

Valutazione dell'esposizione a fibre ceramiche durante la coibentazione degli impianti di una centrale termoelettrica in costruzione

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KEY WORDS

Refractory ceramic fibres; exposure assessment; synthetic vitreous fibres

SUMMARY

«Assessment of exposure to ceramic fibres during insulation operations in a thermoelectric power plant». Refractory ceramic fibre concentrations were measured during renewal of the insulation lining of a turbine located in a large power plant. Personal and stationary samples were collected during operations, which involved installing and ripping out standard and pre-coated and pre-shaped ceramic fibre blankets. Operation-length average (OLA) and TWA exposure levels were about 500 F/l and about 100 F/l, respectively, for installing and ripping out operations where non-coated blankets were handled. In these cases specific task-associated personal exposure levels up to 1000 F/l were measured. Personal exposure levels up to as much as 10 times lower were observed in operations involving pre-coated and pre-shaped blankets. The average concentration levels from area samples were always lower than those from personal samples, and showed a downward gradient with the distance from the source. Given the current carcinogenic classification of refractory ceramic fibres (class 2, European), the necessity is stressed of introducing adequate working practices and control measures (adoption of pre-coated and pre-shaped fibrous materials whenever possible, confinement of working area, use of local air extractions ventilation with HEPA filter unit, use of garments for personal protection and respirators, use of wetting or binding liquids prior to removal, quick cleaning of debris from working area), in order to keep the exposure levels and the number of potentially exposed workers to the minimum.