

Higher National Unit specification

General information for centres

Unit title: Glass Fusing: An Introduction

Unit code: F1X7 33

Unit purpose: This Unit is designed to introduce candidates to the basic skills and knowledge of glass fusing procedures. It is suitable for candidates wishing to advance to a higher level of study within the hot glass aspect of decorative glasswork or working in the glass industry.

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

- 1 Prepare and fuse glass samples for compatibility.
- 2 Conduct compatibility tests.
- 3 Prepare glass samples for slump point test.
- 4 Conduct a slump point test.
- 5 Follow health and safety procedures.

Credit points and level: 1 HN credit at SCQF level 6: (8 SCQF credit points at SCQF level 6*)

**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 which involve accurate glass cutting, kiln preparation and operation at SCQF level 5 or have practical experience.

Core Skills: There are opportunities to develop the Core Skills of Problem Solving at SCQF level 6 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: Candidates will have to demonstrate competence under studio working conditions in preparation of glass samples for compatibility testing and slump point testing, producing kiln fired samples relative to identified tests and conduct appropriate tests. All relevant data will be accurately recorded and evaluated.

General information for centres (cont)

This Unit can be assessed by two practical assignments. Candidates will have to demonstrate competence, under studio working conditions. The assessment for Outcomes 1 and 2 can be combined, as can the assessment for Outcomes 3 and 4. The assessment for Outcome 5, which relates to health and safety, should be ongoing and recorded in observation schedules used to record practical performance in the other Outcomes.

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

Prepare and fuse glass samples for compatibility

Knowledge and/or Skills

- ◆ Types of glass
- ◆ Techniques for preparing glass
- ◆ Setting up procedures
- ◆ Safe working techniques

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can, with reference to the compatibility tests conducted in Outcome 2, correctly:

- ◆ select different types of glass
- ◆ cut glass to recommended sizes as prescribed by the industry and glass manufacturers
- ◆ prepare glass samples to match test requirements
- ◆ position glass samples in kiln to match test requirements
- ◆ comply with health and safety requirements of equipment, materials and workshop

Evidence of candidate performance should be recorded on an observation schedule. Candidates should also maintain a workbook with data detailing the types of glass and the test being carried out.

Assessment Guidelines

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

Higher National Unit specification: statement of standards (cont)

Unit title: Glass Fusing: An Introduction

Outcome 2

Conduct compatibility tests

Knowledge and/or Skills

- ◆ Types of tools and equipment
- ◆ Kiln programming techniques
- ◆ Methods of recording data
- ◆ Health and safety requirements

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by correctly conducting **six** different compatibility tests. Candidates should be observed:

- ◆ programming the kiln to meet time and temperature needs
- ◆ conducting a polarised lens test on each of the six samples in accordance with industry guidelines
- ◆ recording data from the test samples as seen through the polarised stressometer

Evidence of candidate performance should be recorded in an observation schedule. Candidates should also:

- ◆ maintain a workbook or log with collated information from activities and procedures of Outcome 2
- ◆ evaluate the recorded data to determine types of glass that are compatible with each other

Assessment Guidelines

The assessment of this Outcome can be combined with Outcome 1. A centre devised observation schedule could be used to record the candidate's performance. Candidates are also required to log all their workshop activities in a workbook or log detailing the results of their work and evaluating the techniques used.

Candidates could exchange data with colleagues who have carried out the same tests with different types of glass. This could be encouraged through informal or formal means.

Higher National Unit specification: statement of standards (cont)

Unit title: Glass Fusing: An Introduction

Outcome 3

Prepare glass samples for slump point test

Knowledge and/or Skills

- ◆ Types of glass
- ◆ Techniques of preparing glass
- ◆ Methods of recording data

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can, with reference to the slump point tests conducted in Outcome 4, correctly:

- ◆ select different types of glass
- ◆ cut glass to recommended sizes as prescribed by the industry and glass manufacturers
- ◆ prepare six glass samples to match the requirements of the slump point test
- ◆ position test samples in kiln to meet the needs of the slump point test being carried out
- ◆ comply with health and safety requirements of equipment, materials and workshop

Evidence of candidate performance should be recorded on an observation schedule. Candidates should also maintain a workbook with recorded data from the procedures used in Outcome 3.

Assessment Guidelines

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

Outcome 4

Conduct a slump point test

Knowledge and/or Skills

- ◆ Kiln programming temperatures
- ◆ Ways of recording data
- ◆ Health and safety requirements

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can, with reference to a slump point test, correctly:

- ◆ programme the kiln to meet time and temperature needs for slump point testing
- ◆ conduct a visual test on each of the six samples in accordance with industry guidelines
- ◆ comply with health and safety requirements of equipment, materials and workshop

Evidence of candidate performance should be recorded in an observation schedule.

Higher National Unit specification: statement of standards (cont)

Unit title: Glass Fusing: An Introduction

In addition candidates should maintain a workbook or logbook to:

- ◆ record data from the test samples as visually observed with the naked eye
- ◆ evaluate the recorded data to determine the degree of slumping of the test pieces
- ◆ collate information from activities and procedures of Outcome 3

Assessment Guidelines

The assessment of this Outcome can be combined with Outcome 3. A centre devised observation schedule could be provided to record assessment. Candidates should record and evaluate data in a workbook/logbook. Candidates could exchange data with colleagues who have carried out the same tests with different types of glass. This could be encouraged through informal or formal means.

Outcome 5

Follow health and safety procedures

Knowledge and/or Skills

- ◆ Manufacturers' instructions
- ◆ Protective clothing and eyewear
- ◆ Health and Safety at Work Act (HASWA)
- ◆ Control of Substances Hazardous to Health (COSHH)
- ◆ Workshop protocol

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can research and follow health and safety requirements in the workplace situation. Evidence should be recorded on observation schedules which should include reference to:

- ◆ workplace tidiness
- ◆ consideration for colleagues
- ◆ following specific requirements for equipment used
- ◆ dealing safely with wastage
- ◆ use of correct protective clothing and eyewear

This Outcome should be assessed throughout the Unit when performance in the workshop is being observed.

Assessment Guidelines

The assessment of this Outcome should be integrated with Outcomes 1, 2, 3 and 4 with health and safety considerations being part of performance in each Outcome. Centre devised checklists should incorporate all aspects of health and safety.

Administrative Information

Unit code: F1X7 33

Unit title: Glass Fusing: An Introduction

Superclass category: WF

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Higher National Unit specification: support notes

Unit title: Glass Fusing: An Introduction

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.

Its purpose is to introduce candidates to the various tests that should be done prior to fusing, draping and slumping of glass.

The kind of materials which will be used in this Unit will include different types and makes of glass. Candidates should be familiar with the following types of glass — cathedral glass, antique glass and fusible glass. Candidates should learn about the use of kiln furniture and polarised lens stressometer. Where possible the candidates should use different types of kilns and programmers.

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. Manufacturers' catalogues and websites could be used as a source of reference for materials and equipment. Health and Safety should include use of personal protection clothing and equipment, HASW and COSHH.

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 option in the first year HND or in the HNC Group Award.

The work in this Unit is spread evenly in Outcomes 1, 2, 3, and 4 and it is recommended that the assessment for Outcome 5 is integrated with the other Outcomes.

The kind of assessments which could be used are the standard tests used by manufacturers and those working in the hot glass sector such as could be found in fusing textbooks, internet sources and specialist glass catalogues. Details of the tests can be obtained from glass manufacturers and the various glass reference books available from glass retailers. All tests can be downloaded from the internet.

Opportunities for developing Core Skills

Candidates develop their Problem Solving skills by determining the materials, tools and equipment which should be used to meet the specifications given. The skills are 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 disseminating data recorded from their tests.

Higher National Unit specification: support notes (cont)

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Working with Others is an integral part of operating in a workshop environment. Candidates will have to negotiate, with colleagues, time using specific equipment and may exchange ideas and results in certain cases. This is specifically mentioned in the Assessment Guidelines in Outcome 2 and in Outcome 4. This allows candidates to widen their knowledge and experience of different types of glass fusion. Candidates also need to be aware, at an early stage, of their responsibilities in terms of health and safety for their colleagues and their own safety.

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 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: Glass Fusing: An Introduction

In this Unit you will learn how to prepare for and conduct compatibility and slump point tests on a variety of types of glass. You will work on your own and at times with your colleagues and tutor.

You will be expected to safely work around a kiln and operate a kiln controller by entering various programmes that will facilitate the requirements of the tests.

You will observe all Health and Safety at Work Act (HASWA) regulations and conform to Control of Substances Hazardous to Health (COSHH) codes of practice throughout this Unit.

You will be expected to show evidence of data gathering and the ability to think critically. You will be required to maintain a workbook to record details of each test — what you did and the results from the tests you carried out. The sharing of information is helpful and you should exchange data with your colleagues where appropriate.

All the information you gather from the various tests will allow you to determine what make and type of glass can be successfully fused with one another.

You will be given the opportunity to develop the Core Skills of Problem Solving and Working with Others in this Unit. You will be working with other people and you will have to negotiate the use of workshop equipment and tools. You may also share the results of some of your tests with others in your group. In a workshop, you have responsibility not only for using the equipment safely but for ensuring you do not cause any health and safety problems for other people. This means that you will keep the workshop tidy and show consideration for other people in your group.

Your Problem Solving skills will be developed by planning, organising and carrying out the tasks assigned to you and you will have to make notes and evaluate how successful your glass fusing has been. You will log this kind of activity in a logbook or workbook which you should keep for further reference in your studies.