WORLDSKILLS STANDARD SPECIFICATION

Skill 20

Bricklaying

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	15
	The individual needs to know and understand: • The importance of establishing and maintaining customer confidence • The roles and requirements of architects and related trades • The value of building and maintaining productive working relationships • Health and safety legislation, obligations, and documentation • The situations when personal protective equipment must be used • The purposes, uses, care, maintenance, and storage of all tools and equipment together with their safety implications • The purposes, uses, care, and storage of materials • Sustainability measures applying to the use of 'green' materials and recycling • The ways in which working practices can minimize wastage and help to manage costs • The principles of work flow and measurement • The significance of planning, accuracy, checking, and attention to detail in all working practices	

	The individual shall be able to: • Interpret customer requirements and manage customer expectations • Interpret customer requirements in order to meet/improve their design and budgetary requirements • Interpret the needs of architects and related trades • Contribute own ideas and demonstrate an openness to innovation and change • Follow health, safety, and environment standards, rules, and regulations • Select and use the appropriate personal protective equipment including safety footwear, ear, and eye protection • Select, use, clean, maintain, and store all tools and equipment safely • Select, use, and store all materials safely • Plan and maintain the work area to maximize efficiency • Measure accurately • Work efficiently and check progress and outcomes regularly • Establish and maintain high quality standards and working processes • Identify problems promptly and manage their resolution	
2	Interpretation of drawings	10
	The individual needs to know and understand: • Tends in the industry including new materials and construction methods • The essential information that must be included in construction drawings • The importance of checking for missing information or errors, anticipating, and resolving problems in advance of the 'setting out' process and construction • The role and use of geometry in construction processes • Mathematical processes and problem solving • The common types of problems that can occur within a work process • Diagnostic approaches to problem solving • Methods of costing and pricing material, equipment and work processes	
	The individual shall be able to: • Accurately interpret all plans, elevations, sections and enlarged details • Identify horizontal and vertical key dimensions and all angles • Identify curved work and mortar joint finishes • Interpret all project features and their required construction methods • Establish any features that need special equipment or templates and source these • Identify drawing errors or items that require clarification • Determine and check quantities of materials required to build specified projects • Measure and calculate accurately • Produce cost and time estimates	

3	Setting out and measurement	20
	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 a project • The implications for the business/organization of not setting out correctly • The templates/building aids which may be helpful for construction • Calculations to assist in measuring and checking the project • Geometrical techniques to assist with the project	
	The individual shall be able to: • Visualize and think through the project, identifying potential challenges early and taking the necessary preventative action • Set out the locations, starting points and lines of projects according to plans and specifications • Set out highly technical designs including: brick-on-end, brick-on-edge, raked/inclined, curved projecting, recessing brickwork, archways, corbelling, decorative bonding, and battered walling • Accurately interpret the dimensions from drawings and ensure the design is set out within a given tolerance • Check all horizontal and vertical angles • Lay first course of bricks to check all angles, curves and dimensions are correct • Produce any templates/building aids that may be helpful when constructing • Set out datum points of reference for the project	
4	Construction	40
	The individual needs to know and understand: • The impact of health, safety, and environment requirements on a project • The application of bed and cross joints to bricks • The precise cutting and laying of bricks to form ornate features and details • The use of hand or machine cutting techniques for different materials • Positioning and laying of bricks in correct positions	

	The individual shall be able to: • Construct projects in accordance with drawings provided • Construct template or arch supports to meet the design requirements • Select bricks which are true to shape and angle and reject bricks which are chipped • Construct the brickwork, maintaining accuracy in dimension to within a given tolerance • Check dimension regularly and correct where necessary • Maintain accuracy of level to within a given tolerance • Transfer level accurately • Ensure the top course is flat and smooth • Check the underside of projecting brickwork is level • Maintain accuracy in plumb to within a given tolerance • Check the quality of materials • Maintain accuracy of a horizontal, vertical, or diagonal alignments to within a given tolerance • Check alignment regularly to ensure all surfaces are flat • Maintain accuracy in angles to within a 1mm standard tolerance • Check angles regularly and correct where necessary • Render small components of brickwork to a smooth and consistent finish • Construct basic paving ensuring surfaces are flat and within a given tolerance	
5	Joint finishing and presentation	15
	The individual needs to know and understand: • The need for all work to be presented to meet customer and related trades needs and expectations • The importance of joint finishing in line with the specification provided • Mortar setting times and absorbency rates of materials • Presentation includes the brushing and cleaning of brickwork plus the tidying and cleaning of the work area • The different techniques of applying different joint finishes	
	The individual shall be able to: • Accurately fulfil the drawing interpretation • Produce brick cuts which are straight and free of chips • Apply joint finishes: raked, round ironed, flushed and recessed with all joints full, no holes, and a smooth finish • Produce straight lines which provide sharp edges and a crisp appearance • Clean the brickwork to remove any trowel marks, smudges, and debris is removed from the surfaces • Leave the work area in a suitable condition for inspection and subsequent work • Report positive and negative variances in the work process and results, together with their implications • Organize any waste material so that it can be disposed of or recycled efficiently	
	Total	100