

KINGDOM OF THAILAND

Pilot Project On The Use Of Apply Dust Mask For Worker In Grounding Industry

Abstract

In order to protect stone mill workers' health, an appropriated dust mask has been developed, after most employers refused several controls at source and path. This study was launched in 4 provinces, 14 factories, on 206 workers to test durable and filtration ability after use and wash for certain time

Three sets of mask were given to those workers who were trained on how to use and wash the mask by researchers. The first set was given for 3 days use without washing the filter, on the 4th day a researcher came to pick up the 1st set and follow-up the mask use. Then the 2nd set was distributed to the same group of worker. The process has been repeated for the 2nd and 3rd set. However, for the 2nd and 3rd set, worker must wash filter every 3 days. The 2nd set was used for 9 days (wash 3 times) and 3rd was used for 15 days (wash 5 times.). All masks including "Blank" (masks which were washed 0, 3, and 5 times but was not used by anyone) were tested for penetration rate. The penetration rates were compared between used and blank masks, and among used masks with 0, 3, and 5 times wash. In order to see influence of use and times of wash on filtration of the mask.

The result shows that most workers used and satisfy the mask. While all employers were happy to support the mask use in their factories. The statistical test presented that both use and wash effect the filtration ability of the mask. Linear regression model derived from the relation between times of wash and penetration rate was $y = 0.93 \times 30$. Where "y" is penetration rate (40%) and "x" times of wash. Thus, according to this study the mask may by washed for 10 times.

However, due to some limitations, the mask should be used under certain conditions, i.e. the workplace where silica concentration is lower than 1% and dust concentration does not exceed the Ministry of Labour and Social Welfare.

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