N013

Assessment of the Validity of QnFT in Selecting RPE

Robin Howie

Robin Howie Associates, Edinburgh, UK
e-mail: robin.howie@btconnect.com

ABSTRACT

Quantitative Fit Testing (QnFT) is widely used in selecting RPE. Implicit in such use of QnFT is the assumption that either Quantitative Fit Factors (QnFF) and Workplace Protection Factors (WPF) are statistically correlated or that a "good" QnFF suggests that a "good" WPF will be achieved.

The literature was searched to determine the validity of such assumptions.

Colton et al (1989) reported: The quantitative fit factors that were obtained did not predict which workers would have the highest or lowest WPF. ….It appears there was no correlation between WPF and quantitative fit factor.

Dixon & Nelson (1984) concluded: Quantitative fit testing cannot be used to quantitatively predict workplace performance of respirators for an individual.

Gaboury & Burd (1989) reported: No relationship was found between quantitative fit factors measured by the Portacount and the WPF ….

Myers et al (1984a, b) reported that there was no significant linear association between quantitative fit factors and WPF.

From the available literature there is unanimity that QnFF and WPF were not usefully correlated, i.e. QnFF do not predict likely WPF and a "good" QnFF does not predict a "good" WPF.