) and Gram-negative (*E. coli*) species. An inoculum of *S. aureus* and *E. coli* was prepared in 10ml Nutrient Broth (NB), and incubated at 37°C for 24 hours. The inoculum density was determined using a haemocytometer and standardised by dilution in NB to obtain a normalised bacterial count as per ISO 22196.

Method:

1. test coupons containing Dexo additive,
2. negative control (identical coupons without Dexo)

All test coupons were thoroughly washed with detergent and water, rinsed, and surface sterilized with 70% ethanol before use. The coupons were inoculated with the standardized culture and incubated at 37°C for 24 hours before counting the surviving organisms. The experiment was repeated in triplicate. (See Figure 1 and Figure 2 below)

Results:

Figure 1. Mean Log[cfu/ml] of Staphylococcus aureus recovered from coupons

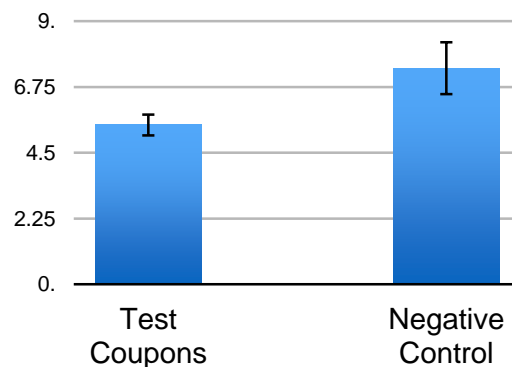
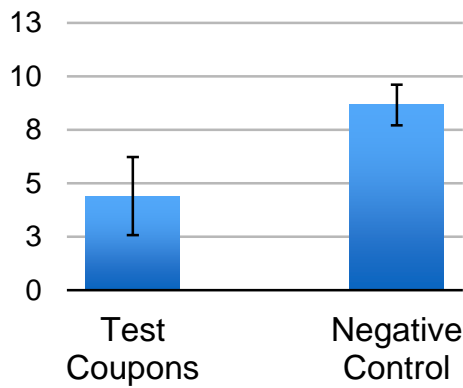


Figure 2: Mean Log [cfu/ml] of *E. coli* recovered from coupons



Summary: The Dexo Technology particles in the powder coating showed effective antimicrobial properties against *E. coli* and *S. aureus* as follows:

S. aureus (Gram positive) This shows a log kill rate of 1.9 or >99.5% reduction

E. coli (Gram negative) This shows a log kill rate of 4.3 or >99.995% reduction

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