

T Level Technical Qualification in Construction

Carpentry and Joinery

**Guide exemplification material
Distinction – Sample 2021**

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Introduction

The sample assessment materials within this document refers to the carpentry and joinery sample occupational specialism assignment. The aim of these materials is to provide centres with examples of knowledge, skills and understanding that attest to distinction grade. The examples provided do not reflect all evidence from the sample assignment as the focus of this material is the quality and standards that need to be achieved rather than the volume of exemplar evidence provided. However, the examples provided are representative of all tasks in the sample assignment. It is important to note that in live assessments a candidate's performance is very likely to exhibit a spikey profile and standard of performance will vary across tasks. Threshold competence will be based on a synoptic mark across all tasks.

The materials in this GEM are separated into the sections as described below. Materials are presented against a number of tasks from the assignment.

Task – This section details the tasks that the candidate has been asked to carry out. What needs to be submitted for marking and any additional evidence required including any photograph/video evidence. Also referenced in this section are the assessment themes the candidates will be marked against when completing the tasks within it. In addition, candidate evidence that has been included or not been included in this GEM has been identified within this section.

In this GEM there is candidate evidence from:

Task 1

Task 2

Task 3

Task 4

Candidate evidence – This section includes a description of the task and how the task links to the relevant assessment themes. It may also include the candidates work, photographs/videos of the work in production (or completed) and practical observation records of the assessment completed by centre assessors. This will be actual evidence that was captured as part of the assessment and then internally marked by the centre assessor.

Commentary section - This section includes detailed comments to demonstrate how the candidate evidence attests to the standard of distinction competence by directly correlating to the grade descriptors for this occupational area. Centres can compare the evidence against the performance indicators in the marking grid descriptors within the assessor packs, to provide guidance on the knowledge, skills and understanding that needs to be achieved for distinction competence.

It is important to note that the commentary section is not part of the evidence or assessment but are evaluative statements on how and why that piece of evidence meets a particular standard.

Grade descriptors

To achieve a distinction a candidate will be able to:

Demonstrate an exemplary performance that fully meets the requirement of the brief, demonstrating excellent technical skills and techniques for carpentry, joinery production and fitting, and is able to enter the industry to begin to work in the occupational area.

They will demonstrate relevant and comprehensive knowledge and understanding of component production, assembly, finishing of carpentry and joinery as well as fitting joinery products and carpentry and joinery principles and processes.

They will work safely and make informed and appropriate use of tools, materials, and equipment within the construction environments that they are operating.

Competently and independently, they will interpret information, demonstrate excellent planning, assess risk, and follow safe working methods when applying the technical skills to practical tasks and procedures.

Carry out tasks to an exemplary standard as recognised by industry, producing an excellent quality of work that meets acceptable tolerances, regulations, and standards.

Solution focussed, confidently completing complex tasks and rectifying faults in carpentry and joinery. They will be able to accurately research, identify and rectify issues independently.

Consistently use industry terminology appropriately in both written and verbal contexts.

Task 1 - Prepare and plan for the production of complex timber-based products

(Assessment themes: Health and Safety and Design and Planning)

For task 1 candidates need to produce the following pieces of evidence:

- Method statement
- Risk assessment
- Material list also containing tools and equipment
- Cutting/component list
- Setting out rod, cutting and components list and head templates of window
- Setting out wall plate and ridge board/produce pattern rafter ready for roof construction
- Site measurements establishing the run of the roof, calculations of lengths and angles and quantity of materials required
- Communicate/present the work plan to the project manager including the rod and head template of the window prior to manufacture

For illustration, the guided exemplification materials (GEM) for Task 1 contain examples of candidate evidence for the following assessment requirements only:

- Risk assessment
- Cutting/components list
- Setting out rod
- Communicate/present the rod detail prior to manufacture
- Assessor observation of the rod production and presentation of the rod detail to the project manager

The following task 1 candidate assessment requirements have not been included as example candidate evidence for this version of the guided exemplification materials.

- Measurements of the site location/work area to be confirmed by the assessor through observation at the start of the planning activity
- Method statement
- Material list also containing tools and equipment
- Site measurements establishing the run of the roof, calculations of lengths and angles and quantity of materials required
- Setting out wall plate and ridge board/ produce pattern rafter ready for roof construction
- Assessor observation of the head template of the window prior to manufacture
- Assessor observation of pattern rafter ready for the roof construction

Candidate evidence

Task 1 – Risk assessment

Window and roof construction, Assembly and Fix			
Hazard	Risk	Control	Probability
Manual handling	Risk of strain/injury	Follow the manual handling procedures	Low
Working at height	Falls from height	PPE use appropriate access equipment.	Low
Slips, trips and falls	Risk of injury	Work in a tidy manner, keep leads out of the way, safe storage of tools, good lighting, regularly clean up debris and dispose of safely	Low
Falling objects	Risk of Injury	Wear PPE/safety boots	Low
Machine use	Risk of injury/death	Trained on use of machine before use, read manufacturer's instructions. Use guards and safety aids. Inspection of machine and tooling prior to use. PPE as per power tools. Use LEV.	Low
Breathing in saw dust	Risk of injury	PPE. Wear appropriate respirator/dust mask and or LEV. Observe COSHH requirements	Low
Flying debris	Risk of injury	Use guards. Use PPE (safety glasses) use LEV Training.	
Handling power tools	Risk of injury	Ensure operatives are trained to use power tools, use guards. Inspect tooling regularly for damage, sharpness. Use of LEV to reduce dust. Wear PPE, safety glasses for eyes, ear protection, gloves if necessary, safety footwear.	Low
Handling hand tools and equipment	Cuts, abrasions, inhalation of dust	Keep tools in safe place. Good training of operatives. Keep tools sharp so less force is required, reducing the risk of slipping. Use of gloves where appropriate	Low

Commentary

The candidate demonstrates thorough knowledge and understanding of the types of risks and hazards that accompany the given tasks. The candidate has completed a very comprehensive and complete risk assessment specifically aligning all the risk/hazards identified to relevant controls and their probability of taking place. It is clear, easy to follow and fully articulates the identification of all risks/hazards, the controls and probability for the tasks.

Candidate evidence

Task 1 – Cutting/Component list

Item/part	Name	Description	Qty	Species /Material	TH x W x L					Comments
					EX/sawn width mm	EX/sawn thickness mm	Fin. Width mm	Fin/planed thickness mm	Length mm	
Jambs	J1		2	poplar	75	50	69	44	490	PSE
Head sections	HS1		2	poplar	100	50	95	44	500	PSE
Cill	C1		1	poplar	75	50	69	44	500	PSE
Head template	HT1		1	MDF	---	---	100	12	600	Over length to allow over-run each end
Subcill	SC1		1	poplar	100	50	94	44	500	Pre moulded stock
Loose tongue	LT1		1	Plywood	---	---	100	9	200	To join at apex
Dowels	D		4	Hardwood	---	---		9	100	To join sides and apex

Commentary

The candidate demonstrates excellent technical knowledge of the cutting and component list required for the tasks, identifying all the required components required with logical groupings including requirements for the joints at springing line and joint material at apex. All sizes are present, with a clear 6mm allowance for planing up the timber. The candidate has shown excellent knowledge and understanding of the material requirements for the gothic window with a comprehensive, easy to follow list, with all information required to perform the tasks.

Candidate evidence

Task 1 – Setting out rod (rod production) and communication of rod detail to the project manager

Practical Observation Form

Assessment ID	Qualification number
8711-306	8711-36
Candidate name	Candidate number
Candidate A	CG12345
Centre name	Assessment theme
City & Guilds	Setting out details by rod

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Task	Notes – detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.
Setting out details by rod	<p>Setting out/rod production</p> <p>The candidate measured the work areas accurately, remeasured and noted down the measurements.</p> <p>The candidate used the correct methods to set out the rod to the correct overall size and set out to the correct shape containing correct line weights with no smudging or erased lines.</p> <p>Good detail given to joints, hidden detail shown in broken line, with appropriate proportions and a lot of thought being put into how the curved sections will be joined at the apex and at the springing line.</p> <p>Loose tongue joint selected for the apex and this is detailed correctly in the drawing, including position of draw-dowels.</p> <p>Tongue positioned in such a way that it will not become exposed in the rebate. Bridle joint selected for joint at springing line, correctly.</p> <p>Section details accurate and correct, with measurements of rebate and moulding accurate within 0.5mm</p> <p>Rod is annotated, easy to use.</p> <p>The rod is clean, accurate and is easy to read.</p>

Task	Notes – <i>detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.</i>
	<p>Communication of rod detail</p> <p>The candidate communicates the rod detail fluidly providing an accurate explanation of the rod without any lapses, was clear and detailed and maintained consistent interaction and positive body language throughout.</p> <p>The candidate was able to provide a comprehensive explanation for the rod. Terminology was used correctly and expansively.</p>

Assessor signature	Date
Assessor A	15/12/2020

Commentary

The candidate demonstrates an excellent understanding on how to set out details by rod. Producing an exemplary rod with comprehensive detail and accurate within 0.5mm recreating the gothic arch shape, which was correctly centred. The drawing was accurate, detailed and without smudge lines. Joint positions and proportions were all accurate and fully meet the specification requirements. The rod was communicated with a fluid presentation and excellent interaction and body language. The candidate used terminology and language correctly throughout. Overall excellent representation of the rod.

Task 2 - Produce complex timber-based products

(Assessment themes: Health and Safety, Produce complex timber-based products)

For task 2 candidates need to produce the following pieces of evidence:

- Production of components for the gothic arched window and cut roof

For illustration, the guided exemplification materials (GEM) for Task 2 contain examples of candidate evidence for the following assessment requirements

- Assessor observation of jointed and moulded window components ready for assembly
- Assessor observation of first common rafter for main roof

Photographic/video evidence required:

- Photographic evidence of jointed components, joints prior to dry fitting (shoulder lengths, and in comparison, to marking out) - *Illustrated in Task 2 photographic/video evidence section below (photographs 1 - 7)*
- Photographic evidence of completed rafter construction - *Illustrated in Task 2 photographic/video evidence section below (photographs 8 - 10)*

Candidate evidence

Task 2 – Produce timber-based products

Practical Observation Form

Assessment ID	Qualification number
8711-306	8711-36
Candidate name	Candidate number
Candidate A	CG12345
Centre name	Assessment theme
City & Guilds	Produce complex timber-based products

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Task	Notes – detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.
Produce complex timber-based products – Window and Roof	<p>Window and roof:</p> <p>The candidate followed an efficient and logical order for both window and roof. Calculations were accurate and attention paid to all defects and the effects of these were minimised correctly (cut out and put to rear). Marking out was secure and accurate.</p> <p>Joints accurately cut, and fit “off the saw” with minimal paring or “doctoring” of joints (shoulder or face of tenons) required.</p> <p>Tolerances across both window and roof products exceed given tolerances.</p> <p>The completed window and roof were of an excellent quality with a defect free finish and assemble ready.</p> <p>The selection and use of tools and equipment were correct through all tasks. The candidate showed excellent handling skills and maintained the tools well throughout the task.</p> <p>Continuous consideration to safe and efficient operation of power tools. LEV used to prevent excess dust.</p> <p>The candidate inspected the machines thoroughly before use and the candidate operated the machines professionally with a high degree of accuracy.</p> <p>Minimal waste of materials (within tolerance).</p> <p>All work areas kept clean, working safely throughout and waste removed and disposed of in line with legislation.</p>

Assessor signature	Date
Assessor A	15/12/2020

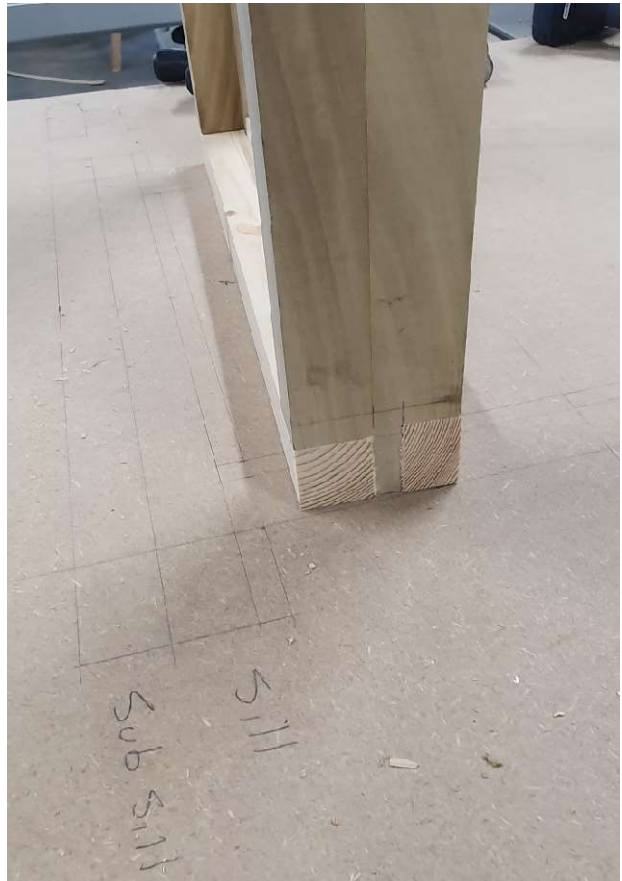
Photographic/video evidence for Task 2

Photographs 1 – 7 – Images show measurements and marking out of components, with accuracy, complete jointing and detail tolerances,



Gothic window mason mitre.

Gothic window side tenon showing clean and thorough measuring and marking out with a neat and tidy working area.

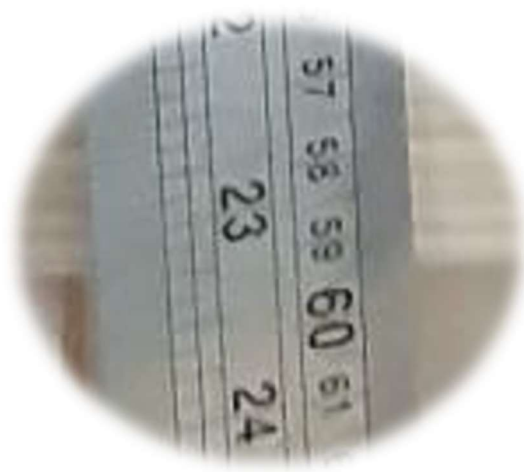




Gothic window loose tenon joint showing accuracy in joints from accurate measuring, marking and cutting of components before dry fitting.

Loose tenon with small gap not exceeding 1mm





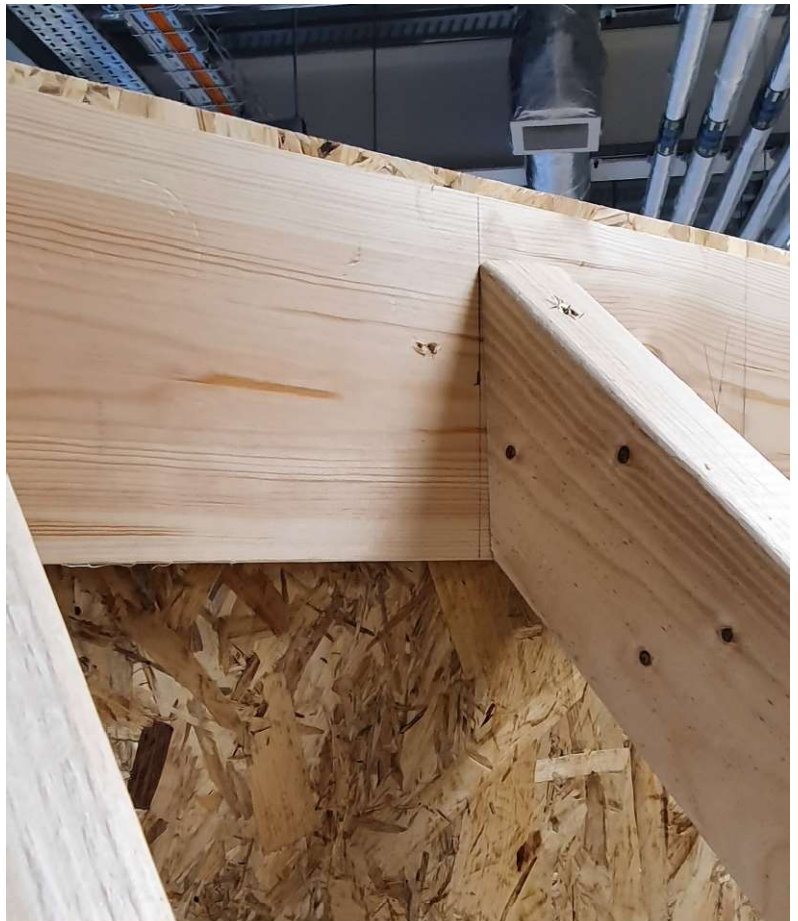
Gothic window height within 1mm of the stated dimension.

Gothic window within 1mm of the stated width.



Photographs 8, 9 and 10 – Images show a high-quality finish of the completed rafter construction.

Rafter meets the ridge, showing clear and accurate marking out ensuring the rafter is plumb with no gaps exceeding 1mm.



Rafter overhang run in line with gaps not exceeding 1mm.



Image shows completed construction and fully cleared and tidy working area with no remaining waste or debris.

Commentary

The candidate demonstrated excellent knowledge of the task requirements, setting out and planning the work well. All of the defects taken into consideration and minimised as part of the preparation with knots placed appropriately to reduce impact. The tools and equipment were identified and calculations and marking out was accurate. The candidates demonstrated excellent understanding of the production process using exemplary techniques and skills when producing the roof/window components. The candidate used tools and machinery correctly and in line with health and safety regulations and manufacturer's instructions. Overall, the candidate produced excellent quality components for both the carpentry and joinery products (exceeding tolerance), in ready for assembly with minimal adjustment during dry fit.

Task 3 - Assemble and fix complex timber-based products

(Assessment themes: Health and Safety, Assemble and fix complex timber-based products)

For task 3 candidates need to produce the following pieces of evidence

- Assemble and finish of the gothic arched window and roof

For illustration, the guided exemplification materials (GEM) for Task 3 contain examples of candidate evidence for the following assessment requirements

- Assessor observation of finished gothic arched window ready for decorative finish
- Assessor observations of roof complete with dormer ready for window to be fitted

Photographic/video evidence required

Window:

- Photographic evidence of finished faces, including inside faces, fit of shoulders and all joint fittings - *Illustrated in Task 3 photographic/video evidence section below (photograph 11 – 13)*

Roof:

- Photographic evidence of roof showing fit of rafters' top and bottom - *Illustrated in Task 3 photographic/video evidence section below (photograph 14 – 17)*

Candidate evidence

Task 3 – Assemble and fix complex timber-based components

Practical Observation Form

Assessment ID	Qualification number
8711-306	8711-36
Candidate name	Candidate number
Candidate A	CG12345
Centre name	Assessment theme
City & Guilds	Assemble and fix components

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Task	Notes – <i>detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.</i>
Dry fit and adjust components	<p>Window:</p> <p>The candidate followed an efficient and logical sequence, with good forethought and planning and consistent checking as dry fit progressed. Window dry fitted as a whole, laying it on a flat surface to check fit of shoulders. Minimal adjustments required, as the components were well produced. Apex joint dry fitted with draw dowels to check dowel bore position.</p> <p>All inside edges cleaned up prior to assembly.</p> <p>Not required for roof:</p>
Assemble/fix components	<p>Window:</p> <p>The candidate prepared the area for assembly of window, with bench bearers in place along with cramps, adhesives, components, and all required tools ready before final assembly began. Assembly progressed smoothly, with just a little adjustment required at the apex to line the two sections properly. Overall, well assembled with close joints, cramping blocks used, no damage to stiles from assembly. Faces flushed with smoothing plane, all edges finished to a high standard. No adhesive residue, as all excess was wiped away with damp cloth immediately after assembly.</p> <p>No shown error and an excellent quality finish.</p>

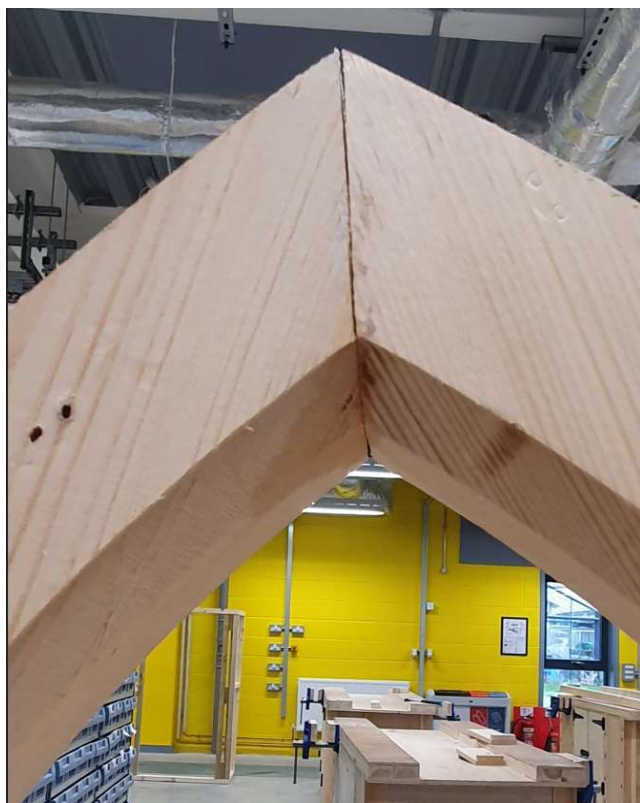
Task	Notes – detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.
	<p>Finished product fully protected from damage and all work areas kept clean, working safely throughout.</p> <p>Roof:</p> <p>The candidate laid out the roof ready for assembly with all components, equipment, and tools ready prior to commencing erection of roof structure. All components fixed accurately, with only one minor gap in a plumb cut due to a slight twist to one component. Dimensions are correct and to specification meeting tolerances. No damage to rafters whilst fixing. All components securely fixed.</p> <p>Overall sizes are correct well within tolerances and the finished roof is of an excellent quality, structurally sound with no movements in joints.</p>

Assessor signature	Date
Assessor A	15/12/2020

Photographic/video evidence for Task 3

Window:

Photographs 11, 12 and 13 – Images show finished faces, including inside faces, fit of shoulders and all joint fittings. Outside edge showing joint fit and wedging, close up and will show clean faces without abrasions.



Mitre to gothic finial tight with no gap exceeding 1mm

Mitre to rebated mortise and tenon tight within 1mm.

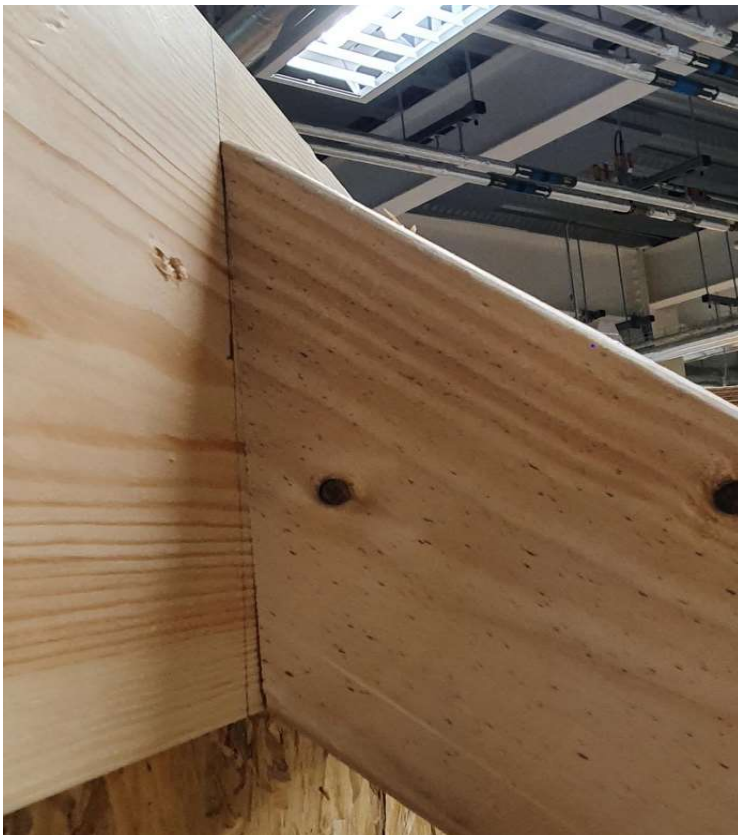


Dormer face within 2mm of the stated 400mm.

Roof:

Photographs 14, 15, 16 and 17 – Images show rafters' fit to the wall plate, showing high quality finish without defects and detail tolerances.

Rafter birdsmouth cut within 1mm to the wall plate.



Rafter plumb cut tight to wall plate with no gap exceeding 1mm. Securely fixed.

Rafter centres within 1mm of the stated 400mm.



Rafter plumb fascia cut within 1mm to the stated 150mm overhang.

Commentary

The candidate demonstrated exemplary knowledge and skills to dry fit, assemble and fix the complex timber-based products and components of the task to specification. The candidate prepared well and used tools correctly and showed excellent technique. Joints were fitted accurately with minimal adjustments required. One minor gap in a plumb, otherwise all tolerances met or exceeded. The candidate handled the components carefully without damage. The candidate worked safely and logical throughout the task. Overall, an excellent quality of finish for both the window and roof structure.

Task 4 - Install complex timber-based products and components

(Assessment theme: Health and Safety, Install complex timber-based products and components)

For task 4 candidates need to produce the following pieces of evidence

- Gothic arch window fitted to dormer opening

For illustration, the guided exemplification materials (GEM) for Task 4 contain examples of candidate evidence for the following assessment requirements

- Assessor observation of gothic arch window fitted to dormer

Photographic/video evidence required

- Photographic evidence of horns cut off and finish to the ends - *Illustrated in Task 4 photographic/video evidence section below (photograph 18)*
- Photographic evidence showing plumb and level of window fitting - *Illustrated in Task 4 photographic/video evidence section below (photographs 19 – 23)*

Candidate evidence

Task 4 - Install complex timber-based products and components

Practical Observation Form

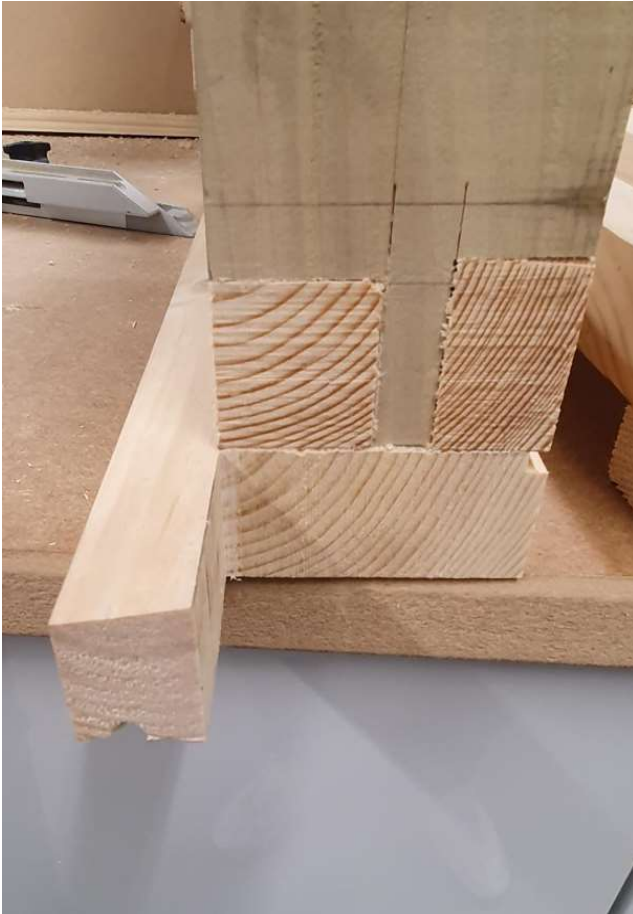
Assessment ID	Qualification number
8711-306	8711-36
Candidate name	Candidate number
Candidate A	CG12345
Centre name	Assessment theme
City & Guilds	Installation of item

Complete the table below referring to the relevant marking grid, found in the assessment pack. Do not allocate marks at this stage.

Task	Notes – detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.
Installation of item	<p>The candidate protected the area fully and handled the items carefully to prevent from damage. The candidate followed an efficient and logical sequence for the installation.</p> <p>Exemplary use of all equipment and tools. Horns removed neatly from window, with no breakout. Handled carefully to avoid any damage to edges or faces.</p> <p>The candidate set up well with a horse to carry out cuts safely and efficiently. Window fixed to opening plumb, and well within tolerance and secure.</p> <p>No damage to item when being fixed. The completed work is finished to a high quality standard.</p> <p>Clean workstation throughout task, tools neat, all debris correctly disposed of and safe working procedure demonstrated throughout the task.</p>

Assessor signature	Date
Assessor A	15/12/2020

Photographic/video evidence for Task 4



Photograph 18 – Image shows close up of all horns removed neatly and high quality finish to the ends with rebated mortise and tenon with gaps not exceeding 1mm.

Photographs 19 – 23 – Images show plumb spaces and level of window fitting, with the window installed level in the dormer within 0.5mm.





Gothic window installed plumb to the dormer within 0.5mm.

Dormer face plumb within 1mm.



Commentary

The candidate demonstrated excellent knowledge and skills to install the window component. The candidate ensured the area was thoroughly protected and items handled carefully. The candidate was able to install the window component, without damage. It was positioned correctly to plumb, level and spaced accurately. Considerable care was given when fixing the finished item. All work areas kept clean and safe working procedure demonstrated throughout the task. The installation and quality of finish is of a very high standard.



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