Occupational Profile: ***Stone Heritage Technician (Mastru)***

A competent Stone Heritage Technician (Mastru) should be able to demonstrate the following skills and competences:

General Competences and Skills

1. The ability to work within a multi-disciplinary team.
2. To carry out work on site in a safe and responsible manner
3. To communicate verbally and use basic writing skills
4. To understand workplace organisational structures and professional obligations
5. To carry out simple mathematical calculations and to understand simple geometry

Specialist Competences and Skills

1. An understanding of buildings and monuments, their artistic and historic value
2. An understanding of materials used and construction methods adopted
3. An understanding of the deterioration of such buildings and monuments
4. To carry out documentation on the deterioration observed and works undertaken
5. To identify when more specialised assessments or techniques are necessary
6. The ability to interpret reports, drawings and bill of quantities
7. To undertake remedial works in a competent manner
8. The ability to prepare for the works and organise a site
9. Be responsible for the quality of the work done by the subordinates under his supervision
10. Be accountable for any estimates, costs and charges for the works done
11. To assess the risks involved and minimize them

The candidate applying to be trade tested for the Certificate of Competence should be in possession of the majority of the following knowledge, competencies & skills:

Consulting manuals for the specification of operational tasks
Carrying out work from a scaled drawing
Awareness of Health and Safety Regulations
Assessing risks at the place of work and how to minimise them
Carrying out the selection and the use of protective equipment and clothing as applicable for the task.
Understanding basic chemical terms and concepts
Identifying different architectural styles and understanding their chronology
Identifying different building types and understanding their characteristics
Identifying & naming the different parts of a building by their correct name
Demonstrating sensitivity to the value of a building or a monument
Demonstrating an understanding of what conservation is
Understanding the importance of documentation
Identifying the different building materials used for walls, roofs, etc
Identifying the different building materials used for roofing
Identifying the different materials used for flooring
Identifying the different building materials used for apertures
Identifying the different building materials used for external plasters
Identifying the different building materials used for interiors
Identifying the different types of construction methods adopted
Understanding the characteristics of the more common building material (stone, mortar, timber, concrete, iron/steel, plaster)
Reading a plan or a drawing
Understanding the deterioration of the more common building materials (stone, mortar, timber, concrete, iron/steel, plaster)
Identifying structural failures and seeking assistance if necessary
Document the visible deterioration
Preparing a report relating to the visible deterioration
Proposing remedial action and applying it in a competent manner
Supervising other operators
Understanding the role of other professionals/craftsmen in a project (surveyors, architects, engineers, scientists, conservators)
Documenting works undertaken and preparing reports

Understanding how the different services work in a building
Understanding how the different services are introduced sensitively in a building
Understanding bills of quantities
Estimating the cost of works by filling in a bill of quantities
Accessing on-line information and downloading it

Common Measurement Tools
The handling, use & maintenance of:
Ruler
Compass
Divider
Tape
Square (Skwerra)
Surveying equipment

Common Tools
The handling, use & maintenance of:
Brushes
Scalpels
microscalopels
Paper pulp
Clay packs
Pointing key
Trowels
Sponges
Scalpels
Microscalpels
Paper pulp
Clay packs
Pointing Key
Trowels
Sponges

The handling, use & maintenance of:
Levels
Chisels
Plumb Bob
Pal
Mterqa
Scraper (raxketta)

Safety At Work
Understanding the methodology of erection of scaffolding/Hoarding
Selecting and using protective clothing for use in connection with the generation of dust
Selecting and using protective clothing for use in connection with the generation of noise
Selecting and using protective clothing for use in connection with the use of hazardous chemicals
Lifting and handling of heavy objects
Operating electrically powered equipment
Awareness of emergency procedures
Applying good housekeeping practices at all times

Common Cleaning Techniques
Carrying out Dry Brushing/Wet Brushing
Operating removal of plaster layers/paint layers
Operating removal of plaster paint layers
Operating Micro-sandblasting
Performing application of a herbicide
Performing application of a biocide
Applying poultices (with water)
Applying poultices (with ammonium carbonate/hydrogen peroxide)
Applying poultices (with Mora Pack or other mixes)

Common Pointing/Plastic Repair Techniques
Performing removal of loose pointing
Performing pointing with natural lime/hydraulic lime (mixed by craftsperson)
Performing pointing with premixed hydraulic lime
Operating plastic repair of alveolar weathering Operating
plastic repair of severely weathered stone Operating
plastic repair of mouldings/ sculptural element
Operating Grouting: hydraulic lime/epoxy resin
Application of Pinning Techniques
Operating repair of 'deffun' roof screed

Common Structural Interventions
Understanding of how to shore beams/roof
Understanding of how to shore a lintol
Understanding of how to replace roof slabs
Understanding of how to replace roof slabs
Understanding of how to replace a lintol
Understanding of how to replace mouldings

Stereotomy (including producing templates)
Performing drawing of flat arch
Performing drawing of segmental arch
Performing drawing of semicircular arch
Performing drawing of pointed arch
Performing drawing of three-centred arch (given height)
Performing of drawing of elliptical arch
Performing of drawing of mouldings; column/pilaster
Performing of drawing of mouldings; cornice
Performing of door/window: sill/jambs/architrave

Masonry Skills Production of templates Working a flat surface Working a curved surface Working a complete moulding
Working a corner moulding (return)
Hoisting of large blocks

Finishing Works
Carrying out the application of velatura
Carrying out the application of plaster
Carrying out the application of copertina
Carrying out the laying of deffun roof screed

Documentation
Understanding the use of photography
Understanding the use of surveying
Managing computer software to draw up drawings
Carrying out mapping of existing deterioration
Carrying out interpretation of drawings
Filling in a bill of quantities
Measuring up works undertaken
Filling in the weekly log of work activity

Site Management
Carrying out instructions as received
Organising requirements for a particular task
Giving out instructions and seeing that they are carried out

Restoration Techniques
Performing plastic repair of decorative element
Carrying out replacement of stone blocks

Carrying out replacement of mouldings
Using sample areas to match plaster/wash colours
Applying lime wash (coloured if necessary)
Applying consolidants

ASSESSMENT CRITERIA

Stone Heritage Technician- Mastru

1. Introduction

The following is a detailed description of the assessment criteria to be adopted by the Trade Testing Board (TTB) to reach a final decision on the award of a Certificate of Competence.

2. Trade Test

The trade test is to be made up of the following components:

1. Written Test
2. Practical Test
3. The Interview
4. Portfolio

The Board has agreed on the sequence of the test and the markings allocated to each specific component as indicated below:

Component	Mark	Pass Mark
Written	**100**	**50%**
Portfolio	**100**	**50%**
Interview	**100**	**50%**
Practical	**100**	**50%**

The Written Component

The written test has duration of 2hrs

The Candidate must be able to demonstrate the following:

1. An understanding of the different building types and their chronology
2. An understanding of the value of a building or a monument
3. To identify the different building materials used and the type of construction adopted
4. To apply current conservation theories
5. To understand the importance of documentation
6. To identify structural failures and seek assistance if necessary
7. To identify material deterioration and understand its causes, or otherwise to seek assistance
8. To read a plan or drawing
9. To document the visible deterioration and prepare reports
10. Demonstrate the ability to propose remedial action in a competent manner
11. The ability to prepare for the works and organise a site
12. The ability to supervise other operators
13. An understanding of bill quantities regarding such works
14. The ability to estimate the cost of works by filling in bills of quantities
15. To measure completed works
16. To document works undertaken and to prepare reports
17. An understanding of how the different services found in a building work
18. An understanding of how to incorporate the different services in a building
19. The ability to assess risks at the place of work and how to minimise them

The Interview Component

All candidates will be called to an interview so that the Board will be able to assess the proficiency of the candidate in this particular field. The duration of the interview will be from 20 to 30 minutes during which the Board will have the opportunity to put forward questions related to the following topics:

1. An understanding of the different building types and their chronology
2. Buildings and monuments, their artistic and historic value, the materials used and construction methods adopted
3. Understanding the deterioration of such builds and monuments
4. Understanding current conservation theories
5. Documenting the deterioration observed and works undertaken
6. Understanding when more specialised assessments or techniques are necessary
7. Interpreting reports, drawings and bill of quantities
8. Proposing remedial action in a competent manner
9. Preparing for the works and organising a site
10. Undertaking remedial works in a competent manner
11. Responsibility for the quality of the work done under supervision
12. accountability for any estimates, costs and charges for the works carried out
13. Understanding how the different services are found in a building work
14. Understanding how to incorporate the different services in a building
15. Assessing the risks involved

The Board believes that the candidate should answer questions on the above topics with confidence while portraying technical skills and knowledge of the subject.

The Practical Component

The Practical component is based on the practical experience gained by the Candidate at the place of work. The Candidate would be asked to demonstrate his/her ability to undertake a certain number of tasks in a competent and efficient manner.

This Component has duration of around 5 hours.

The candidate will be assigned and assessed on a number of tasks commonly encountered in interventions and treatment on Historical Buildings.

Portfolio

The candidate will be requested to present a portfolio, compiled by him/her indicating works undertaken by him/her in the previous years together with references signed by the employer or client indicating the role of the applicant in the projects indicated in the portfolio.

The Trade Testing Board will evaluate the portfolio and will assess the following:

1. **An adequate and suitable range of operations which could reasonably be expected during the period of employment**
2. **An analysis of the main points of each piece of work undertaken including the historic/artistic value of the Building/monument**
3. **The use of photographs to show the extent of the deterioration and the intervention undertaken.**
4. **A proper presentation in terms of correct report writing and suitable, drawing or sketching.**