worldskills

Technical Description

Painting and Decorating

WorldSkills International, by a resolution of the Competitions Committee and in accordance with the Constitution, the Standing Orders, and the Competition Rules, has adopted the following minimum requirements for this skill for the WorldSkills Competition.

The Technical Description consists of the following:

1 Introduction

1.1 Name and description of the skill competition

1.1.1 The name of the skill competition is

Painting and Decorating

1.1.2 Description of the associated work role(s) or occupation(s)

A painter and decorator works in the commercial and public sectors and is responsible for the external and internal appearance of a building and its protection from water, rust, corrosion, mould, and insect infestation. There is a direct relationship between the nature and quality of the service required and the payment made by the client. Therefore, the painter and decorator has a continuing responsibility to work professionally and interactively with the client in order to give satisfaction and thus maintain and grow the business.

Painting and decorating is closely associated with other parts of the construction industry, and with the many products that support it. The painter and decorator works internally and externally in very diverse environments, for example in companies, factories, schools, hotels, the homes of clients, and on building sites in all weather conditions. They may offer a range of services, from interpreting client requirements to the environmental and sustainability of materials/drawings, advising on designs/colours, painting, spraying, decorative coatings, wallpapering, gilding, and sign writing to a high standard.

Work organization and self-management, communication and interpersonal skills, problem solving, innovation, creativity, and the ability to prepare surfaces thoroughly with meticulous care including hazardous surfaces such as lead and asbestos. These are the universal attributes of an outstanding painter and decorator. In a mobile labour market, the painter and decorator may work in teams, or alone, or in both from time to time. Whatever the structure of the work, the trained and experienced painter and decorator takes on a high level of personal responsibility and autonomy. From carefully determining the requirements of the client, working safely and tidily, exceptional planning and scheduling, precision and attention to detail to the fine gilding of objects and finishing of furniture, every process matters and mistakes are largely irreversible and costly.

With the international mobility of people, the painter and decorator faces rapidly expanding opportunities and challenges. For the talented painter and decorator there are many commercial and international opportunities; however, these carry with them the need to understand and work with diverse cultures, trends, and fashions. The diversity of skills associated with painting and decorating is therefore likely to expand.

1.1.3 Number of Competitors per team

Painting and Decorating is a single Competitor skill competition.

1.1.4 Age limit of Competitors

The Competitors must not be older than 22 years in the year of the Competition.

1.2 The relevance and significance of this document

This document contains information about the standards required to compete in this skill competition, and the assessment principles, methods, and procedures that govern the competition.

Every Expert and Competitor must know and understand this Technical Description.

In the event of any conflict within the different languages of the Technical Descriptions, the English version takes precedence.

1.3 Associated documents

Since this Technical Description contains only skill-specific information it must be used in association with the following:

- WSI – Code of Ethics and Conduct
- WSI – Competition Rules
- WSI – WorldSkills Occupational Standards framework
- WSI – WorldSkills Assessment Strategy
- WSI online resources as indicated in this document
- WorldSkills Health, Safety, and Environment Policy and Regulations
- WorldSkills Standards and Assessment Guide (skill-specific)

2 The WorldSkills Occupational Standards (WSOS)

2.1 General notes on the WSOS

The WSOS specifies the knowledge, understanding, skills, and capabilities that underpin international best practice in technical and vocational performance. These are both specific to an occupational role and also transversal. Together they should reflect a shared global understanding of what the associated work role(s) or occupation(s) represent for industry and business (www.worldskills.org/WSOS).

The skill competition is intended to reflect international best practice as described by the WSOS, to the extent that it can. The Standard 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 only be separate tests of knowledge and understanding where there is an overwhelming reason for these.

The Standard 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. This is often referred to as the “weighting”. The sum of all the percentage marks is 100. The weightings determine the distribution of marks within the Marking Scheme.

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

The Marking Scheme will follow the allocation of marks within the Standards to the extent practically possible. A variation of up to five percent is allowed, if this does not distort the weightings assigned by the Standards.

2.2 WorldSkills Occupational Standards

Section		Relative importance (%)
1	**Work organization and management**	**5**
	The individual needs to know and understand: • Health and safety legislation, obligations, and documentation • Accident/first-aid/fire emergency procedures and reporting • How to work safely with electricity • 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 to include effects of temperature and sunlight • The importance of following manufacturers’ instructions, e.g. surface preparation, internal angles, shading, and application • Sustainability measures applying to the use of “green” materials and recycling	

Section		Relative importance (%)
	• The ways in which working practices can minimize wastage and help to manage costs • The principles of workflow and measurement • The significance of planning, accuracy, checking, and attention to detail in all working practices • The value of managing own continuing professional development	
	The individual shall be able to: • Follow health and safety standards, rules and regulations including manufacturers' instructions for use • Identify health and safety hazards on construction sites and undertake risk assessments • Position warning signs and notices for the safety of the general public • Identify and use the appropriate personal protective equipment including safety footwear, ear, and eye protection • Take necessary safety precautions when working at heights, e.g. using scaffolding and ladders • Select, use, clean, maintain, and store all tools and equipment safely • Select, use, and store all materials safely • Plan the work area to maximize efficiency and maintain the discipline of regular tidying • Consistently measure accurately • Work efficiently and check progress and outcomes regularly • Consistently maintain high quality standards and working processes	
2	**Communication and interpersonal skills**	**10**
	The individual needs to know and understand: • The significance of establishing and maintaining customer confidence • Technical considerations related to heritage/preservation work • The roles and requirements of architects and related trades • The value of building and maintaining trust/productive working relationships • The importance of swiftly resolving misunderstandings and conflicting demands	
	The individual shall be able to: • Interpret customer requirements and manage customer expectations positively • Visualize and translate customer wishes making recommendations which meet/improve their design and budgetary requirements • Provide specialist technical advice and guidance on heritage projects	

Section		Relative importance (%)
	• Present portfolios of previous work to demonstrate range and quality of experience and expertise • Produce cost and time estimates for customers • Recognize the needs of architects and related trades • Introduce architects and related trades to support customerrequirements • Work effectively in teams to facilitate efficiency/productivity/quality and cost control	
3	**Problem solving, innovation, and creativity**	**5**
	The individual needs to know and understand: • The types of problem which can occur within the work process such as poor pasting • Diagnostic approaches to problem solving • Trends and developments in the industry including new materials • Methods, and equipment/technology, e.g. colour mixing	
	The individual shall be able to: • Check work regularly to minimize problems at later stages • Challenge incorrect information to prevent problems • Recognize and understand problems swiftly and follow a self-managed process for resolving • Recognize opportunities to contribute ideas to improve products and overall levels of customer satisfaction • Show willingness to try new methods and embrace change	
4	**Produce and interpret plans/technical drawings**	**10**
	The individual needs to know and understand: • The details required for floor plans in construction drawings including sections, datum levels, wall constructions, material codes, depth dimensions, heights, schedules, and specifications • Symbols e.g. for materials • Scales • The benefits of planning the sequence of material and labour • requirements including the use of bills of quantities, programmes of work, stock systems, critical path analysis, lead times, schedules, and pricing systems • External and internal colour schemes, e.g. monochromatic, analogous, and complementary, warm/advancing, contrasting, and cool/receding • The need for accurate drawings to produce accurate work	
	The individual shall be able to: • Produce hand or computer aided designs (CAD) • Interpret drawings accurately	

Section		Relative importance (%)
	• Produce colour schemes • Provide colour matches e.g. for type/era of building • Check for specialist requirements, e.g. to be fire retardant • Accurately measure from technical drawings and scales • Check for accuracy, challenge and make recommendations to architects/clients • Accurately calculate quantities of materials required and price work • Produce schedules of work	
5	**Apply paint brush and roller**	**25**
	The individual needs to know and understand: • The purposes of painting: protection, preservation, sanitation, decoration, and identification, e.g. colour coding • The significance of following manufacturers' guidelines • COSHH requirements • Impacts of materials on the general public and necessary precautions e.g. allergies • The range of brushes, rollers, and trowel/texturing tools • The variety of surface coatings e.g. water and solvent borne; wood Treatments, e.g. stains and preservatives	
	The individual shall be able to: • Check the condition of substrates e.g. new or existing, hazardous/ non-hazardous • Check the types of substrates e.g. timber, plaster (porous and non-porous surfaces), plastic, or metals • Use the correct preparation process for the types of substrate to include cleaning, priming, de-greasing, sealing • Prepare paints following the correct process, including stirring/ mixing/straining • Select the appropriate equipment to apply paint depending on the material, substrates, and quantity of work • Take into consideration the effects of temperature on paint e.g. humidity levels and weather conditions for external work • Protect the surrounding area to include coverage of floors/features and signage to avoid effects on people • Apply the correct paint systems for the types of substrate using brush, roller, paint pad, or spray, e.g. primers, undercoats, and gloss • Use masking aids for "cutting in"/producing accurate lines • Regularly check the quality of painting by opacity tests to ensure consistent coverage • Refer to other trades where problems emerge (immediately or at a later stage) for investigation, e.g. water stain • Check that the quality of finishes meets specification, and take any corrective actions	

Section		Relative importance (%)
6	**Apply paint by spray**	**15**
	The individual needs to know and understand: • the purposes of painting: protection, preservation, sanitation, decoration, and identification, e.g. colour coding • The importance of following manufacturers' guidelines • COSHH requirements • The impact of materials on the general public and necessary precautions, e.g. allergies • Materials which cannot be sprayed e.g. paste and some primers	
	The individual shall be able to: • Check the condition of substrates, e.g. new or existing • Check the types of substrate, e.g. timber, plastic, or metal • Use the correct preparation processes for the types of substrate to include cleaning, priming, de-greasing, and sealing • Prepare paint following correct processes, as appropriate, to include stirring/mixing/straining and viscosity Select the appropriate equipment to apply the paint depending on the material, substrate, and quantity of work • Take into consideration the effects of temperature, on paint, e.g. humidity levels and weather conditions for external work • Protect surrounding areas to include coverage of floors/features and signage to avoid effects on people • Select appropriate spray equipment e.g. HVLP, airless, electro-static, and pressure feed • Apply spray paints, following COSHH and manufacturer's guidelines for the type of substrate, e.g. primer, undercoat, and gloss • Use large scale masking aids for 'cutting in'/producing accurate lines • Clean and thoroughly maintain spray equipment • Regularly check the quality of the painting by opacity tests to ensure consistent coverage • Check film thickness by WFT (wet film thickness) or DFT (dry film thickness) • Refer to other trades where problems emerge (immediately or at a later stage) for investigation, e.g. water stain • Check that the quality of finish meets the specification, to include no defects, and take any correction action	
7	**Apply wallpaper**	**15**
	The individual needs to know and understand: • Methods of production including wet embossing, laminating, dry embossing, heat expansion, particles on to wet adhesive • Methods of printing to include block, screen, machine, wet, dry, and embossing	

Section		Relative importance (%)
	• Types of pattern to include set/straight match, drop/offset match, and random/free match • Range of papers (including specialist) and their characteristics: pulps, anaglyptic, washable, vinyl, duplex, simplex, fabric-backed vinyl, paper backed fabrics, hand-print, paper-backed vinyl, warps/ weftless, lincrusta, supadurables, flock, hessian, metallic, glass fibre, foil, and damp • The situations when lining paper is required, including solvent-painted wall and excessive making good • Methods of trimming: pre-trimmed and removing selvedges • The importance of accurate trimming when removing a selvedge • Methods of jointing for paper types to include butt, overlap, and cut • International performance symbols e.g. spongeable, peelable, and off-set match • Types of adhesive, e.g. cellulose and starch and their suitability for different papers • Pasting methods in relation to the range of papers: pasting machine, brush, roller, ready-pasted, and pasting the wall directly	
	The individual shall be able to: • Check condition of substrates, e.g. new or existing • Check types of substrate, e.g. timber, plastic, plaster, or metal • Use the correct preparation process for the type of substrate to include cleaning, priming, de-greasing, sealing for a defect, e.g. water or oil stains • Size and seal the surface for even porosity, or apply lining paper as appropriate • Check for pattern matching requirements: random, set, off-set, alternate lengths, and reverse • Cut and trim wallpapers efficiently for cost effectiveness • Take particular precautions, e.g. use of cotton gloves, for high quality/expensive papers • Paste the wall and the paper or use a pasting machine (if not ready pasted), using a range of adhesives e.g. for vinyl, flock, and lincrusta • Ensure manufacturers' guidelines are followed with regard to soaking times as necessary • Select the best starting positions, e.g. working away from the light, and take into consideration patterns including murals • Hang to vertical or plumb line and check for accuracy, taking corrective action as required • Re-plumb as appropriate e.g. around obstacles • Ensure joints are butt with exceptions such as damp-proof paper • Check for quality, e.g. shade variation and notify the manufacturer as appropriate • Check that the overall quality meets customer specification	

Section		Relative importance (%)
8	**Apply decorative techniques**	**10**
	The individual needs to know and understand: • Historical considerations for restoration and preservation work e.g.following a flood or fire • A variety of decorative techniques • Preparation methods to include wet abrading, dry abrading, making good and spot priming • Defects which can occur – uneven colour, ropiness, sinking, bittiness • Appropriate coating types for use as ground coats for painted decorative work	
	The individual shall be able to: • Select and use and apply specialist materials e.g. sponging, ragging, bagging, stippling, and blending, wood graining, marbling and trompe l'oeil, gilding (gold and silver leaf) • Select and use specialist tools, e.g. for gilding • Design and apply stencils • Apply to a range of surfaces, e.g. cardboard, plastic, timber, plaster, and metal • Prepare surfaces to a perfect finish, including clean, smooth, and sized	
9	**Apply sign writing/lettering**	**5**
	The individual needs to know and understand: • Stencil types: positive, negative, and multi-plate • Methods used for enlarging and reducing stencils: accuratemeasurement, grid, illuminated projection, and photocopying • Methods of transferring a design – including trace and pounce, and • photocopy onto the stencil plate materials of paper and proprietary Stencil card • The suitability of base materials used for cutting stencil plates: glass plate, proprietary cutting mat • The importance of cleanliness, hand position, knife angle, direction of cutting, blade sharpness, repair of broken ties, size, and sequence of pattern (small areas and vertical lines first), free movement of stencil plate, margin widths • Methods for securing stencils to surfaces – proprietary, spray adhesive, and tape (masking, low-tack)	

Section		Relative importance (%)
	The individual shall be able to: • Take into consideration the number of repeats/connections, location of doors, windows, corners, access requirements, room dimensions, stencil size, and spacing when working on walls • Follow the required order of application • Transfer images using different methods, e.g. tracing, pouncing, CAD materials • Apply the frisk film using different methods, e.g. spray and roller • Ensure enlarging • Apply the finish by free hand or template • Accurately measure when setting out the lettering	
	Total	**100**

3 The Assessment Strategy and Specification

3.1 General guidance

Assessment is governed by the WorldSkills Assessment Strategy. The Strategy establishes the principles and techniques to which WorldSkills assessment and marking must conform.

Expert assessment practice lies at the heart of the WorldSkills Competition. For this reason, it is the subject of continuing professional development and scrutiny. The growth of expertise in assessment will inform the future use and direction of the main assessment instruments used by the WorldSkills Competition: the Marking Scheme, Test Project, and Competition Information System (CIS).

Assessment at the WorldSkills Competition falls into two broad types: Measurement and Judgement. For both types of assessment, the use of explicit benchmarks against which to assess each Aspect is essential to guarantee quality.

The Marking Scheme must follow the weightings within the Standards. The Test Project is the assessment vehicle for the skill competition, and therefore also follows the Standards. The CIS enables the timely and accurate recording of marks; its capacity for scrutiny, support, and feedback is continuously expanding.

The Marking Scheme, in outline, will lead the process of Test Project design. After this, the Marking Scheme and Test Project will be designed, developed, and verified through an iterative process, to ensure that both together optimize their relationship with the Standards and the Assessment Strategy. They will be agreed by the Experts and submitted to WSI for approval together, to demonstrate their quality and conformity with the Standards.

Prior to submission for approval to WSI, the Marking Scheme and Test Project will liaise with the WSI Skill Advisors for quality assurance and to benefit from the capabilities of the CIS.

4 The Marking Scheme

4.1 General guidance

This section describes the role and place of the Marking Scheme, how the Experts will assess Competitors' work as demonstrated through the Test Project, and the procedures and requirements for marking.

The Marking Scheme is the pivotal instrument of the WorldSkills Competition, in that it ties assessment to the standard that represents each skill competition, which itself represents a global occupation. It is designed to allocate marks for each assessed aspect of performance in accordance with the weightings in the Standards.

By reflecting the weightings in the Standards, the Marking Scheme establishes the parameters for the design of the Test Project. Depending on the nature of the skill competition and its assessment needs, it may initially be appropriate to develop the Marking Scheme in more detail as a guide for Test Project design. Alternatively, initial Test Project design can be based on the outline Marking Scheme. From this point onwards the Marking Scheme and Test Project should be developed together.

Section 2.1 above indicates the extent to which the Marking Scheme and Test Project may diverge from the weightings given in the Standards, if there is no practicable alternative.

For integrity and fairness, the Marking Scheme and Test Project are increasingly designed and developed by one or more Independent Test Project Designer(s) with relevant expertise. In these instances, the Marking Scheme and Test Project are unseen by Experts until immediately before the start of the skill competition, or competition module. Where the detailed and final Marking Scheme and Test Project are designed by Experts, they must be approved by the whole Expert group prior to submission for independent validation and quality assurance. Please see the Competition Rules for further details.

Experts and Independent Test Project Designers are required to submit their Marking Schemes and Test Projects for review, verification, and validation well in advance of completion. They are also expected to work with their Skill Advisor, reviewers, and verifiers, throughout the design and development process, for quality assurance and in order to take full advantage of the CIS's features.

In all cases a draft Marking Scheme must be entered into the CIS at least eight weeks prior to the Competition. Skill Advisors actively facilitate this process.

4.2 Assessment Criteria

The main headings of the Marking Scheme are the Assessment Criteria. These headings are derived before, or in conjunction with, the Test Project. In some skill competitions the Assessment Criteria may be similar to the section headings in the Standards; in others they may be different. There will normally be between five and nine Assessment Criteria. Whether or not the headings match, the Marking Scheme as a whole must reflect the weightings in the Standards.

Assessment Criteria are created by the person or people developing the Marking Scheme, who are free to define the Criteria that they consider most suited to the assessment and marking of the Test Project. Each Assessment Criterion is defined by a letter (A-I). **The Assessment Criteria, the allocation of marks, and the assessment methods, should not be set out within this Technical Description. This is because the Criteria, allocation of marks, and assessment**

methods all depend on the nature of the Marking Scheme and Test Project, which is decided after this Technical Description is published.

The Mark Summary Form generated by the CIS will comprise a list of the Assessment Criteria and Sub Criteria.

The marks allocated to each Criterion will be calculated by the CIS. These will be the cumulative sum of marks given to each Aspect within that Assessment Criterion.

4.3 Sub Criteria

Each Assessment Criterion is divided into one or more Sub Criteria. Each Sub Criterion becomes the heading for a WorldSkills marking form. Each marking form (Sub Criterion) contains Aspects to be assessed and marked by Measurement or Judgement, or both Measurement and Judgement.

Each marking form (Sub Criterion) specifies both the day on which it will be marked, and the identity of the marking team.

4.4 Aspects

Each Aspect defines, in detail, a single item to be assessed and marked, together with the marks, and detailed descriptors or instructions as a guide to marking. Each Aspect is assessed either by Measurement or by Judgement.

The marking form lists, in detail, every Aspect to be marked together with the mark allocated to it. The sum of the marks allocated to each Aspect must fall within the range of marks specified for that section of the Standards. This will be displayed in the Mark Allocation Table of the CIS, in the following format, when the Marking Scheme is reviewed from C-8 weeks. (Section 4.1 refers.)

		CRITERIA								TOTAL MARKS PER SECTION	WSSS MARKS PER SECTION	VARIANCE
		A	B	C	D	E	F	G	H			
STANDARDS SPECIFICATION SECTION	1	5.00								5.00	5.00	0.00
	2		2.00					7.50		9.50	10.00	0.50
	3								11.00	11.00	10.00	1.00
	4			5.00						5.00	5.00	0.00
	5				10.00	10.00	10.00			30.00	30.00	0.00
	6		8.00	5.00				2.50	9.00	24.50	25.00	0.50
	7			10.00				5.00		15.00	15.00	0.00
TOTAL MARKS		5.00	10.00	20.00	10.00	10.00	10.00	15.00	20.00	100.00	100.00	2.00

4.5 Assessment and marking

There is to be one marking team for each Sub Criterion, whether it is assessed and marked by Judgement, Measurement, or both. The same marking team must assess and mark all Competitors. Where this is impracticable (for example where an action must be done by every Competitor simultaneously, and must be observed doing so), a second tier of assessment and marking will be put in place, with the approval of the Competitions Committee Management Team. The marking teams must be organized to ensure that there is no compatriot marking in any circumstances. (Section 4.6 refers.)

4.6 Assessment and marking using Judgement

Judgement uses a scale of 0-3. To apply the scale with rigour and consistency, Judgement must be conducted using:

- benchmarks (criteria) for detailed guidance for each Aspect (in words, images, artefacts, or separate guidance notes). This is documented in the Standards and Assessment Guide.
- the 0-3 scale to indicate:
  - 0: performance below industry standard
  - 1: performance meets industry standard
  - 2: performance meets and, in specific respects, exceeds industry standard
  - 3: performance wholly exceeds industry standard and is judged as excellent

Three Experts will judge each Aspect, normally simultaneously, and record their scores. A fourth Expert coordinates and supervises the scoring, and checks their validity. They also act as a judge when required to prevent compatriot marking.

4.7 Assessment and marking using Measurement

Normally three Experts will be used to assess each Aspect, with a fourth Expert supervising. In some circumstances the team may organize itself as two pairs, for dual marking. Unless otherwise stated, only the maximum mark or zero will be awarded. Where they are used, the benchmarks for awarding partial marks will be clearly defined within the Aspect. To avoid errors in calculation or transmission, the CIS provides a large number of automated calculation options, the use of which is mandated.

4.8 The use of Measurement and Judgement

Decisions regarding the choice of criteria and assessment methods will be made during the design of the competition through the Marking Scheme and Test Project.

4.9 Skill assessment strategy and procedures

WorldSkills is committed to continuous improvement including reviewing past limitations and building on good practice. The following skill assessment strategy and procedures for this skill competition take this into account and explain how the marking process will be managed.

Days and allocation of Judgement and Measurement marks are finalized at the Competition by the Experts; however 30% minimum of Measurement and/or blind marking must be carried out on day C4.

Each completed module (or parts thereof) are assessed on the day on which it is completed, except wallpapering (wallpapering to be assessed on day 1 for cutting and matching, general appearance day 2 for gaps, overlaps, bubbles, and lifting)

Module 1 - Speed Mural and Colour Matching

- Clean surfaces, mixing colour tones, mixing colour shade, dimensional accuracy, overall appearance (Judgement);
- Module 1 (Speed competition);
- Speed, precision painting;
- Module 1 (Colour mixing);
- Colour tone;
- Colour shades.

In the first instance the various elements are arranged according to their quality. The best quality work is placed first, the least quality work last. Works of an identical quality are grouped together and given the same number of points.

In the second instance the best work is given the maximum number of points possible for this element, the other works are given lower numbers of points according to their quality.

Speed competition

At the speed competition all Competitors have to work as fast and as precisely as possible. The expenditure of time is awarded with maximum 2 marks. The fastest Competitor is awarded 2 marks, the others in the order in which they complete the task 0.10 marks less (if there are more Competitors than 20, the marking needs to be changed). Competitors who finish simultaneously will receive the same number of marks, the next Competitor 0.20 or more marks less.

Dimensional Accuracy

For the dimensional accuracy tests, a deviation of ± 1.0 mm from the required measurement is tolerated and deviations of more than 1.0 mm from the required measurement is given
0 marks:
Maximum 1 mark is awarded per measurement point.

Module 2 - Free technique

Info sheet, artistic composition (Judgement), technical execution, colour concept, accurate implementation.

The free technique is marked according to three criteria:

- Technical execution, maximum 3 marks (Measurement);
- The technical execution is assessed with measurement criteria. The detailed and final marking scheme is developed and agreed; by all Experts before the Competition;
- Artistic composition, maximum 2 marks (Judgement);
- The artistic composition is assessed with judgement criteria by all the Experts;
- The level of difficulty must also be assessed by the judgement group;
- The information sheet is assessed with Measurement criteria, maximum 0.50 marks;
- Colour concept, maximum 1 mark;
- Accurate implementation, maximum 2 marks;
- The final work needs to match the information sheet.

Module 3 - Lettering

- Correct colour, clean surfaces, straight lines, clean corners, no visible reference lines, dimensional accuracy.

Module 4 - Main Design

- Correct colour, clean surfaces, straight lines, clean corners, no visible reference lines, dimensional accuracy, overall appearance (Judgement).

Module 5 - Wallpapering

- Cutting and pattern matching to internal corner, clean surfaces, connections, dimensional accuracy.

Module 6 - Door and Architraves

- Panel door with moulding, inner panel only by spray, door frame and bottom skirting marks. The outer panel, the inner panel, and the moulding are painted in three different colours.

Procedures:

Final detailed aspects for the Measurement marking are decided by the Experts prior to Competition.

The Experts are deployed for marking purposes as follows:

- Judgement Marking:
  - Free technique (artistic composition);
  - Main Design (overall appearance);
  - The artistic composition is assessed by all the Experts including Chief Expert and an average mark are calculated.
- Measurement Marking:
  - Three Experts for the evaluation which they will do together;
  - One Expert compiles the results;
  - One Expert checks the compilation;
- Speed competition:
  - One Expert compiles the results;
  - One Expert checks the compilation;
  - Two Experts checks the reports;
  - All other Experts checks the competition;
- Colour mixing
  - Five Experts line the elements according to their quality whereas at least four Experts have to agree to it;
  - One Expert to compile the results;
  - One Expert to check the compilation;
- Groups of Experts:
  - The groups of Experts are put together by the Chief Expert;
  - The groups must consist of both experienced and new Experts;
  - Each Expert in the group assesses every Competitor.

5 The Test Project

5.1 General notes

Sections 3 and 4 govern the development of the Test Project. These notes are supplementary.

Whether it is a single entity, or a series of stand-alone or connected modules, the Test Project will enable the assessment of the applied knowledge, skills, and behaviours set out in each section of the WSOS.

The purpose of the Test Project is to provide full, balanced, and authentic opportunities for assessment and marking across the Standards, in conjunction with the Marking Scheme. The relationship between the Test Project, Marking Scheme, and Standards will be a key indicator of quality, as will be its relationship with actual work performance.

The Test Project will not cover areas outside the Standards or affect the balance of marks within the Standards other than in the circumstances indicated by Section 2. This Technical Description will note any issues that affect the Test Project's capacity to support the full range of assessment relative to the Standards. Section 2.1 refers.

The Test Project will enable knowledge and understanding to be assessed solely through their applications within practical work. The Test Project will not assess knowledge of WorldSkills rules and regulations.

Most Test Projects and Marking Schemes are now designed and developed independently of the Experts. They are designed and developed either by the Skill Competition Manager, or an Independent Test Project Designer, normally from C-12 months. They are subject to independent review, verification, and validation. (Section 4.1 refers.)

The information provided below will be subject to what is known at the time of completing this Technical Description, and the requirement for confidentiality.

Please refer to the current version of the Competition Rules for further details.

5.2 Format/structure of the Test Project

The Test Project is a series of six (6) separately assessed modules.

5.3 Test Project design requirements

Test Projects should reflect the purposes, structures, processes, and outcomes of the occupational role they are based on. They should aim to be a small-scale version of that role. Before focusing on practicalities, SMTs should show how the Test Project design will provide full, balanced, and authentic opportunities for assessment and marking across the Standards, as set out in Section 5.1.

Criteria required to be submitted

- The Test Project must:
  - Comply with the current valid Technical Description;
  - Comply with the requirements and numbering defined by WorldSkills;
  - Module 4 consists of a colour drawing showing the main design and lettering (name of the venue and year) as well as details of the construction;
  - Outline in colour, M1:10;
  - Design drawing, M1:10, measurements in cm;

- Specification of the colour tone with an international code;
- Be submitted with proof it can be constructed and is feasible within the given time.

- The necessary materials to be used are made available, already mixed, at the competition venue. Therefore, the colours of the design and the lettering must be precisely indicated when the Test Project is submitted, e.g. RAL, NCS or other international colour codes.
- All the colours that are used in the competition must be globally available:
  - Primer, middle coat, and semi- or gloss paint for the door;
  - Door moulding type: Polyurethane NMC Wallstyl WL3;
  - Wall paint for panels, top skirting;
  - Design colours;
  - Paste or wallpaper glue;
- The wallpaper must be to be globally available.

Criteria required for the Module 1 - Speed Mural.

- Experts must draw the speed mural for module 1 during the preparation days at the Competition (C-4 to C-1). The Experts need to choose from a minimum of three, maximum of nine speed murals, which are prepared at the Competition by the Experts. The Experts will have a vote to agree the speed murals can be completed in a reasonable time scale and are feasible. They will then vote for one speed mural secretly. All speed mural designs will be given to the Skills Competition Manager who will complete the design with the highest secret votes. The Experts will not know the final speed mural until distributed before the speed mural module start on C2. The speed mural measurements must be no larger than approximately 2200 mm - 2400 mm x 800 mm and be designed so that there is no wet paint on wet paint;

The speed mural will take the form of a speed competition; the maximum time for the speed competition is 1.5 hours. The colour tone mixed by the Experts at the current Competition must be reproduced exactly by the Competitor and included in the speed mural according to the Test Project. The other three colours must be mixed as colour shades. The colour mixing is completed prior to the speed competition on C1:

- The speed mural must be done in the four colours including the background colour from the colour match project in four graduation tones and comprise the construction in detail;
- Proof must be submitted that the project is able to be constructed in the time and is feasible.

Design requirements for Module 1 - Colour Matching

The Experts determine a colour shade as a sample for Module 1. All Competitors are provided with four colour samples mixed by the Experts on wooden plates, and also one wooden plate with a white undercoat for colour mixing and colour graduation, the wooden plates must be approximately 21 cm x 29.7 cm (A4 format). The number of the Competitor is written on the backside of the boards. Marking or writing on the front side is not allowed.

Competitors will be provided with two mini rollers, of same roller pile texture, to apply their colour match samples.

Competitors can apply the colour harmony graduation by either brush or roller. The Competitors have to check their colour mixing on a clearly defined table somewhere in the workshop area with a constant light during the whole Competition Day.

20 measurement points are fixed for modules 1, 2, and 3.

13 of these measurement points are drawn by lot at the end of the competition and included in the rating.

The Experts make the final assessment of modules 4 and 1 on the basis of the submitted assessment criteria.

5.4 Test Project coordination and development

The Test Project MUST be submitted using the templates provided by WorldSkills International (www.worldskills.org/expertcentre). Use the Word template for text documents and DWG template for drawings.

5.4.1 Test Project coordination (preparation for Competition)

Coordination of the Test Project/modules will be undertaken by the Skill Competition Manager.

5.4.2 Who develops the Test Project/modules

The Test Project/modules are developed by an Independent Test Project Designer (ITPD) in collaboration with the Skill Competition Manager.

Module 1 is developed by the Experts at the current Competition.

5.4.3 When is the Test Project developed

The Test Project/modules are developed according to the following timeline:

Time	Action
Ten (10) months prior to the Competition	The ITPD is identified and a Confidentiality Agreement between WSI and the ITPD is organized.
At CPW	The SCM and WM will decide on the wallpaper design, which has to be minimum 530 mm, it must have a pattern (with repeat), and has to be washable.
No later than two (2) months prior to the Competition	The Test Project documents are sent to the WorldSkills International Skills Competitions Administration Manager.
At the Competition prior to C1	The Experts draw speed module proposals and secretly vote on it (see section 5.3).
At the Competition on C1	The Test Project/modules are presented to Experts and Competitors.

5.5 Test Project initial review and verification

The purpose of a Test Project is to create a challenge for Competitors which authentically represents working life for an outstanding practitioner in an identified occupation. By doing this, the Test Project will apply the Marking Scheme and fully represent the WSOS. In this way it is unique in its context, purpose, activities, and expectations.

To support Test Project design and development, a rigorous quality assurance and design process is in place (Competition Rules sections 10.6-10.7 refer.) Once approved by WorldSkills, the Independent Test Project Designer (ITPD) is expected to identify one or more independent expert(s), and trusted individuals initially to review the Independent Test Project Designer's ideas and plans, and subsequently to verify the Test Project, prior to validation.

A Skill Advisor will ensure and coordinate this arrangement, to guarantee the timeliness and thoroughness of both initial review, and verification, based on the risk analysis that underpins Section 10.7 of the Competition Rules.

5.6 Test Project validation

The Skill Competition Manager coordinates the validation of the Test Project/modules and will ensure that it can be completed within the material, equipment, knowledge, and time constraints of Competitors.

5.7 Test Project circulation

The Test Project/modules are not circulated prior to the Competition. The Test Project/modules are presented to Experts and Competitors on C1.

Generic Competitor pre-competition information about the concept of the four modules is circulated three (3) months prior to the Competition via the WorldSkills website. No technical or detailed information on the Test Project/modules is shared.

5.8 Test Project change

Due to the Test Project being developed by an Independent Test Project Designer (ITPD), there is no change required to be made to the Test Project/modules at the Competition. Exceptions are amendments to technical errors in the Test Project documents and according to infrastructure limitations.

5.9 Material or manufacturer specifications

Specific material and/or manufacturer specifications required to allow the Competitor to complete the Test Project will be supplied by the Competition Organizer and are available from www.worldskills.org/infrastructure located in the Expert Centre. However, note that in some cases details of specific materials and/or manufacturer specifications may remain secret and will not be released prior to the Competition. These items may include those for fault finding modules or modules not circulated.

6 Skill management and communication

6.1 Discussion Forum

Prior to the Competition, all discussion, communication, collaboration, and decision making regarding the skill competition must take place on the WorldSkills skill-specific Discussion Forum. (http://forums.worldskills.org). Skill related decisions and communication are only valid if they take place on the WorldSkills Discussion Forum. The Chief Expert (or an Expert Lead appointed by the Skill Management Team) will be the moderator for this Discussion Forum. Refer to the Competition Rules for the timeline of communication and competition development requirements.

6.2 Competitor information

All information for registered Competitors is available from the Competitor Centre (www.worldskills.org/competitorcentre).

This information includes:

- Competition Rules
- Technical Descriptions
- Mark Summary Form (where applicable)
- Test Projects (where applicable)
- Infrastructure List
- WorldSkills Health, Safety, and Environment Policy and Regulations
- Other Competition-related information

6.3 Test Projects and Marking Schemes

Circulated Test Projects will be available from www.worldskills.org/testprojects and the Competitor Centre (www.worldskills.org/competitorcentre).

6.4 Day-to-day management

The day-to-day management of the skill competition during the Competition is defined in the Skill Management Plan that is created by the Skill Management Team. The Skill Management Team comprises the Skill Competition Manager, Chief Expert, and the Expert Leads. The Skill Management Plan is progressively developed in the six (6) months prior to the Competition and finalized at the Competition. The Skill Management Plan can be viewed in the Expert Centre (www.worldskills.org/expertcentre).

6.5 General best practice procedures

General best practice procedures clearly delineate the difference between what is a best practice procedure and skill-specific rules (section 9). General best practice procedures are those where Experts and Competitors CANNOT be held accountable as a breach to the Competition Rules or skill-specific rules which would have a penalty applied as part of the Issue and Dispute Resolution procedure including the Code of Ethics and Conduct Penalty System. In some cases, general best practice procedures for Competitors may be reflected in the Marking Scheme.

Topic/task	Best practice procedure
Drawings, recording information	• All Test Project documents must be stored in the Expert room in lockers by the Chief Expert.
Sustainability	• Competitors can only bring the minimum amounts of material required for the free technique module.
Penalty system	• If a Competitor uses a forbidden material, tool, procedure, or machine, this has to be reported by at least three Experts to the Chief Expert in written words on a signed paper sheet. If possible, there should be a photograph taken from the forbidden tool, material, procedure, or machine.

7 Skill-specific safety requirements

7.1 Personal Protective Equipment

Refer to WorldSkills Health, Safety, and Environment Policy and Regulations for Host country or region regulations.

Task	Safety glasses with side protection	Dust Masks	Respiratory protection for organic vapors	Cut protection gloves	Disposable rubber gloves	Sturdy shoes with toe protection and closed toe and heel
General PPE for safe areas						√
PPE for working areas						√
Using sanding machine	√	√		√		√
Using access equipment (e.g. ladders, platforms, etc.)						√
Wallpapering				√		√
Painting	√				√	√
Spraying	√		√		√	√

8 Materials and equipment

8.1 Infrastructure List

The Infrastructure List details all equipment, materials, and facilities provided by the Competition Organizer.

The Infrastructure List is available at www.worldskills.org/infrastructure.

The Infrastructure List specifies the items and quantities requested by the Skill Management Team for the next Competition. The Competition Organizer will progressively update the Infrastructure List specifying the actual quantity, type, brand, and model of the items. Note that in some cases details of specific materials and/or manufacturer specifications may remain secret and will not be released prior to the Competition. These items may include those for fault finding modules or modules not circulated.

At each Competition, the Skill Management Team must review and update the Infrastructure List in preparation for the next Competition. The Skill Competition Manager must advise the Director of Skills Competitions of any increases in space and/or equipment.

At each Competition, the Technical Observer must audit the Infrastructure List that was used at that Competition for the upcoming WorldSkills Competition.

The Infrastructure List does not include items that Competitors and/or Experts are required to bring and items that Competitors are not allowed to bring – they are specified below.

8.2 Competitors toolbox

Competitors may bring more than one toolbox with the total external volume not exceeding 1.50 m^3.

(Volume = Length x Height x Width, or V = L x H x W)

Volume measurement does not include a packing crate, other protective packing material, palette for transportation, wheels, etc.

8.3 Materials, equipment, and tools supplied by Competitors

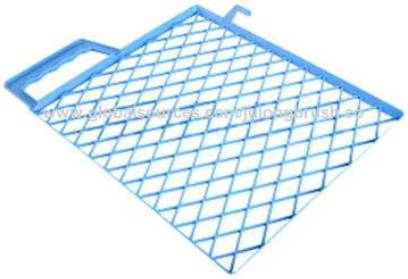
The following items are allowed to be carried in the toolbox:

Item	Description	Photo
1	Waterborne Filler for wood	
2	Abrasive materials	

Item	Description	Photo
		  
3	Personal tools for all modules	
4	Materials for module 3, free technique	
5	Drawing and measuring tools (commercially available)	  
6	Paint brush, roller, and / or pad set	

Item	Description	Photo
		
7	Set of paper hanging tools set	
8	Mah stick and / or Painter's ruler set	
9	Disposable sieves;	
10	Screwdriver set	

Item	Description	Photo
		
11	Spirit and/or digital level	
12	Sponge set	
13	Set of palettes knives	
14	Glass scraper	
15	Grid for roller tray several foam rubber roll set	

Item	Description	Photo
		 
16	Masking tape dispenser set	
17	Sanding machine set	
18	Vacuum cleaner set	
19	Light set	

Item	Description	Photo
		
20	Ladder set	
21	Platform set	

Competitors are required to supply their own Personal Protective Equipment as specified in section 7 skill-specific safety requirements.

8.4 Materials, equipment, and tools supplied by Experts

Experts are required to supply their own Personal Protective Equipment as specified in section 7 skill-specific safety requirements.

Experts are responsible that Interpreters bring their PPE.

8.5 Materials and equipment prohibited in the skill area

Competitors and Experts are prohibited to bring any materials or equipment not listed in section 8.3 and section 8.4.

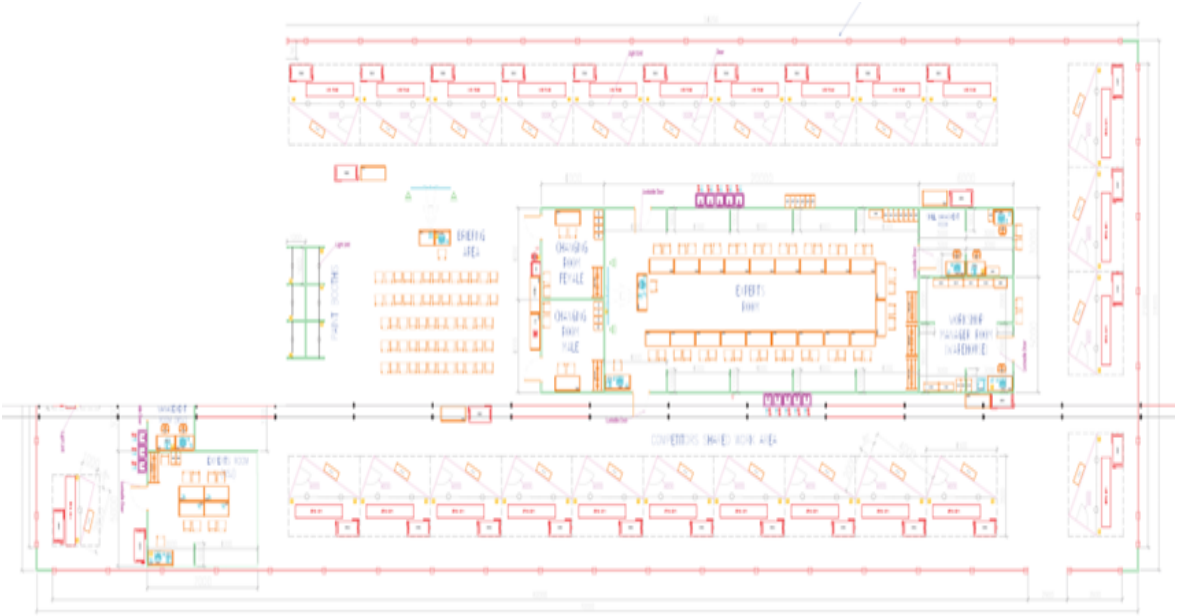
Anything that is not water-based is prohibited.

Measuring tools that are not commercially available are not permitted.

8.6 Proposed workshop and workstation layouts

Workshop layouts from previous competitions are available at www.worldskills.org/sitelayout.

Example workshop layout



Side with the door: 2.00 m x 2.50 m, Side with no door: 4.00 m x 2.50 m

The Experts will consider and confirm the following criteria prior to the Competition.

• Workstation

A workstation with a wall to work on is made available to each Competitor. Competition venue conditions must be taken into account. The area for the workstation for each Competitor must be 5.0 m x 6.0 m.

• Type of construction;
• The walls must consist of MDF and must have been filled, sanded, primed, and given an opaque coat of mat white, water-based paint of a quality suitable for walls (dispersion paint) prior to the beginning of the competition. The finished walls must be tested for adhesion strength with adhesive tape;
• Preparation at the Competition venue (by the Workshop Manager);
• The surfaces to be treated (walls, doors, panels, etc.) must be prepared by the respective Workshop Manager Assistant according to the instructions for the assignment/given by the Chief Expert. The templates, lettering, and transfer sheets must adhere to the surface (work surface in the booth) but should not cause damage when removed. The sheets are tested by the Workshop Manager and made available after consultation of the Chief Expert;
• Workstation layout;
• The space must be made available for the work booths and workstations of the Competitors according to section 8.6. This layout is binding;
• General terms and conditions concerning the workstation;
• The following general requirements apply to the workstation:
  ◦ The lighting of the worked-on walls must remain constant at 600 lux (without shadows);
  ◦ The light has to be equal in every work bay at every time during the day and evening during assessment;
  ◦ The room temperature must be at least 18°C and may not exceed 24°C;
  ◦ The workstation must not be located close to professions that cause dust and must provide as much daylight as possible;

- The workstation needs to include an Expert and Competitor corridor at the front. The corridor needs to be clean and walkable. The workstations are not included in the corridor.

The personal workstation of each Competitor is shown below (measurements in centimetres). There must be enough room for equipment and machines.

9 Skill-specific rules

9.1 General notes

Skill-specific rules cannot contradict or take priority over the Competition Rules. They do provide specific details and clarity in areas that may vary from skill competition to skill competition. This includes but is not limited to personal IT equipment, data storage devices, Internet access, procedures and workflow, and documentation management and distribution. Breaches of these rules will be solved according to the Issue and Dispute Resolution procedure including the Code of Ethics and Conduct Penalty System.

9.2 Skill-specific rules

Topic/task	Skill-specific rules
Use of technology – USB, memory sticks	• Skill Competition Manager, Chief Expert, Experts, Competitors, and Interpreters are allowed to bring memory sticks into the workshop however they cannot be removed from the workshop until the conclusion of the Competition on C4. They must be stored in the locker overnight.
Use of technology – personal laptops, tablets, and mobile phones	• Skill Competition Manager, Chief Expert, Experts, Competitors, and Interpreters are allowed to bring personal laptops and tablets into the workshop however they cannot be removed from the workshop until the conclusion of the Competition on C4. They must be stored in the locker overnight. • Skill Competition Manager, Chief Expert, Experts, Competitors, and Interpreters are allowed to bring mobile phones into the workshop. They must be stored in the personal locker during the day but can be removed at lunchtime and at the end of the day.
Use of technology – personal photo and video taking devices	• Skill Competition Manager, Chief Expert, Experts, Competitors, and Interpreters are allowed to bring personal photo and video taking devices into the workshop however they cannot be removed from the workshop until the conclusion of the Competition on C4. They must be stored in the locker overnight.
Templates, aids, etc.	• Competitors are allowed to have templates for Module two only – free technique.
Penalty System	• There will be penalties for Competitors who use forbidden materials, tools, or machines. The penalty must be approved by the CCD and the Chair of the Competitions Committee at the time. • If a Competitor uses a forbidden material, tool, procedures or machine, this must be reported by at least three (3) Experts to the Chief Expert in written words on a signed paper sheet. If possible, there should be a photograph taken from the forbidden tool, material, or machine.

10 Visitor and media engagement

10.1 Engagement methods

Following is a list of possible ways to maximize visitor and media engagement:

- Speed module (Module 1);
- Display screens;
- Detail descriptions of the Test Project;
- Enhanced understanding of Competitor activity;
- Competitor profiles;
- Career opportunities;
- Daily reports about the competition status.

11 Sustainability

11.1 Sustainable practices

This skill competition will focus on the sustainable practices below:

- Recycling;
- Use of “green” materials;
- Use of completed Test Projects after Competition;
- Efficient use of water to rinse paint brushes;
- Transportation reduction of tools, materials and equipment;
- Efficient use of materials to reduce waste.

12 References for industry consultation

12.1 General notes

WorldSkills is committed to ensuring that the WorldSkills Occupational Standards fully reflect the dynamism of internationally recognized best practice in industry and business. To do this WorldSkills approaches a number of organizations across the world that can offer feedback on the draft Description of the Associated Role and WorldSkills Occupational Standards on a two-yearly cycle.

In parallel to this, WSI consults three international occupational classifications and databases:

- ISCO-08: (http://www.ilo.org/public/english/bureau/stat/isco/isco08/)
- ESCO: (https://ec.europa.eu/esco/portal/home)
- O*NET OnLine (www.onetonline.org/)

12.2 References

This WSOS (Section 2) appears to relate most closely to Construction Painter:
http://data.europa.eu/esco/occupation/15620506-fb5d-49cd-87a2-1c9047fb406a

and/or Painter and Allied Workers:
http://data.europa.eu/esco/isco/C7131

and/or Painter, construction, and maintenance:
https://www.onetonline.org/link/summary/47-2141.00

and Paperhangers:
https://www.onetonline.org/link/summary/47-2142.00

Adjacent occupations can also be explored through these links.

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There were no responses to the requests for feedback this cycle.

13 Appendix

13.1 Appendix information

Not applicable.