International Module

W505 - Control of Hazardous Substances

Formative Practical Assessment – Guidance for Tutors

1. Introduction

All candidates must undertake the practical exercises and write them up to the standards appropriate for a laboratory notebook or field notes for marking by the course tutor during the course. These practical exercises are an essential part of the examination process and will be subject to random audit for quality assurance purposes.

2. The Practical Requirements

The practical exercises should be designed by the course tutor(s) to test the basic skill of the candidate in making relevant measurements to assess the performance of local exhaust ventilation systems. The exercises must, therefore, include:

- Visualisation of air flows as a means to test control (smoke tubes, smoke generators and dust lamps) on at least two typical ventilation systems
- Duct measurements using a Pitot tube and suitable micromanometer and calculation of an average duct velocity from the data.
- Measurements of static pressure. Use supplied data for different points in a ventilation system and
- demonstrate an understanding of how static pressure data can be used to diagnose faults in the system (blocked filter, blocked ducting, holed filter etc.).
- Measurements of face velocity and/or capture velocity using appropriate anemometers and
- interpretation of data for a selection of tasks

Access to reference material and written procedures is allowed during these exercises.

3. Reporting and Marking

The practical exercises will need to be written up to the standards expected for a laboratory notebook or field notes and handed in for assessment. The candidates must include all readings and calculations so that they can be checked.

Notes for each practical exercise should contain the following elements:

a) Location and date

b) A brief description of the process

c) Environment involved

d) Equipment used

e) Monitoring information

f) Calculation of results

g) Interpretation and recommendation

h) Name of candidate

The notebook reports or field notes must be handed in at the completion of the practical session and retrospective reporting will not be allowed. The course provider/tutor will assess each practical notebook report and compile a report on each candidate as per the attached form.

The tutor must return the practical evaluation report for each candidate to BOHS within 5 days of the course completion.

4. Benchmark Marking Schedule

As the tutor is responsible for designing suitable studies it is not practicable to provide a fully detailed predefined marking schedule. However, the following are examples of what the tutor needs to look for in each case and are provided for guidance.

a) Visualisation of air flows as a means to test control (smoke tubes, smoke generators and dust lamps) on at least two typical ventilation systems.

Visual Check

- Use of smoke generator and/or smoke tubes to define control envelope
- Use of dust lamp to visualize control of a fine particulate

Marking of Write Up

- Description of observations satisfactory

b) The set up and use of a pitot tube and micro-manometer with a ventilation duct, and calculation of average duct velocity from the data.

Visual Check

- Set up and use of manometer and pitot tube
- Conducting a duct traverse correctly
- Recording of pressure and velocity data correct

Marking of Write Up

- Description of set up satisfactory
- Calculation of average duct velocity correct

c) Measurements of static pressure. Use supplied data for different points in a ventilation system and demonstrate an understanding of how static pressure data can be used to diagnose faults in the system (blocked filter, blocked ducting, holed filter etc.).

Visual Check

- Set up and positioning of measurement equipment correct
- Recording of static pressure data correct

Marking of Write Up

- Reporting of data accurate
- Correct diagnosis of system faults on supplied data

d) Measurements of face velocity or capture velocity using appropriate anemometers and interpretation of data for a selection of tasks (at least two)

Visual Check

- Set up and positioning of measurement equipment correct
- Recording of air velocity data correct

Marking of Write Up

- Accurate recording of data
- Correct conclusions on data drawn

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Formative Practical Evaluation — Report

Name of Candidate		
Date of Birth		Date of Evaluation
Evaluation Location		
Course Provider		
	Pass/Fail	**Comments**
Visualisation of air flows as a means to test control (smoke tubes, smoke generators and dust lamps) on at least two typical ventilation systems.		
Duct measurements using a micromanometer and pitot tube and calculate an average duct velocity from the data.		
Measurement of static pressure. Use supplied data for different points in a ventilation system and demonstrate an understanding of how static pressure data can be used to diagnose faults in the system		
Measurements of face velocity or capture velocity at a selection of extract points using thermal and vane anemometers and interpretation of results		
Overall Decision		
Name of tutor covering practical evaluation		
Signature of tutor covering practical evaluation		

Please Note: Information entered into the comments column can be given to the candidate for re-sit purposes.

International Module

W505 - Control of Hazardous Substances

Formative Practical Assessment - Guidance for Candidates

1. Introduction

Candidates taking the W505 international examination in “Control of Hazardous Substances” are required to demonstrate that they have appropriate practical skills in field measurements and interpretation of data. Therefore, all candidates must undertake the practical exercises and write these up to the standards of a laboratory notebook or field notes for marking by the course tutor during the course. This will be regarded as an essential part of the examination process.

2. The Practical Requirements and Reporting

The practical exercises are designed to test the basic skill of the candidate in making relevant measurements to assess the performance of local exhaust ventilation systems.

- Visualisation of air flows as a means to test control (smoke tubes, smoke generators and dust lamps) on at least two typical ventilation systems
- Duct measurements using a Pitot tube and suitable micromanometer and calculation of an average duct velocity from the data.
- Measurements of static pressure. Use supplied data for different points in a ventilation system and demonstrate an understanding of how static pressure data can be used to diagnose faults in the system (blocked filter, blocked ducting, holed filter etc.).
- Measurements of face velocity or capture velocity using appropriate anemometers and interpretation of data for a selection of tasks.

Access to reference material and written procedures is allowed during these exercises. For each exercise the candidate should:

a) Select the appropriate equipment for the relevant measurement
b) Correctly position the equipment
c) Read off the relevant values
d) Correctly calculate the required values
e) Calculate and interpret the data and make suitable recommendations
f) Submit a written practical report for the exercise

The set up and measurement study will need to be written up to the standards expected for a laboratory notebook or field notes and handed in for assessment at the end of the practical exercise. The candidates must include all readings and calculations so that they can be checked.

Each practical notebook/field notes report should contain the following elements:

a) Location and date

b) A brief description of the ventilation system
c) Equipment used and its calibration record

d) Measured values
e) Calculation of results
f) Interpretation and recommendation
g) Name of candidate

Assessment of Practical Notebook Reports

The notebook or field notes reports must be handed in at the completion of the practical session as retrospective reporting will not be allowed. The course provider/tutor will assess each practical notebook report and return the practical evaluation report for each candidate to BOHS.