

**ASBESTOS ANALYST/SURVEYOR  
APPRENTICESHIP**

**LEVEL 3**

**ASSESSMENT PLAN**

## **Introduction**

This document sets out the requirements for end-point assessment (EPA) for the Asbestos Analyst/Surveyor apprenticeship standard. It is written for end-point assessment organisations who need to know how EPA must be delivered. It will also be of interest to Asbestos Analyst/Surveyor apprentices, their employers and training providers.

Full time apprentices will typically spend 24 months on-programme working towards the apprenticeship standard, with a minimum of 20% off-the-job training.

The EPA should only start once the employer is satisfied that the gateway requirements for EPA have been met and can be evidenced to the EPA organisation; and that the apprentice is consistently working at or above the level set out in the standard. The EPA organisation must be on the Education and Skills Funding Agency (ESFA) Register of End Point Assessment Organisations (RoEPAO).

Apprentices must complete the following qualifications prior to commencement of the EPA:

- I. RSPH level 3 Bulk Analysis
- II. RSPH level 3 Air Monitoring and Clearance Procedures
- III. RSPH level 3 Surveying

Apprentices without English and mathematics at level 2 must achieve level 2 prior to taking their EPA.

The EPA consists of 2 distinct assessment methods:

- Practical Assessment
- Professional Discussion

## **End-Point Assessment Gateway**

The EPA should only start once the employer is satisfied that requirements for EPA have been met and can be evidenced to an end-point assessment organisation; and that the apprentice is consistently working at or above the level set out in the standard. Employers may wish to take advice from their apprentice's training provider.

Requirements:

- The following mandated qualifications have been completed:

RSPH level 3 Bulk Analysis  
 RSPH level 3 Air Testing and Clearance Procedures  
 RSPH level 3 Surveying

- Completed portfolio including as a minimum:

Bulk ID: 3 x method witness audits & evidence of participation in an external proficiency testing scheme e.g. AIMS

Surveying: 3 x method witness audits & evidence of re-surveys

Air testing: 3 x method witness audits & evidence of participation in an external proficiency testing scheme e.g. RICE & evidence of blind re-visits of 4-stage clearance testing

- Apprentices without English and mathematics at level 2 must have achieved level 2

### **Assessment Methods**

The end-point assessment consists of 2 distinct assessment methods:

- Practical Assessment
- Professional Discussion

The end-point assessment must be completed over a maximum period of two days, consecutively, and within 3 months after the apprentice has met the EPA gateway requirements. This includes any re-sits and re-takes.

#### **Method 1 – Practical Assessment**

The practical assessment should be completed first. This can be at the employers' premises or at a location designated by the EPA organisation, as long as the nominated location has access to an asbestos laboratory and a suitable area for conducting an asbestos management survey.

The practical assessment consists of three separate components, representing the fundamental duties an Asbestos Analyst/Surveyor would need to be able to perform effectively in order to be occupationally competent. The assessment will be carried out on a 1:1 basis and be guided by the assessor, who will also instruct the apprentice to perform a series of safety checks in turn.

Due to the safety-critical nature of the role and the potential consequences if mistakes are made, Asbestos Analysts/Surveyors compile reference material for use in their day-to-day roles. Apprentices are therefore permitted to refer to reference material during the EPA. This is limited to the following publications:

- Asbestos: The Survey Guide (HSG264); and
- The Analyst Guide (HSG248)

EPA organisations must provide sufficient samples and provide sufficient resources and equipment to enable each apprentice to demonstrate the complete range of safety checks and analyses required.

All the stages of the practical assessment must be completed within two consecutive days. They can be completed in any order, allowing time for the professional discussion on day two upon completion of the three practical tests.

The practical assessment is made up of three components:

### Practical Component 1: Bulk Analysis (90 minutes)

An analysis of an asbestos boarding product using polarised light microscopy to determine whether the product is asbestos or non-asbestos and, if asbestos, which one of the six regulated fibre types is present (Crocidolite, Amosite, Chrysotile, Anthophyllite, Tremolite, Actinolite). This component must take place in an asbestos laboratory with fully-operational fume cabinets. EPA organisations must retain a series of asbestos and non-asbestos boarding products for EPA sampling purposes.

Apprentices are required to:

- Correctly set up a microscope
- Perform fume cabinet and ventilation safety checks
- Perform sample preparation procedures
- Analyse three samples for asbestos

The assessor must direct the apprentice to perform the necessary set-up procedures and safety checks, asking 8 follow-up questions during the assessment to assess underlying knowledge.

In order to pass this component, the apprentice must successfully complete all required safety checks.

Errors in the analysis of the product will also be scored using the Asbestos in Materials Scheme (AIMS) administered by the Health and Safety Laboratories (HSL). The scoring criteria is outlined in annex B.

	<b>Fail</b>	<b>Pass</b>	<b>Merit</b>
<b>Practical Component 1 Grading Bulk Analysis</b>	<p>Failed to complete necessary safety checks</p> <p>Any incorrect sample results</p> <p>Made an error during analysis which is analytically inaccurate and would have serious consequences if</p>	<p>Successfully completed all safety checks, including the correct calibration and operation of the sampling equipment, working at all times within the relevant</p>	<p>Achieved pass criteria and:</p> <p>Is able to justify the rationale behind the various required safety checks and explain the impact of errors and cutting corners</p>

	<p>committed in reality (a super-critical error)</p> <p>Makes two errors during analysis which, if committed in reality, would not adversely impact the safety of the client (critical errors)</p> <p>Makes three minor analytical errors which, if committed in reality, would be of no consequence to the safety of the client (non-critical errors)</p> <p>Makes any combination of errors scoring a total of 20+ error points</p>	<p>regulatory framework CAR 2012, HSG 248 (K12, S2, S14, B2)</p> <p>Correctly identified whether all three samples are asbestos or non-asbestos, and where asbestos is present, correctly identified which of the six asbestos fibre types is present in the sample (K10, S1, S3, S4, S9, B5)</p> <p>Scored a total of 8-19 error points (S9)</p> <p>Documents findings and communicates clearly the results of the samples (S10, S15, B4)</p> <p>Acted in a professional manner and demonstrated an environmental awareness where appropriate (B1, B2, B7)</p>	<p>Scores a total of 0-7 error points</p> <p>When communicating the results of the analysis, is able to provide advice on future courses of action and discuss remedial options available.</p>
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## Practical Component 2: Air Test (60 minutes)

Air testing is the analysis of the atmosphere to determine whether a building is safe to re-occupy following asbestos removal work. Analysts will take samples from the air before using a microscope to count the number of asbestos fibres present in the atmosphere, before determining whether the level of asbestos fibres present is safe enough for human re-occupation.

For the purposes of the EPA, apprentices will be required to perform the correct air testing procedures in a safe environment (this should not take place in a known asbestos area) and separately analyse three asbestos slides pre-selected by the EPA organisation.

The air sampling procedures can be performed in any suitable space to allow for the apprentice to demonstrate the correct procedures chosen by the EPA organisation. The fibre counting must take place in an asbestos laboratory. The EPA organisation must retain a series of slides suitable for fibre counting.

Apprentices are required to:

- Correctly set up a microscope
- Perform slide preparation procedures
- Conduct asbestos fibre counting on three slides
- Set up an air sampling pump
- Perform air sampling procedures
- Perform personal air monitoring procedures
- Perform correct asbestos clearance procedures
- Perform decontamination procedures
- Select the correct personal and respiratory protective equipment

The assessor must direct the apprentice to perform the necessary procedures and safety checks, asking follow-up questions during the assessment to assess underlying knowledge.

In order to pass this component, the apprentice must successfully complete all required safety checks and procedures.

	<b>Fail</b>	<b>Pass</b>	<b>Merit</b>
<b>Practical Component 2 Grading Air Testing</b>	Failed to complete necessary safety checks  Failed to perform the correct procedure for air	Successfully completed all safety checks, including the necessary checks to ensure the samples meet regulatory requirements,	Achieved pass criteria and:  Is able to justify the rationale behind the safety checks and explaining the

	<p>sampling, slide preparation, air monitoring, decontamination and asbestos clearance</p>	<p>working at all times within regulatory framework CAR 2012, HSG 248 (K12, S2, S14, B2)</p> <p>Performed the correct procedure for air sampling, slide preparation, air monitoring, decontamination and asbestos clearance (K9, S1, S3, S4, S11, S13)</p> <p>Correctly calculates and documents the findings of the air test fibre counts, and communicates clearly the results (S9, S10, S12, S15, B4, B5)</p> <p>Acted in a professional manner and demonstrated an environmental awareness where appropriate (B1, B6, B7)</p>	<p>impact of errors and cutting corners</p> <p>When communicating the results of the test, is able to provide advice on future courses of action and discuss the remedial options available</p>
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### Practical Component 3: Survey (60 minutes)

The purpose of an asbestos survey is to find and record the presence of asbestos containing materials in a building. For the purposes of the EPA, the apprentice must conduct a mock asbestos management survey without sampling.

Apprentices are required to:

- Perform a building survey
- Take one sample of insulation and one sample of boarding
- Perform the correct decontamination procedure

The assessor must direct the apprentice to perform the necessary set-up procedures and safety checks, asking follow-up questions to assess underlying knowledge.

It is not necessary for the apprentice to survey an entire building. The assessor should select three rooms to allow for the apprentice to conduct the necessary checks in each and take the required samples in the time allowed.

	<b>Fail</b>	<b>Pass</b>	<b>Merit</b>
<b>Practical Component 3 Grading  Survey</b>	Failed to complete necessary safety checks	<p>Successfully completed all safety checks (S2)</p> <p>Performed the correct procedures for building survey suitable for the building type, sample collection and decontamination, working at all times within regulatory framework CAR 2012, HSG 248 (K11, K12, S1, S3, S4, S5, S6, S14)</p> <p>Communicates clearly information relating to asbestos risk and actions to be taken when asbestos is present (S7, S8, S15, B4)</p> <p>Acted in a professional manner</p>	<p>Achieved pass criteria and:</p> <p>Is able to justify the rationale behind the safety checks and explain the impact of errors and cutting corners</p> <p>Provides specific, relevant advice and makes future recommendations relevant to the building being surveyed</p>



		and demonstrated an environmental awareness where appropriate (B1, B7)	
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The times referred represent the maximum time allowed for each practical element. Apprentices may finish early but must complete the components within the time allowed, otherwise the practical test will be marked as a fail.

The apprentice must achieve a pass in all three practical components to pass the practical assessment. In order to achieve an overall merit grade for the practical assessment, the apprentice must achieve a merit in at least two of the individual components, whilst achieving at least a pass in the third.

## Method 2 – Professional Discussion

Upon completion of the practical test, the assessor will conduct a professional discussion with the apprentice. This must be conducted on a 1:1 basis in a controlled environment free from distraction or influence. The discussion will be recorded. A portfolio of evidence will be used by the apprentice to provide evidence to support the discussion.

The professional discussion will last one hour (minimum 55; maximum 65 minutes), during which the apprentice will be asked 20 standardised questions, with follow-up questions to probe further if required or to seek clarification. Questions must be an equal mix of competency and scenario questions.

EPAOs must develop question banks of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the specifications they contain, are fit for purposes. Questions must be pre-selected to ensure sufficient coverage of all the KSBs assigned to this method in annex A, with a particular emphasis on:

- Asbestos regulations, legislation and relevant technical documentation
- The different types of asbestos products and fibres, and the various techniques used to identify and locate it
- The history of asbestos and how its use has changed over time

	<b>Fail</b>	<b>Pass</b>	<b>Merit</b>
<b>Professional Discussion Grading</b>	Unable to provide the correct answer to the question, or provides an inaccurate explanation or response description	<p>Provides correct answers and accurate response descriptions to demonstrate an understanding of asbestos use, legislation, regulatory procedures and how these have changed over time (K1, K2, K3, K7)</p> <p>Accurately explains analysis, surveying and air monitoring procedures, the relevant safety checks, how and why these differ in different environments and the various techniques to be used to identify and locate asbestos (K4, K5, K6, K8)</p> <p>Able to differentiate between different asbestos types and their properties</p> <p>Demonstrates an ability to communicate and relay technical</p>	<p>Achieves pass criteria and:</p> <p>Supports the answer given by illustrating with relevant examples</p> <p>Can evaluate the impact of errors in the asbestos environment</p> <p>Able to contrast the strengths and weaknesses of a range of remedial options to a given asbestos environment</p> <p>Demonstrates an awareness of their role as a representative of their company by evidencing positive but assertive communication skills, especially when critiquing the work of asbestos removal contractors</p>

		<p>information clearly (S8, B1)</p> <p>Understands the importance of confidentiality of information, high levels of customer service and teamwork (B4, B3, B7)</p> <p>Displays a commitment to personal development (B6)</p>	
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### Overall apprenticeship grading:

<b>Practical Test</b>	Fail	Fail	Pass	Pass	Pass	Merit	Merit
<b>Professional Discussion</b>	Fail	Pass	Fail	Pass	Merit	Pass	Merit
<b>Overall Grade</b>	<b>Fail</b>	<b>Fail</b>	<b>Fail</b>	<b>Pass</b>	<b>Pass</b>	<b>Merit</b>	<b>Merit</b>

The apprentice cannot achieve an overall merit grade unless a merit is achieved for the practical test.

### Re-sits and Re-takes

Apprentices who fail one or both assessment methods will be offered the opportunity to take a re-sit/re-take. Re-sits/re-takes must not be offered to apprentices wishing to move from pass to merit. A re-sit does not require further learning, whereas a re-take does.

The apprentice's employer will need to agree that a re-sit/re-take is an appropriate course of action. Apprentices should have a supportive action plan to prepare for the re-sit/re-take.

The apprentice will only have to re-take the specific assessment method that was failed. If a re-sit is required, or if the re-take is not successful completed within 12 months of the original EPA, the entire EPA will have to be taken again. Re-sits and re-takes are restricted to a pass mark unless in exceptional circumstances, which can be taken into account at the discretion of the EPA organisation.

### **End-point Assessment Organisations**

Employers must choose an independent EPA organisation approved to deliver the EPA for this apprenticeship from the Education & Skills Funding Agency's Register of End Point Assessment Organisations (RoEPAO).

### **Requirements for Independent Assessors**

EPA organisations must appoint independent assessors to oversee the practical assessment and conduct the professional discussion. They must meet the following criteria:

- Be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest
- Hold a TAQA assessment qualification or equivalent
- Hold RSPH level 3 Bulk Analysis, RSPH level 3 Air Testing and 4 Stage Clearance Procedures and RSPH level 3 Asbestos Surveying qualifications

### **Internal quality assurance**

Internal quality assurance refers to the requirements that EPA organisation must have in place to ensure consistent (reliable) and accurate (valid) assessment decisions. EPA organisations for this EPA must undertake the following:

- Appoint independent assessors that meet the requirements as detailed in this plan – see above
- Provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- Have quality assurance systems and procedures that support fair, reliable and consistent assessment across organisation and over time
- Operate moderation of assessment activity and decisions, through examination of documentation and observation of activity, with a minimum of 20% of each independent assessors' assessments moderated
- Operate regular standardisation events that enable assessors to attend a minimum of two events per year
- Operate an appeals process

### **External Quality Assurance**

External quality assurance will be provided by the Institute for Apprenticeships.

## **Projected Starts**

The expected number of starts for this apprenticeships is 150 per year.

## ANNEX A: MAPPING EXERCISE

	KNOWLEDGE	Practical Assessment	Professional Discussion
<b>History</b>	<ul style="list-style-type: none"> <li>How asbestos use has changed with time K1</li> <li>How asbestos regulations have changed and the impact this has had on the use of asbestos in buildings and how this may affect identification K2</li> <li>Phased prohibition of different types of asbestos products K3</li> </ul>		✓
<b>Buildings</b>	<ul style="list-style-type: none"> <li>Why asbestos was used in buildings K4</li> <li>Why and where asbestos was used in buildings and techniques to be used to identify and locate it K5</li> <li>What buildings are likely to contain asbestos and where K6</li> </ul>		✓
<b>Legislation, Health &amp; Safety</b>	<ul style="list-style-type: none"> <li>The different asbestos regulations and guidance documents relevant to the role being performed K7</li> <li>How regulations apply in different workplaces and environments K8</li> </ul>		✓
<b>Technical Procedures</b>	<ul style="list-style-type: none"> <li>The collection and monitoring of airborne asbestos fibres K9</li> <li>How to collect and analyse samples using microscopy K10</li> <li>How to perform buildings inspections for the presence of asbestos K11</li> <li>The requirements of The Health &amp; Safety Executive, United Kingdom Accreditation Service and other technical documentation K12</li> </ul>	✓	

	SKILLS	Practical Assessment	Professional Discussion
<b>Equipment</b>	<ul style="list-style-type: none"> <li>Operate a range of sampling equipment to identify asbestos S1</li> <li>To maintain, calibrate and repair measuring and sampling equipment S2</li> <li>To use different types of microscope suitable for the analytical work being performed S3</li> <li>To use specialist plant and machinery for the task being undertaken S4</li> </ul>	✓	
<b>Asbestos Surveying</b>	<ul style="list-style-type: none"> <li>Undertake surveys suitable for the management of asbestos in buildings S5</li> <li>Undertake surveys for the refurbishment and demolition of buildings S6</li> <li>Provide information about asbestos risk to property managers S7</li> </ul>	✓	
	<ul style="list-style-type: none"> <li>Provide guidance to property owners and managers on actions to be taken when asbestos is present S8</li> </ul>	✓	✓
<b>Asbestos Laboratory Identification</b>	<ul style="list-style-type: none"> <li>Analyse samples for the presence of asbestos fibres in a range of materials using chemical preparation, morphological and composition S9</li> <li>Report on the presence of the regulated asbestos types found within samples S10</li> </ul>	✓	
<b>Asbestos Air Monitoring</b>	<ul style="list-style-type: none"> <li>Undertake the collection of air samples including, personal, background,</li> </ul>	✓	

	reassurance and clearance sampling S11		
<b>Asbestos Air Monitoring continued</b>	<ul style="list-style-type: none"> <li>Perform fibre counting using Phased Contrast Microscopy and calculate and report the findings of this analysis S12</li> <li>Undertake the necessary additional checks required to ensure the samples meet regulatory requirements, such as visual inspections of the work area and enclosures S13</li> </ul>	✓	
<b>Reporting &amp; Risk Assessments</b>	<ul style="list-style-type: none"> <li>Review and assess method statements and risk assessments S14</li> <li>Document findings and report those findings S15</li> </ul>	✓	

	BEHAVIOURS	Practical Assessment	Professional Discussion
<b>Impartiality &amp; Integrity</b>	<ul style="list-style-type: none"> <li>Act in a professional manner, demonstrating both impartiality and integrity as per HSE &amp; UKAS requirements B1</li> </ul>	✓	✓
<b>Environmental Awareness</b>	<ul style="list-style-type: none"> <li>Be environmentally aware, showing a willingness to minimise their impact upon the working environment in line with guidance provided by HSE B2</li> </ul>	✓	
<b>Collaboration &amp; Communication</b>	<ul style="list-style-type: none"> <li>Display a willingness to work within a team to achieve an end goal and to provide the necessary support to reach that goal B3</li> </ul>		✓
	<ul style="list-style-type: none"> <li>Be customer-focussed, understanding the importance of ensuring information is delivered clearly and in an easy-to-understand way for customers and employers need, also to ensure information is clear to members of the public and employers B4</li> </ul>	✓	
<b>Independence</b>	<ul style="list-style-type: none"> <li>Be able to work alone and make decisions necessary to ensure a satisfactory outcome is achieved within a regulatory framework B5</li> </ul>	✓	
<b>Continuing Personal Development</b>	<ul style="list-style-type: none"> <li>Be proactive in their own development and willing to commit to lifelong learning and development B6</li> </ul>		✓
<b>Confidentiality &amp; Customer Service</b>	<ul style="list-style-type: none"> <li>Maintain the confidentiality of information and provide high levels of customer service B7</li> </ul>	✓	✓

## ANNEX B: BULK ANALYSIS ERROR-MARKING SCHEDULE

### Asbestos in Materials Scheme (AIMS) administered by the Health and Safety Laboratories (HSL)

Points are allocated for each analytical error made. The magnitude of the score is dependent on the seriousness of the error. For example, the failure to identify a trace component in a two-component mixture would not score as high as the failure to identify a major component in a two-component mixture of a trace asbestos component where no other asbestos type is present. Three types of error are considered.

#### Super Critical Error

A super critical error which is analytically inaccurate and would have serious consequences if committed in reality. Such an error might be the failure to detect a single asbestos component of significant proportion (i.e in excess of 66.6% of that sample's results) in a matrix that would not impair detection. **(Each super critical error scores 20 points)**

#### Critical Error

A critical error is an analytical error which, if committed in reality, would not adversely impact the safety of the client. Such an error might be the failure to detect a significant proportion (i.e in excess of 66.6% of that sample's results) of one asbestos component in the presence of already detected asbestos or to report asbestos where none exists. **(Each critical error scores 12 points)**

#### Non-critical error

A non-critical error is a minor analytical error which, if committed in reality, would be of no consequence. Such an error might be a false positive identification of one or more asbestos in the presence of an already detected amphibole asbestos, or the non-detection of a non-significant proportion (i.e. less than 66.6% of that sample's results) of asbestos in the presence of other asbestos species, or the identification of Tremolite or Anthophyllite as Actinolite or vice versa. The wrong designation of Tremolite or Anthophyllite present in a sample as each other does not score as an error. All other. **(Each non-critical error scores 7 points)**

**Apprentices will accumulate error points as detailed above during the bulk analysis practical test. Error points will be combined upon completion of the test. Apprentices are required to score 19 error points or less in order to achieve a pass.**