



Higher National Unit specification

General information for centres

Unit title: Art Glass: Acid Etching

Unit code: F1WX 34

Unit purpose: This Unit is designed to enable the candidate to develop skills and knowledge related to the manufacture and design of embossed acid etched glass. It is suitable for candidates studying glass or working in the glasswork industry.

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

- 1 Apply masking materials to surface of glass.
- 2 Cut designs from masking materials.
- 3 Apply acid to surface of glass.

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: While access to this Unit is at the discretion of the centre, candidates should have previously achieved Units at SCQF level 5/6 which involve glass cutting and sandblasting such as F1RW 34 *Glass: Sandblasting*.

Core Skills: There are opportunities to develop the Core Skills of Problem Solving 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: Assessment will be holistic with one practical task in which the candidate must, from three design proposals, produce three glass pieces with an acid etched design on the surface. A minimum of one design must be etched on flashed glass. An observation schedule will be used to record performance including observance of health and safety requirements being followed.

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.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Apply masking materials to surface of glass

Knowledge and/or Skills

- ◆ Type of masking materials
- ◆ Methods of application
- ◆ Specialist types of glass

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and Skills by showing that they can: select and apply masking material to the surface of the glass to be etched.

Candidates must provide three design proposals which are appropriate for acid etching and select appropriate specialist glass for acid etching. One of these designs should be on flashed glass.

For each design candidates must attach masking material so that it is:

- ◆ applied to the correct side of the glass
- ◆ bubble and crease free
- ◆ provides total coverage of the surface area and allows for accurate etching of the glass surface
- ◆ matched to the design proposal

Assessment Guidelines

See Assessment Guidelines for Outcome 3.

Higher National Unit specification: statement of standards (cont)

Unit title: Art Glass: Acid Etching

Outcome 2

Cut designs from masking materials

Knowledge and/or Skills

- ◆ Manual cutting tools
- ◆ Computer cutting equipment
- ◆ Electric cutting tools
- ◆ Cutting techniques
- ◆ Masking removal procedures

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and Skills by showing that they can:

- ◆ accurately cut designs from the masking material to a tolerance of +/- 1mm
- ◆ correctly use cutting tools appropriate to the task
- ◆ correctly remove masking from area to be etched so that it is free from any glue residue on the glass surface.

In cutting the designs, candidates must demonstrate use of manual, computer and electric cutting techniques.

Assessment Guidelines

Candidate designs may be hand drawn or computer generated.
See Assessment Guidelines for Outcome 3.

Outcome 3

Apply acid to surface of glass

Knowledge and/or Skills

- ◆ Types of acid
- ◆ Dilution of acid
- ◆ Application techniques
- ◆ Acid paste
- ◆ Hydrofluoric acid
- ◆ Neutralizers
- ◆ Health and safety
- ◆ Protective clothing

Higher National Unit specification: statement of standards (cont)

Unit title: Art Glass: Acid Etching

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and Skills by showing that they can:

- ◆ select the correct type of acid required for each of the three designs — one of which should use acid paste and one of which should use hydrofluoric acid
- ◆ select glass for each of the designs, one of which must be on flashed glass
- ◆ accurately apply acid to match the proposed designs
- ◆ neutralize acid with water and bicarbonate solution before masking is removed
- ◆ clean off glass so that all traces of acid are removed

Candidate performance should be recorded on an observation schedule.

Health and safety procedures must be adhered to at all times, the wearing of all PPE throughout the etching process is mandatory: rubber boots, rubber apron, rubber gloves, respiratory system and full face visor. Following health and safety requirements must be recorded on an observation schedule which should be completed by the tutor supervising the work.

This Outcome should be assessed under controlled conditions.

Assessment Guidelines

Candidates could copy or design three different designs for example showing a thematic approach. One of these designs should be for flashed glass. These designs should be accurately cut from the masking material. Candidates should then apply the masking materials and ensure it is free from bubbles and creases. Candidates should be observed and supervised during the acid etching process and protective clothing must be worn throughout the process. The glass items should be cleaned after acid etching.

Administrative Information

Unit code: F1WX 34
Unit title: Art Glass: Acid Etching
Superclass category: JR
Original date of publication: August 2007
Version: 01

History of changes:

Version	Description of change	Date

Source: SQA

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Higher National Unit specification: support notes

Unit title: Art Glass: Acid Etching

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. Candidates should have previous knowledge of glass cutting and glass sandblasting.

Outcome 1

Tutor lead discussion of the types of masking materials which may be used and practical demonstration showing the methods of application of the masking materials. Masking materials that could be used are vinyl, acid resist tape or embossing black.

Tutor lead discussion on the specialist glasses ie flashed glass. Samples of the masking materials and samples of flashed glass could be made available to the candidate.

Outcome 2

Cutting tools and equipment could be demonstrated to the candidate by the tutor and evidence of successful preparation would be the item itself. The types of cutting tools which should be taught are scalpel, modelling knives, computer cutting plotters and electric vinyl cutting iron.

Candidates should be allowed ample time for practising cutting techniques and to become accustomed to the tools being used prior to assessment.

Outcome 3

Tutor lead discussion on the types of acid and on the dilution of acid. Tutor demonstration of applying acid paste to glass and the treatment of glass using Hydrofluoric Acid; the neutralizing of acid.

Acids that should be taught are pre mixed, acid paste and hydrofluoric acid. Neutralizers covered should be water and bicarbonate and slaked lime.

The health and safety procedures pertaining to acid work must be strictly adhered to and should be presented to candidates in written handouts.

Guidance on the delivery and assessment of this Unit

This Unit may be integrated with another appropriate Unit, such as FIRV 34 *Glass: Gilding*.

It is envisaged that Outcomes 1, 2 and 3 will be assessed holistically. Candidates should be observed and supervised during the acid etching process and protective clothing must be worn throughout the process. Observation schedules could be used to record candidates' practical performance.

Higher National Unit specification: support notes (cont)

Unit title: Art Glass: Acid Etching

Health And Safety at Work Act, Control of Substances Hazardous to Health and Personal Protective Equipment could be explained to candidates by the tutor using written teaching notes, videos and presentations.

Learning and teaching materials should be accessible and where applicable positively promote equality and cultural diversity.

Opportunities for developing Core Skills

There are opportunities to develop the Core Skills of Problem Solving in this Unit. Candidates will have to plan and organise materials and equipment for etching their three glass pieces and will evaluate the quality of their work on an on-going basis throughout the Unit.

There are also opportunities to develop the Core Skill of Working with Others at SCQF level 5 in this Unit. Throughout, candidates will have to co-operate with others in a workshop environment and will have to consider others when using acids which have particular health and safety implications. They will require to negotiate with their tutor to agree the designs and discuss how they might best be executed.

Open learning

This Unit is not suitable for Open Learning due to the equipment and workshop health and safety requirements inherent in the process of acid etching.

For further information and advice, please refer to the SQA document *Assessment and Quality Assurance for Open and Distance Learning* (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).

General information for candidates

Unit title: Art Glass: Acid Etching

This Unit is designed to enable you to develop skills and knowledge related to the manufacture and design of embossed acid etched glass.

You will learn of the types of masking materials which are suitable for use in acid etching. You will learn how to produce designs onto the masking material and cut out the areas which are to be etched. You will also learn of the types of cutting tools used.

You will gain knowledge of flashed glasses and their use in acid etching as well as the health and safety requirements relating to acid work. Health and safety and protective clothing are important elements of working with acid and you will learn how to protect yourself and others in the workshop environment.

You will be assessed using a practical project in which you will produce three acid etched designs on glass, one of which will be on flashed glass.

You will have opportunity to develop the Core Skills of problem solving and working with others within this Unit.