WORLDSKILLS STANDARD SPECIFICATION

Skill 26

Carpentry

THE WORLDSKILLS STANDARDS SPECIFICATION (WSSS)

GENERAL NOTES ON THE WSSS

The WSSS specifies the knowledge, understanding and specific skills that underpin international best practice in technical and vocational performance. It should reflect a shared global understanding of what the associated work role(s) or occupation(s) represent for industry and business (www.worldskills.org/WSSS).

The skill competition is intended to reflect international best practice as described by the WSSS, and to the extent that it is able to. The Standards Specification is therefore a guide to the required training and preparation for the skill competition.

In the skill competition the assessment of knowledge and understanding will take place through the assessment of performance. There will not be separate tests of knowledge and understanding.

The Standards Specification is divided into distinct sections with headings and reference numbers added.

Each section is assigned a percentage of the total marks to indicate its relative importance within the Standards Specification. The sum of all the percentage marks is 100.

The Marking Scheme and Test Project will assess only those skills that are set out in the Standards Specification. They will reflect the Standards Specification as comprehensively as possible within the constraints of the skill competition.

The Marking Scheme and Test Project will follow the allocation of marks within the Standards Specification to the extent practically possible. A variation of five percent is allowed, provided that this does not distort the weightings assigned by the Standards Specification.

WORLDSKILLS STANDARDS SPECIFICATION

SECTION		RELATIVE IMPORTANCE (%)
1	**Work organization and management**	**5**
	The individual needs to know and understand: • Health and safety legislation, obligations, regulations and documentation • The situations when personal protective equipment (PPE) must be used • The purposes, uses, care, maintenance and storage of tools/equipment safe handling implications • The purposes, uses care and storage of materials and safe handling implications • The significance of keeping a clean and tidy work area • Sustainable methods and materials in construction work • The significance of planning, accuracy, checking and attention to detail in all working practices	

	The individual shall be able to: • Follow health and safety standards, rules and regulations • Maintain a safe working environment • Identify and use the appropriate personal protective equipment including safety footwear, ear, eye and dust protection • Select, use, clean, maintain and store all hand and powered tools and equipment safely, following manufacturers' instructions • Select, use and store all materials safely • Plan the work area to maximize efficiency and maintain the discipline of regular tidying and cleaning • Measure accurately and avoid wastage	
2	**Business, communication and interpersonal skills**	**5**
	The individual needs to know and understand: • Non-verbal communication such as drawings and specifications • The roles and requirements of architects and related trades and the most effective methods of communication	
	The individual shall be able to: • Estimate quantities required • Respond positively to any feedback from colleagues, managers and customers and take any necessary actions	
3	**Problem solving, innovation and creativity (10%)**	**10**
	The individual needs to know and understand: • The common types of problem which can occur within the work process e.g. timber defects • Diagnostic approaches to problem solving • Trends and developments in the industry e.g. energy efficiency	
	The individual shall be able to: • Check work regularly, particularly for accuracy and standard • Recognize and understand problems swiftly and follow a self-managed process for resolving them • Challenge incorrect information to prevent problems • Keep up to date with changes in the industry	
4	**Reading and interpreting drawings and written instructions**	**10**
	The individual needs to know and understand: • The relationships between parts of the project • How to interpret views and projections • Geometry, trigonometry and triangulation • Mathematical processes and problem solving • The acceptable tolerances for tasks and project	

	The individual shall be able to: • Accurately interpret views and projections; orthographic, auxiliary and isometric projections, 3D views and sectional details • Determine from drawings how parts intersect and are joined together • Identify drawing errors or items that require clarification • Determine and check quantities of materials required to build specified projects	
5	**Setting out and measuring**	**10**
	The individual needs to know and understand: • The importance of thinking 'top down' to ensure all features can be set out at the start of the project • The implications for the business/organization of not setting out correctly • Calculations to assist in measurement and checking of work • Different types of complex joints including mitres, scribes, scarf joints, tongue and grove, shiplap, birdsmouth, plumb cuts, seat cuts and lip cuts to purlins and jack rafters	
	The individual shall be able to: • Visualize and think through the work identifying potential challenges early and taking the necessary preventative action • Set out the project neatly and accurately • Set out the members necessary to determine all the measurements, sections, angles, mitres and joints • Use geometric methods to determine complex angles, joints and intersections • Set out standard carpentry joints: butt, housing, mortise and tenon, halving, draw bore and pinned, birdsmouth joints for rafters and lip cuts • Label all members and joints • Transfer points, measurements and angles accurately from setting out board to timber • Set out directly on timber where appropriate • Set out joints on timber using set-squares, bevels and gauges • Indicate bevels, mouldings and other features • Clearly label waste material	
6	**Forming joints and preparing members for assembly**	**20**
	The individual needs to know and understand: • The range of materials: wood, metal and plastic • Characteristics of timber, timber-based manufactured boards and materials • Different types of complex joints including mitres, scribes, scarf joints, tongue and grove, shiplap, birdsmouth, plumb cuts, seat cuts and lip cuts to purlins and jack rafters • The use of fixing devices such as nails, screws, angle brackets, framing anchors, joist hangers, toggle/expansion bolts, truss clips and toothed plates for bolted trusses	

	The individual shall be able to: • Safely use hand and machine cutting tools to remove waste including: chop and bench saws, router and drills • Cut materials accurately with clean lines • Form neat, accurate joints to meet the drawing specifications	
7	**Assembling and fastening all components of the structure (erection)**	**20**
	The individual needs to know and understand: • How pilot holes, counter sink and fastenings can be used effectively	
	The individual shall be able to: • Fix joints accurately and securely using screws and nails • Use other fixing devices as specified such as bolts, plates, brackets, hinges and dowels	
8	**Finishing**	**20**
	The individual needs to know and understand: • The importance of finishing in line with the specification provided	
	The individual shall be able to: • Assemble joints with no gaps • Assemble product with a high degree of accuracy • Produce flat faces to backing bevels and chamfers • Install fixings neatly • Present the work with a minimum of pencil marks, stains and other imperfections • Organize any waste material in the correct way to enable safe disposal or recycling	