


# Il metodo deposimetrico per la misura della dispersione di fibre di asbesto dalle coperture in cemento amianto: revisione e perfezionamento

A. CATTANEO, D.M. CAVALLO\*, G. CHIAPPINO

Dipartimento di Medicina del Lavoro, Università degli Studi di Milano e Fondazione IRCCS Policlinico Mangiagalli-Regina Elena, Milano

\* Università dell'Insubria, Sede di Como

metadata, citation and similar papers at [core.ac.uk](http://core.ac.uk)

brought to you by 

provided by Archivio Istituzionale della ricerca - Università dell'

Asbestos-cement, asbestos bundles, dispersion staining

## SUMMARY

«**Improvement of a sedimentation method for measuring dispersion of fibres from asbestos cement roofs**». **Background:** The present article is a follow-up of previous research, in which a sedimentation method was proposed to measure the dispersion of fibre bundles (primary pollution) from asbestos-cement roofs. **Objectives:** The aim of this study was to improve and standardize a screening method to evaluate asbestos bundle release from asbestos-containing materials. **Methods:** An appropriate instrument (deposimetro) was used to passively sample asbestos on microscope slides by direct sedimentation. The microscopic analysis of samples was improved by the dispersion staining method, combined with the calculation of weight concentrations of asbestos per surface and time unit. The sampling efficiency was improved by introducing a new adhesive treatment of the microscope slides (85% stearyl alcohol, 15% octyldodecan) and a size cut-off restricting the counting method only to fibre bundles with diameters larger than 2  $\mu\text{m}$ . **Results:** The optimal sampling time was defined as 25-30 days without rain, extending the sampling time established in the previous investigation, and the optimal instrument position was defined at distances of 50 cm (vertical) and 0 cm (horizontal) from the roof edge. The effect of wind direction and velocity on asbestos release was also assessed, showing that wind gusts with a velocity of more than 10 m/s are mostly associated with dispersion peaks. **Conclusions:** A simple algorithm was proposed on the basis of field data ( $n=32$ ) and 5 hazard classes were defined as a function of weight concentrations and asbestos type. The passive sampler is low in cost and is intended for use in large-scale surveys to identify removal priorities.