

M504 Asbestos and Other Fibres – Answers to revision questions

Section 7 – Air sampling

1. What are the different types of air sampling and when would they be undertaken?
(Pages 131 – 132)
 - Personal monitoring – during removal work to check suitability of RPE, check effectiveness of controls, check compliance with exposure limits
 - Static sampling
 - Background – assess fibre concentration before start of work
 - Leak – monitoring outside enclosure during removal work
 - Clearance – part of clearance certification procedure
 - Reassurance – monitoring to confirm residual levels after completion of work
2. What are the potential problems and limitations of the WHO fibre counting method? How can these problems and limitations be minimised?
(Pages 133 – 135)
 - Can produce variable / unreliable results if undertaken by non-accredited organisations
 - Introduction of standard procedures, reproducible routines
 - Participation in external proficiency testing programmes
 - Compliance with ISO 17025 (accreditation)
3. What features / specifications would you expect for each of the following?
 - a. Air sampling pumps - smooth flow, maintain flow, suitable flow rate depending on use
 - b. Sampling heads - conducting cowl, expose minimum 20mm diameter on filter, cap / bung
 - c. Filters - with printed grid, membrane filter, pore size 0.8 – 1.2 micron
(Pages 134 – 136)
4. How would you determine the volume of air sampled? (Pages 137 – 141)
 - Flow rate measured against external flow meter, that has been calibrated against master flow meter
 - Time measured using electronic timer or stopwatch
 - Volume (lit) = Flow rate (lit/min) x sampling time (mins)
5. Why are there different sampling strategies for different types of air monitoring? Give examples of typical flow rates, volumes and graticule areas examined for each.
(Pages 140 – 142)
 - Different concentrations levels expected, different time periods
 - See table page 141

6. What information should be recorded when undertaking air monitoring and analysis? (Pages 142 – 143)
- Date
 - Type of sampling
 - Location
 - Relevant activities taking place
 - Identification numbers of equipment used
 - Start / finish times
 - Sample position
 - Flow checks
7. When should clearance sampling be undertaken? Who should undertake this work? (Pages 147 – 148 and 154)
- Following removal of asbestos to determine suitability of area for re-occupation
 - Competent person
 - Ideally someone independent of people undertaking removal
 - Organisations accredited to ISO 17025
8. Describe the stages of the 4-stage clearance certification process used in the United Kingdom? (Pages 151 – 154)
- Stage 1 – Preliminary check of site condition and job completeness
 - Stage 2 – Thorough visual inspection
 - Stage 3 – Air monitoring
 - Stage 4 – Final assessment post enclosure dismantling