

## Higher National Unit specification

### General information for centres

**Unit title:** Glass: Sandblasting

**Unit code:** F1RW 34

**Unit purpose:** This Unit is designed to provide the candidate with the skills and knowledge required to prepare glass and use specialist sandcarving equipment to produce designs on glass using different techniques. It is suitable for candidates wishing to advance to a higher level of study or work in the cold glass field of glass art.

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

- 1 Describe the function and component parts of a sandblasting unit.
- 2 Produce designs to be sandblasted.
- 3 Prepare resist materials for sandblasting.
- 4 Produce sandcarved glass artefacts.

**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 sandblasting. However it would be beneficial if candidates had prior knowledge of working with glass.

**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:** Outcome 1 can be assessed by an oral/written assessment.

The assessment of Outcomes 2, 3 and 4 can be combined in practical activities carried out in a studio environment.

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

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

### **Outcome 1**

Describe the function and component parts of a sandblasting unit

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

- ◆ Compressor characteristics
- ◆ Sandblasting systems
- ◆ Types of abrasives
- ◆ Equipment maintenance
- ◆ Safety requirements

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by correctly describing:

- ◆ a compressor including its characteristics, structure, performance and suitability
- ◆ two types of sandblasting systems making reference to pressure and syphonic systems
- ◆ two sandblasting abrasives
- ◆ two types of nozzles
- ◆ how to perform minor maintenance procedures on a compressor
- ◆ the health and safety requirements which have to be followed when using a sandblasting unit

#### **Assessment Guidelines**

The assessment could comprise of short answer questions, oral or written, relating to types of compressors, sandblasting units, structure, characteristics, abrasives, nozzle types and compressor suitability. Health and safety considerations which have to be considered when using the machinery should be detailed and should include information on any personal protection requirements.

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

**Unit title:** Glass: Sandblasting

### Outcome 2

Produce designs to be sandblasted

#### Knowledge and/or Skills

- ◆ Drawing
- ◆ Scale drawing
- ◆ Enlargement techniques

#### Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can, to match a given brief:

- ◆ produce four thumbnail sketches
- ◆ develop the design from each of the thumbnail sketches

The designs for production should be accompanied by technical notes on the type of glass, grade of abrasive and stencil techniques to be used.

#### Assessment Guidelines

The assessment of this Outcome can be combined with Outcomes 3 and 4, details of which are given under Outcome 4 below.

### Outcome 3

Prepare resist materials for sandblasting

#### Knowledge and/or Skills

- ◆ Types of resist material
- ◆ Preparation methods
- ◆ Design cutting techniques
- ◆ Application methods
- ◆ Safety procedures
- ◆ Glass preparation

#### Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can, with reference to **three** designs:

- ◆ select appropriate resist materials
- ◆ cut designs accurately on resist materials
- ◆ prepare glass correctly and in accordance with health and safety requirements
- ◆ apply resist material evenly using correct techniques and without distortion or air bubbles
- ◆ adhere to correct health and safety procedures

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

**Unit title:** Glass: Sandblasting

At least one design must be cut by hand.

Evidence should be generated in a working studio environment and candidate performance recorded in a centre devised observation checklist.

### Assessment Guidelines

The assessment of this Outcome can be combined with Outcomes 2 and 4, details of which are given under Outcome 4 below.

### Outcome 4

Produce sandcarved glass artefacts

#### Knowledge and/or Skills

- ◆ Set up procedures
- ◆ Operating procedures
- ◆ Etching objectives
- ◆ Safety procedures

#### Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by producing **three** sandblasted artefacts which include light frosting, deep cutting, positive and negative designs.

The finished artefacts should be devoid of spatter, blemish free and the finish uniform.

Candidates should adhere to relevant health and safety procedures during the production of the artefacts.

Evidence should be generated in a working studio environment and candidate performance recorded in a centre devised observation checklist.

#### Assessment Guidelines

The assessment of this Outcome can be combined with Outcomes 2 and 3.

Candidates could be asked to design and make three small glass panels with a thematic approach. They could be given three sandblasting briefs to design and complete which include light frosting, deep cutting, and positive and negative designs. The finished items should be devoid of spatter, blemish free and the finish uniform. Relevant health and safety procedures could be assessed orally or in writing and should be monitored throughout the Unit and recorded in a centre devised observation checklist.

Candidates could maintain a work book throughout the Unit and record technical details from the procedures carried out.

## Administrative Information

**Unit code:** F1RW 34  
**Unit title:** Glass: Sandblasting  
**Superclass category:** JR  
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### History of changes:

Version	Description of change	Date

**Source:** SQA

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

### **Unit title: Glass: Sandblasting**

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. It may also be offered as a stand alone Unit.

Its purpose is to introduce candidates to the different types of sandblasting units, such as gravity-fed and suction machines; compressors and their characteristics; component parts, such as different types of nozzles; and relevant ancillary tools like electric vinyl iron and hand tools, that are available for sandblasting processes.

While it is appreciated that there may be only one type of compressor available for demonstration purposes the candidates should be able to describe, if not use, other types that are available on the market. Candidates should also be made aware of the need for regular maintenance of compressor and ancillary equipment. 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 manufacturer's instructions supplied with equipment and material. The internet could be used as a source of reference for materials and equipment.

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

Each Outcome can be assessed individually or the assessment of Outcomes 2, 3 and 4 can be combined. Practical evidence should be recorded on centre-devised checklists. Oral or written questions could be used to supplement the practical elements of the Unit.

Candidates should be encouraged to build up their skills with small individual tasks using different techniques and abrasives.

This Unit could be delivered alongside any other Unit where glass processes are used eg Painting, Staining and Firing.

It is envisaged that Outcomes 2, 3 and 4 will be assessed holistically by the production of three sandblasting artefacts.

Tutor demonstration using different techniques and tools would be followed by tutor-led discussions and the opportunity for candidates to practise their practical skills. DVDs and videos could also be used to help candidates develop their skills.

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

**Unit title:** Glass: Sandblasting

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

Candidates can develop their problem solving skills by determining the materials, tools and equipment which should be used to meet the specification given. These skills will be developed throughout the Unit by presenting candidates with mini-briefs to work to, so that they make decisions, plan their work and organise the resources needed to carry out tasks. Candidates develop analytical skills by visual examination of their sandblasting trials.

This Unit will also involve candidates working with others to negotiate the use of the sandblasting unit and equipment.

### **Open learning**

This Unit is not suitable for Open learning due to the equipment used. It also requires candidates to be observed and questioned 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: Sandblasting

In this Unit you will learn how to operate a sandblasting unit and associated equipment. You will work on your own and at times with your colleagues and tutor.

Outcome 1 looks at the function and component parts of a sandblasting unit.

In Outcome 2 you will select and prepare glass for specific tasks.

Outcome 3 covers the selection, preparation and application of resist materials.

Outcome 4 involves the production of sandblasted glass artefacts.

You will be expected to think for your self and demonstrate your willingness to work with others by negotiating use of tools and machinery. The sharing of information is helpful and you should exchange data with your colleagues where appropriate.

You will be expected to safely work around a sandblasting unit and operate its controls. As you will be working with a machine that produces compressed air, health and safety issues are important in this Unit.

You will learn about health and safety procedures which have to be followed in the workshop for your own protection and the protection of your colleagues. You should observe all Health and Safety at Work Act (HASWA) regulations and conform to workshop codes of practice throughout this Unit and you will be observed by your tutor to make sure that you do follow accepted procedures.

Outcome 1 can be assessed by a written/oral task. The assessment of Outcomes 2, 3 and 4 can be combined in a practical activity undertaken in a studio environment.

You will be given the opportunity to develop your Problem Solving skills and your skills in Working with Others in this Unit.