

IN/TS

CONFIDENTIAL

GPR/KH  
To: DVA/RSJ/BCH  
RS  
RM/PMJ/PJB.

PHX 295A/3  
2nd December, 1969.

Dust Tests on Production Cloths treated with RD 330/7

The results of chafing tests on asbestos cloths treated with a 5 gallon solution of RD 330/7 were reported on 6th November (PHX 295A/2). The tests were designed to estimate whether the reduced concentrations of RD 330/7 medium had resulted in poorer dust suppression properties. However, it was decided not to revert back to the 6 gallon solution, and therefore samples of the relevant untreated cloths were tested for dust emission in order to assess the "Improvement Factor" of these recently treated 'I' range cloths. Four untreated samples of each of the 6 cloths were tested on the chafing unit and the mean results are listed below along with the means for the corresponding treated cloths.

Mean Dust Concentrations obtained on Chafing Test - Health Physics Department (November 1969)

| Untreated/<br>Treated<br>Cloth | Absolute Counts (c/cc) |         | Improvement Factor |
|--------------------------------|------------------------|---------|--------------------|
|                                | Untreated              | Treated |                    |
| K20/T10                        | 1.05                   | 0.35    | 3.7 (5.5)          |
| K21/T11                        | 1.2                    | 0.3     | 5.4 (5.5)          |
| K22/T13                        | 1.2                    | 0.4     | 3.6 (5.1)          |
| K21/T17                        | 0.9                    | 0.25    | 5.2 (6.2)          |
| K272/T14                       | 1.7                    | 0.4     | 5.1 (5.4)          |
| K317/T34                       | 1.5                    | 0.35    | 5.2 (5.9)          |

\* Calculated from actual fibre counts, taking background level of test (mean = 0.1 c/cc) into consideration.

The above absolute results are about half of those obtained in the earlier tests this year. The difference is probably mainly due to the changes made in the chafing test (when it was found necessary to make it more sensitive), but also changes in the cloths may have accounted for part of the difference. However, whatever factors are important they should have effected the counts for both treated and untreated cloths similarly and therefore the Improvement Factors little. When these factors are compared with the old (given in brackets in the table) a decrease in the effectiveness of the dust suppression treatment is indicated for five of the six cloths. An analysis of the results shows the difference between the two sets of Improvement Factors to be significant (95% Confidence Limits).

I. Harness  
Health Physics Department

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