

우리나라 면체여과식마스크 성능에 관한 연구  
An Experimental Study on the Performance of  
Filter-integrated Half-face Respirators

\* 연구자 : 변 임 근

◎ Abstract

Filter-integrated half-face respirator is the respirator to protect to workmen from various dusts. According to the first revision of Korean industrial safety and health law on Jan. 13 in 1990, the utilizing range of filter-integrated half-face respirator has been enlarged.

Under these circumstances, we have collected all sorts of filter-integrated half-face respirator coming into the market, analysed the status of their performances, examined their performance upgrading and their problems. So we investigated the various dusts, the kinds of respirators, and the wearing limits of respirators. Also we carried out the structural test, the performance test, and the material test of those respirators. Moreover we studied the Fit Tester Method of respirators.

Judging from the results of data analysis, there are none particular problems about the structural test and the material test. But only 35% of filter-integrated half-face respirator coming into the market has been fit for use. At the same time, it seemed to be important that filter-integrated half-face respirator should be selected ergonomically and the respirator be worn correctly.

As standard model of artificial human head which would be perhaps different from the true one is used to experiment fit test, leakage rate is shown to be more or less high. However, artificial human head shall be accurately examined and follow-up study would be conducted in the future.