

T Level Technical Qualification in Construction

Carpentry and Joinery

Guide exemplification material
Threshold competence – 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 minimal threshold competence. 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. Minimal 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 minimal threshold 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 minimal threshold 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 pass (threshold competence), a candidate will be able to:

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

They will be able to interpret information, demonstrate planning, assess risk, and follow safe working methods when applying practical skills to an acceptable standard as recognised by industry.

Demonstrate basic knowledge and understanding of the principles and processes required for carrying out a range of carpentry and joinery work to a good standard.

They will work safely showing a working understanding in the selection and use of tools and equipment and demonstrate a basic awareness of straightforward setting out, component production, assembly, finishing of carpentry and joinery as well as fitting joinery products.

Attempt some complex tasks and the level of performance meets acceptable level.

Identify routine causes of carpentry and joinery faults and have some knowledge in how to rectify them.

Communicate with stakeholders building sound working relationships to support the planning and execution of a brief.

Mostly use industrial terminology accurately 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 rod detail 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	Low

Falls	Trips and slips	Keep all work areas and electrical cables clear and tidy	Low
Dropping materials on feet	Risk of Injury	Wear PPE/safety boots	Low
Congested work area	Trip hazards	Maintain clean and tidy work area	
Breathing in saw dust	Risk of injury	Wear a dust mask	Low
Handling tools and equipment/machines	Cuts, abrasions, inhalation of dust	Use PPE keep tools safely stored. Use tools correctly.	Low

Commentary

The candidate demonstrates good technical knowledge of the types of risks and hazards associated with the tasks, having identified the majority of hazards and associated risks. However, the candidate did not include disposal of waste and waste products and use of machines as a separate risk/hazard. The candidate demonstrates some understanding of controls and mitigation required for the given tasks but some lack relevant detail, for example working at height does not detail appropriate access equipment. The probability of each of the hazards/risks occurring has been attempted but with some minor omissions i.e., in congested work areas.

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	
Stiles	S1		2		75	50	69	44	390	
Head sections	HS1		2		100	50	95	44	400	
Rail	R1		1		75	50	69	44	420	
Cill	C1		1		100	50	94	44	420	
Head template	HT1		1		100	12	—	—	420	

Commentary

The candidate demonstrates good technical knowledge of the cutting and component list required for the tasks, having identified the majority of components required with logical groupings shown. However, the candidate did not include species of timber/material and there are small omissions in components including loose tongue and dowels. Although the cutting/component list shows some small omissions, it will inform the machining of the required joinery components 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	Setting out/rod production The candidate measured the work areas correctly and went back on a couple of occasions to re check measurements as they had written them down. The candidate used the correct methods to set out the rod and the set out is accurate within 2mm with the shape is correct and within 1mm. The candidate constructed the gothic arch shape correctly, with an equilateral triangle, used at the springing line to form the shape with correct centres for the arcs. Suitable jointing methods chosen for joints, including apex. The drawing contained sufficient detail, but some lines are smudged, where an eraser has been used to make corrections.

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>Components are correctly positioned on the rod and the tenons are of suitable proportions, with only one or two slightly out.</p> <p>Joints positions are accurate, bar one or two minor errors, with detail given to joints at apex and springing line. Some detail is missing (haunch depth details). Hidden detail not shown in broken lines.</p> <p>Sectional details given within 1mm.</p> <p>Rod produced for the window with all joint and sectional detail required for production to a good standard.</p> <p>Communication of rod detail</p> <p>The candidate was able to communicate the rod detail with a reasonably fluidly presentation which provided an accurate explanation of the rod production with only minor lapses in concentration and some detail missing (some sectional detail for production). Overall sound eye contact and interaction.</p> <p>Terminology was used correctly, although not extensively.</p> <p>.</p>

Assessor signature	Date
Assessor A	15/12/2020

Commentary

The candidate demonstrates a good understanding on how to set out details by rod. Producing a satisfactory rod with sufficient detail and correct sizing within tolerances. The candidate correctly reproduced the gothic arch shape which was centred correctly. The drawing was accurate however there were some smudged lines. Joint positions and proportions were in the main accurate with only minor errors. Overall good representation of the rod which is fit for purpose. The rod was communicated well with a reasonably fluid presentation and sound interaction and sound body language. However, there was some minor lapses of concentration and omission in detail. The candidate used terminology correctly when communicating the rod detail.

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 XX TBC)*
- Video evidence of production of rafter construction at the start and toward its completion - *Illustrated in Task 2 photographic/video evidence section below (videos XX TBC)*
- Photographic evidence of completed rafter construction - *Illustrated in Task 2 photographic/video evidence section below (photographs XX TBC)*

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 – <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>
Produce complex timber-based products – Window and Roof	<p>Window:</p> <p>The candidate followed a logical order whilst producing the window. Marking out and calculations were accurate with sound attention to detail. However, there was one small error where the candidate did not mark the jambs as a pair and subsequently one required replacing. However, the candidate realised the error and rectified it correctly on their second attempt.</p> <p>Most of the defects were removed and rectified bar a small knot incorrectly positioned on a jamb.</p> <p>Sectional detail and joints were all within 2mm tolerances.</p> <p>The components were completed and ready to assemble and was of a good quality finish.</p> <p>Roof:</p> <p>The candidate once again followed a logical method, setting out all rafters from the pattern correctly bar the final one, which was marked out from another rafter.</p> <p>Jointing carried out with only minor adjustments required.</p> <p>The overall finish was of a good standard and within tolerances and assembly ready.</p> <p>Finished joints within 2mm tolerances.</p> <p>The selection of tools and equipment for both parts of the task were correct, bar one omission where a tenon saw was selected for cutting plumb cut on rafter, with the brass back preventing a full depth cut. This was rectified after the candidate realised the mistake, selecting the correct hand saw. The candidate showed good hand skills through the task bar minor errors on a few cuts requiring adjustments with a plane, and a few splits resulting from not taking enough care when finishing the cut with the last saw stroke. Power tools were used correctly, and in a safe manner.</p> <p>The candidate used the machines safely, carrying out a full inspection before use and the candidate worked with accuracy with only minor adjustments required.</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

- Photographic evidence of jointed components

Placement Holder – Photographic evidence will show measurements and calculations made, setting up and marking out (including face marks, mortice/shoulder lines and gauging lines). All joint components production during construction, at beginning, middle and upon completion and joints prior to dry fitting (shoulder length and in comparison, to setting and marking out). To include tool and machine work. Photographs may show minor defects remaining, imperfections/readjustments made and detail tolerances including waste, where required.

- Video evidence of production of rafter construction at the start and toward its completion

Placement Holder – Video evidence will show sequenced frames of the production of the first crafter, with beginning, middle and close to completion sequences and will include any minor imperfections/readjustments/rectifications and detail tolerances including waste, where required. To include tool and machine work.

- Photographic evidence of completed rafter construction.

Placement Holder – Photographic evidence will show pattern marked out clearly with margin. Completed rafter construction with close up of front and side elevation detailing plumb and birdsmouth cuts. Photographs will show minor errors/omissions in completed construction

Commentary

The candidate demonstrated good knowledge of the task requirements, setting out and planning the work well. Most of the defects were rectified as part of the preparation bar one omission. The tools and equipment were identified and calculations and marking out was accurate. The candidates demonstrated good understanding of the production process using good techniques and skills when producing the roof/window components. However, there was one small error where the candidate did not mark the jambs as a pair and subsequently one required replacing. However, the candidate rectified it correctly on their second attempt. The candidate used tools and machinery correctly and in line with health and safety regulations and manufacturer's instructions, with only small minor handling errors. Overall, the candidate produced a sound quality finish, to both the carpentry and joinery products (within tolerance), in ready for assembly.

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:

- Video evidence of the gothic arched window in construction and at completion with quality of finish shown - *Illustrated in Task 3 photographic/video evidence section below (video XX TBC)*
- Photographic evidence of finished faces, including inside faces - *Illustrated in Task 3 photographic/video evidence section below (photograph XX TBC)*
- Photographic evidence of faces and joint fittings - *Illustrated in Task 3 photographic/video evidence section below (photograph XX TBC)*

Roof:

- Video evidence of the roof in construction and at completion with quality of finish shown - *Illustrated in Task 3 photographic/video evidence section below (video XX TBC)*
- Video evidence of dormer in construction and at completion with quality of finish shown - *Illustrated in Task 3 photographic/video evidence section below (video XX TBC)*
- Photographic evidence of roof showing fit of rafters' top and bottom - *Illustrated in Task 3 photographic/video evidence section below (photograph XX TBC)*

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 – 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.
Dry fit and adjust components	<p>Window:</p> <p>The candidate followed a logical order, checking as dry fit progressed. The candidate did not use bench bearers, making the dry fit process difficult, but did eventually use a piece of MDF to get the window flat. The fit of the joints should now meet tolerance upon assembly. Good tool use in general but some inside faces were slightly scruffy with some grain split out from the face of the tenons where adjustments had been made with a chisel that was not very sharp. The loose tongue joint fit could have been a closer fit; however, it meets requirements (within 1mm tolerance) with a draw-pin being used to check if the joint pulls up.</p> <p>Some inside edges not 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, with equipment and tools ready prior to assembly other than wedges, when the frame was assembled with adhesive the candidate realised there were no wedges and had to make some quickly. Assembly and fix meet the specification bar a couple of minor errors, including use of a sheet of MDF for assembly, which created an issue with adhesive seeping out at the rear of the window and getting smeared all over the reverse face. Some slight damage to the outside edges as the candidate did not use cramping blocks with the sash cramp. Apex joint pulled tight using dowels.</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>All wedges and dowels trimmed; some minor saw marks left on one stile. Faces flushed with plane, horns removed with minor split to one stile. Some inside edges not cleaned up with some pencil marks and minor adhesive marks evident. One wedge oversize due to over-easing of the tenon. Faces cleaned up with sandpaper.</p> <p>However overall, well assembled with only a few gaps in joints (but within tolerance) and sound quality finish.</p> <p>Finished product protected from damage and all work areas kept clean, working safely throughout.</p> <p>Roof:</p> <p>The candidate prepared the area for assembly, marking out complete and with equipment and tools ready prior to assembly. Assembly and fix meet the specification bar prior to commencing the erection of roof structure. Some components not fixed accurately or tightly enough, resulting in some minor gaps and some inaccurate centres (although within tolerance).</p> <p>Some minor bruising from use of hammer when fixing rafters, with several nails becoming bent, then straightened, but minimal splitting and the joints were soundly fixed.</p> <p>Overall, the sizes are in tolerance and the finished roof is structurally sound with little movements in joints.</p> <p>Good dormer design, with appropriate fall to flat roof.</p> <p>Finished product protected from damage and all work areas kept clean, working safely throughout.</p>

Assessor signature	Date
Assessor A	15/12/2020

Photographic/video evidence for Task 3

Window:

- Video evidence of the gothic arched window in construction and at completion with quality of finish shown

Placement Holder – Video evidence will show sequenced frames of the assembly of the gothic arched window at beginning, middle and upon completion. It will show dry fit, component adjustment and assembly fit and will include any minor errors and any readjustments/rectifications and detail tolerances. To include video sequence of final finish.

- Photographic evidence of finished faces, including inside faces

Placement Holder – Photographic evidence will show finished faces, including inside faces. Outside edge showing joint fit and wedging, close up and will show any minor abrasions, surface splitting.

- Photographic evidence of faces and all joint fittings

Placement Holder – Photographic evidence will show fit of shoulders, finished faces including inside faces and all joints of the window and tolerances. Photographs will show any minor errors and gaps in joints.

Roof:

- Video evidence of the roof in construction and at completion with quality of finish shown

Placement Holder – Video evidence will show sequenced frames of the assemble and fix of the roof at beginning, middle and upon completion. It will show component adjustment and assemble fit, straight edge over the tops of the rafters to indicate accuracy and will include any minor errors and any readjustments/rectifications and detail tolerances. To include video sequences of final finish.

- Video evidence of dormer in construction and at completion with quality of finish shown

Placement Holder – Video evidence will show sequenced frames of the dormer in the assemble and fix at beginning, middle and upon completion. It will include any minor fixing/joint errors and any readjustments/rectifications and detail tolerances. To include video sequence of final finish.

- Photographic evidence of roof showing fit of rafters' top and bottom

Placement Holder – Photographic evidence of roof showing fit of rafters' top and bottom. Photos will show any minor errors and surface splitting, minor abrasions. and any readjustments/rectifications and detail tolerances. To include photographs of final finish.

Commentary

The candidate demonstrated good knowledge and skills to dry fit, assemble and fix the complex timber-based products and components of the task to specification. They used tools correctly with only minor omissions that created only minor surface defects. Inside faces were cleaned up prior to assembly bar a couple of omissions, including a slightly scruffy face on the window and imperfections to the edges. Overall joints accurate with only one or two minor gaps, but all within tolerance and the window is well wedged/dowelled together with no movement.. The candidate handled the components carefully with only minor damage on fixing the roof to the rafter. The candidate worked safely and logical through task. Overall, a good quality of finish for both the window and roof.

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 (photographs XX TBC)*
- Video evidence of gothic arched window fitting into the dormer. Video sequence to show start of fitting, middle and completion, showing the finished installation - *Illustrated in Task 4 photographic/video evidence section below (video XX TBC)*
- Photographic evidence showing plumb and level of window fitting - *Illustrated in Task 4 photographic/video evidence section below (photographs XX TBC)*

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 – <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>
Installation of item	<p>The candidate protected the area and handled the items carefully to prevent them from damage and followed a logical order for the installation and fixings.</p> <p>The candidate handled the window carefully and the horns were removed neatly from window. However, there was one breakout on one arris during the final cut with a saw, which has left a small mark on the underside of the subcill and slight damage to the window when the screwdriver slipped from the screw and bruised the surface.</p> <p>Finished position correct with window fixed to opening, plumb, level and to tolerance and secure.</p> <p>The completed work is finished to a good quality standard.</p> <p>All work areas kept clean, safe working procedure demonstrated throughout the task.</p>

Assessor signature	Date
Assessor A	15/12/2020

Photographic/video evidence for Task 4

- Photographic evidence of horns cut off and finish to the ends

Placement Holder – Photographic evidence will show close up of horns cut off and finish to the ends. Photographs will contain any omissions and breakouts.

- Video evidence of gothic arched window fitting into the dormer

Placement Holder – Video evidence will show sequenced frames at the start, middle and at completion of gothic arched window installation to dormer. Close up of quality of finish, which may include any damage during final installation.

- Photographic evidence showing plumb and level of window fitting

Placement Holder – Photographic evidence will show plumb, spacing and level of window fitting and detail tolerances. May include slight omissions and errors.

Commentary

The candidate demonstrated good knowledge and skills to install the window component. The candidate ensured the area was protected adequately and items handled carefully to ensure minimal damage. The items were positioned correctly to plumb, level and spaced accurately to specification within tolerance. Fixings carried out with some damage to the inside face. The candidate showed good knowledge and skill, using tools correctly with a slight omission that created slight damage and bruising to the window surface. All work areas kept clean and safe working procedure demonstrated throughout the task. Overall a sound quality of finish on final installation.



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