

## Higher National Unit specification

### General information for centres

**Unit title:** Glass in Concrete

**Unit code:** F1RS 34

**Unit purpose:** This Unit is designed to enable candidates to develop the skills and knowledge related to working with glass and concrete using self made or pre-manufactured moulds. It is suitable for candidates working in the glass industry.

On completion of the Unit the candidate should be able to:

- 1 Design a glass in concrete product.
- 2 Prepare a mould.
- 3 Produce a glass in concrete artefact.

**Credit points and level:** 1 HN credit at SCQF level 7: (8 SCQF credit points at SCQF level 7\*)

*\*SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

**Recommended prior knowledge and skills:** Access to this Unit is at the discretion of the centre. Candidates require no prior knowledge of working with concrete. However, it would be beneficial if candidates had completed a Unit in moulding and forming at SCQF level 5 or 6 OR completed the HN Unit Moulding and Forming at SCQF level 7.

**Core Skills:** There are opportunities to develop the Core Skills of Problem Solving at SCQF level 5 and Working with Others at SCQF level 5 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

**Context for delivery:** If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

**Assessment:** This Unit lends itself to holistic assessment. It could be assessed by the preparation and production of a glass artefact. Candidates should maintain a workbook to record relevant data throughout the Unit. This workbook should outline the processes undertaken including technical notes and an evaluation of the end product. Observation schedules should be used to record candidate performance throughout.

## **Higher National Unit specification: statement of standards**

**Unit title:** Glass in Concrete

**Unit code:** F1RS 34

The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

### **Outcome 1**

Design a glass in concrete product

#### **Knowledge and/or Skills**

- ◆ Drawing techniques
- ◆ Limitations of size relative to safe handling regulations
- ◆ Interpretation of a brief
- ◆ Materials

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can produce a working drawing to meet a given brief. The drawing should be accurate to a tolerance of plus or minus 2 mm and to scale. The design produced should meet the requirements of the brief, taking into account limitations of size and safe handling requirements.

The design should be accompanied by technical data on design characteristics, materials and relevant health and safety regulations.

#### **Assessment Guidelines**

The assessment of this Outcome can be combined with Outcomes 2 and 3 as part of a single assessment for the Unit, details of which are given under Outcome 3 below.

### **Outcome 2**

Prepare a mould

#### **Knowledge and/or Skills**

- ◆ Mould construction
- ◆ Tools and equipment
- ◆ Dimensional control
- ◆ Preparation procedures
- ◆ Safety procedures

## Higher National Unit specification: statement of standards (cont)

**Unit title:** Glass in Concrete

### Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can measure and cut materials to prepare a mould within the tolerance defined in a working drawing to match a given brief.

Health and Safety Codes of Practice should be demonstrated throughout the Outcome. Candidate performance should be recorded on an observation schedule.

Candidates should record the process in a workbook or log book which should include materials used.

### Assessment Guidelines

The assessment of this Outcome can be combined with Outcomes 1 and 3 as part of a single assessment for the Unit, details of which are given under Outcome 3 below.

Oral/written questioning can be used in conjunction with the visual observation.

## Outcome 3

Produce a glass in concrete artefact

### Knowledge and/or Skills

- ◆ Preparation procedures
- ◆ Assembly procedures
- ◆ Reinforcing techniques
- ◆ Concrete preparation and pouring
- ◆ Faulting procedures
- ◆ Health and safety procedures

### Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by correctly selecting, cutting and preparing glass of the type and dimensions required to meet a brief. Candidates should:

- ◆ assemble glass as delineated on the working drawing
- ◆ select and prepare reinforcement materials to meet the requirements of the structure
- ◆ prepare, mix and pour concrete to correct consistency to meet the brief
- ◆ insert reinforcement material mid-way through the pouring process
- ◆ evaluate finished product and processes
- ◆ observe relevant Health and Safety Codes of Practice throughout

The finished artefact should be presented as evidence and candidate performance should be recorded on an observation schedule.

Candidates should record the processes and procedures in a workbook or log book.

## **Higher National Unit specification: statement of standards (cont)**

**Unit title:** Glass in Concrete

### **Assessment Guidelines**

The assessment of this Outcome can be combined with Outcomes 1 and 2 as part of a single assessment for the Unit. The assessment of Outcomes 1, 2 and 3 is by visual observation and by inspection of the final product. The candidate could be asked to design and make an item of concrete with glass inserts eg garden stepping stone or similar project.

In addition to the glass in concrete artefact, performance should be recorded in observation schedules which could include preparation procedures, candidates working co-operatively with others in the workshop environment and following Health and Safety codes of practice.

## Administrative Information

**Unit code:** F1RS 34  
**Unit title:** Glass in Concrete  
**Superclass category:** JR  
**Original date of publication:** August 2007  
**Version:** 01

### History of changes:

Version	Description of change	Date

**Source:** SQA

© Scottish Qualifications Authority 2007

This publication may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged.

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of Higher National qualifications.

Additional copies of this Unit specification can be purchased from the Scottish Qualifications Authority. Please contact the Customer Contact Centre for further details, telephone 0845 279 1000.

## **Higher National Unit specification: support notes**

**Unit title:** Glass in Concrete

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

### **Guidance on the content and context for this Unit**

This Unit is an optional Unit in the HNC/HND Art Glass Production Group Awards frameworks.

The purpose of this Unit is to introduce candidates to the use of glass with concrete using pre-formed moulds or self-manufactured moulds.

Candidates should be made aware of the different types of moulds, such as pre-formed plastic moulds, available on the market. Manufacturers' catalogues and periodicals could complement discussions on tools and equipment.

Candidates should be encouraged not only to follow health and safety requirements in the workplace but to research any specific manufacturers' instructions supplied with equipment and material. The internet could be used as a source of reference for materials and equipment and exemplars. In this Unit candidates should gain competence in using general bricklaying tools such as trowels and pointing trowels.

### **Guidance on the delivery and assessment of this Unit**

This Unit is likely to be delivered as a stand alone Unit. It may be delivered as an optional Unit in the first year of the HND or in the HNC programme.

The Unit is designed to be assessed holistically and recorded on centre-devised checklists. Candidates should maintain a workbook for reference and should be encouraged to update it regularly throughout the Unit.

The assessment of Outcomes 1, 2 and 3 is by visual observation and by inspection of the final product. The candidate could be asked to design and make an item of concrete with glass inserts eg garden stepping stone or similar project.

#### ***Opportunities for developing Core Skills***

Throughout the Unit candidates will develop the Core Skill of problem solving by demonstrating their ability to plan their work, organise the resources required to produce the artefact, evaluate the processes followed at each stage and follow corrective procedures required to produce a perfect finished article free from defects.

The workshop environment and sharing of equipment will require candidates to work with others and negotiate the use of tools and equipment. In addition, the content of the Unit means that all candidates will have to follow health and safety requirements which affect both themselves and others.

## **Higher National Unit specification: support notes (cont)**

**Unit title:** Glass in Concrete

### **Open learning**

This Unit is not suitable for Open learning due to the equipment used. It also requires candidates to be observed by a qualified practitioner to meet health and safety requirements.

For further information and advice, please refer to the SQA guide *Assessment and Quality Assurance for Open and Distance Learning* [www.sqa.org.uk](http://www.sqa.org.uk).

### **Candidates with disabilities and/or additional support needs**

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* ([www.sqa.org.uk](http://www.sqa.org.uk)).

## **General information for candidates**

### **Unit title:** Glass in Concrete

In this Unit you will learn how to incorporate glass with concrete. You will use an existing mould or make your own mould that will help you to construct something with concrete and glass combined. You will work on your own and at times with your colleagues and tutor. You will learn how to use the different tools and equipment in mixing the ingredients for concrete. You will also learn how to fix faults in the production process.

You will be expected to show evidence of data gathering and the ability to think for yourself. You should maintain a workbook to record technical notes of what processes you have carried out and the results achieved from using different mixes. The sharing of information is helpful and you should discuss technical details with your colleagues where appropriate. Throughout the Unit you may be asked by your tutor to explain your actions or explain processes.

As you will be working with materials that could be potentially hazardous to health, the health and safety issues are important because you are responsible for your own health and welfare and that of others whilst in the workshop environment. You should interact with you colleagues and ensure a safe place of work by adopting good house keeping practices.

You will be given the opportunity to develop the Core Skills of Problem Solving and Working with Others in this Unit.