

ISRP 2000 abstract

Presenter/author	Title	Abstract
Howie, Robin Robin Howie Associates, Edinburgh	Results of a Workplace Protection Factor Study of a Positive Pressure Demand Respirator	<p>A Workplace Protection Factor (WPF) Study has been carried out on a new Positive Pressure Demand Respirator* during the removal of asbestos waste containing chrysotile, amosite and crocidolite.</p> <p>Given the general reduction in in-enclosure airborne fibre levels in the UK to about 2-5 fibres/ml during well conducted asbestos removal operations, it has been necessary to develop new in-mask and ambient sampling techniques.</p> <p>To permit quantification of individual Protection Factors (PF) up to 500 in ambient fibre concentrations of 1 fibre/ml an in-mask sampling probe incorporating a 7 mm diameter filter has been developed. This sampling probe is fitted directly to a 30 mm disc probe which is placed within about 5 mm of the wearers' lips to ensure effective sampling of inhaled contaminants.</p> <p>Given current ambient fibre concentrations, it is frequently necessary to change the ambient samplers every c 15 minutes to prevent overloading of the filter.</p> <p>In many asbestos removal operations the ambient samples are obscured by non-fibrous materials. Previous experience has demonstrated that the Higgins cyclone is suitable for asbestos sampling due to removal of such non-fibrous material. It has been found that cyclone concentrations are generally about 20% higher than conventional cowl concentrations. However, during WPF studies RPE wearers are already encumbered with a sampling pump for the in-mask sampler. The addition of heavy cyclone, an additional pump and associated plumbing can be unpopular!</p> <p>Given these difficulties, miniature size-selecting samplers able to run for 8 hours in up to 5 fibres/ml have been developed and validated.</p> <p>The presented paper will describe the sampling techniques developed and the results obtained.</p> <p>NOTE: *The study to be reported will be carried out in August 2000. The current abstract therefore describes only the methodology.</p>