TECHNICAL DESCRIPTION

PAINTING AND DECORATING

CONSTRUCTION AND BUILDING TECHNOLOGY

TD22 v5.0 — WSC2015

WorldSkills International, by a resolution of the Technical 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:

Effective 12.08.14

Stefan Praschl
Chair Technical Committee

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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, mould and insects. 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. He or she may offer a range of services, including interpreting client requirements/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 and work accurately are the universal attributes of the 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 makes 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.

1.2 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 – Competition Rules
- WSI – WorldSkills Standards Specification framework
- WSI – WorldSkills Assessment Strategy (when available)
- WSI – Online resources as indicated in this document
- Host Country – Health and Safety regulations

2 THE WORLDSKILLS STANDARDS SPECIFICATION (WSSS)

2.1 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.

2.2 WORLDSKILLS STANDARDS SPECIFICATION

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 manufacturer's instructions e.g. surface preparation, internal angles, shading and application • 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 value of managing own continuing professional development	
	The individual shall be able to: • Follow health and safety standards, rules and regulations including manufacturer's • 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 • Present portfolio of previous work to demonstrate range and quality of experience and expertize • Produce a cost and time estimate for customers • Recognize the needs of architects and related trades • Introduce architects and related trades to support customer requirements • Work effectively in a team 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 e.g. poor pasting can cause: dry edges, blistering, delaminating, joint gapping, paste staining, polishing, sheen patches, staining and tearing • 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 a later stage • 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 the product and overall level of customer satisfaction • Demonstrate a 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 specification • 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 a hand or computer aided design (CAD) • Interpret drawings accurately • Produce a colour scheme • Provide a colour match e.g. for type/era of building • Check for specialist requirements e.g. to be fire retardant • Accurately measure from technical drawings and scale • Check for accuracy, challenge and make recommendations to architect/client • Accurately calculate quantities of materials required and price work • Produce a schedule of work	
5	**Apply Paint by Brush and Roller**	**20**
	The individual needs to know and understand: • Purposes of painting: protection, preservation, sanitation, decoration and identification e.g. colour coding • The significance of following manufacturer's guidelines • COSHH requirements • Impact of materials on the general public and necessary precautions e.g. allergies • 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 condition of substrate e.g. new or existing • Check type of substrate e.g. timber, plaster (porous and non-porous surfaces), plastic or metal • Use the correct preparation process for the type of substrate to include: cleaning, priming, de-greasing, sealing • Prepare the paint following the correct process, as appropriate, to include: stirring/mixing/straining • 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 the surrounding area to include: coverage of floors/features and signage to avoid effects on people • Apply the correct paint system for the type of substrate using brush, roller, paint pad or spray e.g. primer, undercoat and gloss • Use masking aids for 'cutting in'/producing accurate lines • Regularly check the quality of the painting by opacity test to ensure consistent coverage • Refer to other trades where problems emerge (immediately or at a later stage) for investigation e.g. water stain • Check quality of finish meets specification to include no defects and take any corrective action	
6	**Apply Paint by Spray**	**10**
	The individual needs to know and understand: • Purposes of painting: protection, preservation, sanitation, decoration and identification e.g. colour coding • The importance of following manufacturer's 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 condition of substrate e.g. new or existing • Check type of substrate e.g. timber, plastic or metal • use the correct preparation process for the type of substrate to include: Cleaning, priming, de-greasing, sealing • Prepare the paint following the correct process, as appropriate, to include: stirring/mixing/straining and viscosity required • 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 the surrounding area to include: coverage of floors/features and signage to avoid effects on people • Select the appropriate spray equipment e.g. HVLP, airless, electro-static and pressure feed • Apply spray paint, 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 test 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 quality of finish meets 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 • Types of pattern to include: set/straight match, drop/offset match and random/free match • Range of papers (including specialist) and their characteristics: pulps, anaglypta, washable, vinyl, duplex, simplex, fabric-backed vinyl, paper-backed fabrics, hand-print, paper-backed vinyl, warps/weft less, 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 remove selvedge • 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 past the wall	

	The individual shall be able to: • Check condition of substrate e.g. new or existing • Check type 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 for even porosity of the surface or apply lining paper as appropriate • Check for pattern matching requirements: random, set, off-set, alternate lengths and reverse • Cut and trim wallpaper efficiently for cost effectiveness • For high quality/expensive papers take particular precautions e.g. use of cotton gloves • 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 manufacturer's guidelines are followed with regard to soaking times as necessary • Select the best starting position 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 manufacturer as appropriate • Check overall quality meets customer specification	
8	**Apply Decorative Techniques**	**15**
	The individual needs to know and understand: • Historical considerations for restoration and preservation work e.g. following a flood or fire • 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 tromp le oeill, 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 the surfaces to a perfect finish including clean, smooth and sized	

9	Apply Sign Writing/Lettering	10
	The individual needs to know and understand: • Stencil types: positive, negative and multi-plate • Methods used for enlarging and reducing stencils: accurate measurement, grid, illuminated projection and photocopy • Methods of transferring a design – including trace, 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)	
	The individual shall be able to: • Take into consideration number of repeats/connections, location of doors, windows, corners, access requirements, room dimensions, stencil size and spacing when working on walls • 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	

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 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 judgment. These are referred to as **objective** and **subjective**, respectively. 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 Specification. The Test Project is the assessment vehicle for the skill competition, and also follows the Standards Specification. The CIS enables the timely and accurate recording of marks, and has expanding supportive capacity.

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

Prior to submission for approval to WSI, the Marking Scheme and Test Project will liaise with the WSI Skill Advisors in order 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 standards that represent the skill. It is designed to allocate marks for each assessed aspect of performance in accordance with the weightings in the Standards Specification.

By reflecting the weightings in the Standards Specification, the Marking Scheme establishes the parameters for the design of the Test Project. Depending on the nature of the skill 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 Specification, if there is no practicable alternative.

The Marking Scheme and Test Project may be developed by one person, or several, or by all Experts. The detailed and final Marking Scheme and Test Project must be approved by the whole Expert Jury prior to submission for independent quality assurance. The exception to this process is for those skill competitions which use an external designer for the development of the Marking Scheme and Test Project.

In addition, Experts are encouraged to submit their Marking Schemes and Test Projects for comment and provisional approval well in advance of completion, in order to avoid disappointment or setbacks at a late stage. They are also advised to work with the CIS Team at this intermediate stage, in order to take full advantage of the possibilities of the CIS.

In all cases the complete and approved Marking Scheme must be entered into the CIS at least eight weeks prior to the Competition using the CIS standard spreadsheet or other agreed methods.

4.2 ASSESSMENT CRITERIA

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

Assessment Criteria are created by the person(s) developing the Marking Scheme, who are free to define 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 Mark Summary Form generated by the CIS will comprise a list of the Assessment 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 of assessment 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) has a specified day on which it will be marked.

Each marking form (Sub Criterion) contains either objective or subjective Aspects to be marked. Some Sub Criteria have both objective and subjective aspects, in which case there is a marking form for each.

4.4 ASPECTS

Each Aspect defines, in detail, a single item to be assessed and marked together with the marks, or instructions for how the marks are to be awarded. Aspects are assessed either objectively or subjectively and appear on the appropriate marking form.

The marking form lists, in detail, every Aspect to be marked together with the mark allocated to it and a reference to the section of the skill as set out in the Standards Specification.

The sum of the marks allocated to each Aspect must fall within the range of marks specified for that section of the skill in the Standards Specification. 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)

STANDARD SPECIFICATION SECTIONS	CRITERIA									TOTAL MARKS PER SECTION
TOTAL MARKS PER CRITERION										100

4.5 SUBJECTIVE MARKING

Subjective marking uses the 10 point scale below. To apply the scale with rigour and consistency, subjective marking should be conducted using:

- benchmarks (criteria) to guide judgment against each Aspect
- the scale to indicate:
  - 0: non attempt;
  - 1-4: below industry standard;
  - 5-8: at or above industry standard;
  - 9-10: excellence.

4.6 OBJECTIVE MARKING

A minimum of three experts will be used to judge each aspect. Unless otherwise stated only the maximum mark or zero will be awarded. Where they are used, partial marks will be clearly defined within the Aspect.

4.7 THE USE OF OBJECTIVE AND SUBJECTIVE ASSESSMENT

The final deployment of objective or subjective assessment will be agreed when the Marking Scheme and Test Project are finalized. The table below is advisory only for the development of the Test Project and Marking Scheme.

SECTION	CRITERION	MARKS		
		Subjective	Objective	Total
A	Door	0	20	20
B	Wall papering	0	17	17
C	Free Technique	2	8	10
D	Lettering, design	2	34	36
E	Mural, colour matching	0	17	17
Total		4	96	100

4.8 COMPLETION OF SKILL ASSESSMENT SPECIFICATION

Days and allocation of subjective and objective marks will be finalized at the Competition by the Experts, however 30% minimum of objective and/or blind marking must be carried out on day C4.

Schedule of completed work for marking
(Subjective = S, Objective = O)

	DAY ONE	DAY TWO	DAY THREE	DAY FOUR
A: Door				O/20
B: Wall papering		O/17		
C: Free Technique	O/3		S/2, O/5	
D: Design lettering (Lettering)			O/7	
Design Lettering (Design)				S/2 O/2
E: Mural, Colour Matching		O/17		
Total marks per day	**3**	**34**	**14**	**49**

Each completed module (or parts thereof) will be assessed on the day on which it is completed, except wallpapering:

- Module one (door):
  - Door twelve marks, moulding eight marks
- Module two (wallpaper):
  - Cutting and pattern matching to internal corner four marks, surface three marks, pattern four marks, connections four marks, dimensional accuracy two marks.
- Module three (Free Technique):
  - Info sheet two marks, artistic composition (subj.) two marks, technical execution three marks, colour concept one mark, accurate implementation two marks.
- Module four (Lettering, design):
  - Lettering: correct colour one marks, clean surfaces one marks, straight lines, clean corners two marks, no visible reference lines one marks, dimensional accuracy two marks;
  - Design: correct colour four marks, clean surfaces seven marks, straight lines, clean corners seven marks, no visible reference lines two marks, dimensional accuracy seven marks overall appearance two marks (subj.).
- Module five (Mural):
  - Speed four marks, clean surfaces four marks, mixing colour tones four marks, mixing colour shade two marks, dimensional accuracy three marks.
- No assessments will be made on day one.

Marking scale will be made available on the forum six months prior to the Competition.

Systems of assessment

- Blind marking (Module one, four and five)
  - Blind marking is the objective marking of elements which can be dismantled and folded up outside the work booth. It will be used for the following elements, are all objective criteria:
    - Door,
    - Design,
    - Lettering;
- Colour mixing (Module five)
  - Colour tone;
  - Colour shades.

  In the first instance the various elements will be arranged according to their quality. The best quality l work will be placed first, the least quality work last. Works of an identical quality will be 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 (Modules five)
  At the speed competition all Competitors have to work as fast and as precisely as possible.

  The expenditure of time will be awarded with maximum four marks.

  The swiftest Competitor will be awarded four marks, the others in the order in which they complete the task 0.25 marks less (if there are more Competitors than 16, the marking needs to be changed). Competitors who finish simultaneously will receive the same number of marks, the next Competitor 0.5 or more marks less.
- Dimensional Accuracy
  For the dimensional accuracy tests, a deviation of ± 1 mm from the required measurement will be tolerated, deviations ranging from 1-3 mm will give rise to deductions, and deviations of more than three mm from the required measurement will be given zero marks:
  ± 1 mm = 1 Pkt.
  ± 2 mm = 0.5 Pkt.
  ± 3 mm = 0.25 Pkt.
  > 3 mm = 0 Pkt.

  Maximum one mark will be awarded per measurement point.
- Free technique
  The free technique will be dismantled and marked according to three criteria:
- Technical execution, max. three marks (objective)
  - The technical execution will be assessed with objective criteria. The detailed and final marking scheme is developed and agreed by all Experts before the Competition.
- Artistic composition, max. two marks (subjective)
  - The artistic composition will be assessed with subjective criteria by all the Experts.
- The information sheet will be assessed with objective criteria, max two marks;
- Colour concept one mark;
- Accurate implementation two marks;
- The final work needs to match the information sheet.

4.9 SKILL ASSESSMENT PROCEDURES

The final detailed aspects for the objective marking will be decided by the Experts prior to the Competition.

The Experts will be deployed for marking purposes as follows:

- Subjective marking - total four marks
  - Free technique (artistic composition), max. two marks;
  - Design (overall appearance) max two marks;
  - The artistic composition will be assessed by all the Experts including Chief Expert and Deputy Chief Expert and an average mark will be calculated.
- Objective marking, blind marking - total 96 marks
  - Three Experts for the evaluation which they will do together,
  - One Expert compiles the results,
  - One Expert checks the compilation;
- Speed competition, total four marks
  - One Expert compiles the results,
  - One Expert checks the compilation,
  - Two Experts checks the reports,
  - All other Experts checks the competition;
- Colour mixing, total 6 marks
  - Five Experts line the elements according to their quality (as described at paragraph 4.8) 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 will be put together by the Chief Expert and the Deputy 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 skills in each section of the WSSS.

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

The Test Project will not cover areas outside the Standards Specification, or affect the balance of marks within the Standards Specification other than in the circumstances indicated by Section 2.

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.

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 Specification. Section 0 refers.

5.2 FORMAT/STRUCTURE OF THE TEST PROJECT

The format of the Test Project comprises a series of separately assessed modules.

5.3 TEST PROJECT DESIGN REQUIREMENTS

Criteria for module four that has to be submitted

- The Test Project that has to be prepared by the Experts for the following Competition consists of module four (design and lettering). Changes within the 30% to the "design" are excluded;
- The choice of the respective Test Project is based on paragraph 5.6;
- The Test Project must:
  - Comply with the current valid Technical Description,
  - Comply with the requirements and numbering defined by WorldSkills,
  - Module four consists of a colour drawing showing the design and lettering (name of the venue and year) as well as details of the construction;
- The following documents must be given to the Chief Expert for the selection of the Test Project; they may not contain any information regarding the designer or the country (no names):
  - 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 (paragraph 5.5)

- The necessary materials to be used will be 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.
- The entire Test Project (excluding module five) must be prepared in detail and in the three official languages by the Expert whose Test Project has been chosen and made available to the WorldSkills Secretariat in digital form (PDF) after it has been approved by the Chief Expert.

Criteria for the submitted module five

- Experts must draw the mural for module five during the preparation days at the Competition (C-4 to C-1). The Experts need to choose from a minimum of two, maximum of four murals, which will be prepared at the Competition. The mural measurements must be no larger than 800cmx240cm and be designed so that there is no wet paint on wet paint;
- The mural must be done in a minimum of three, maximum of four colours, including the background and comprise the construction in detail;
- The 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 mural according to the Test Project. The other three colours must be mixed as colour shades. The colour mixing will be completed prior to the speed competition;
- The mural must be done in four colours including the background (project in four levels of grey) and comprise the construction in detail.

- Proof must be submitted that the project is able to be constructed in the time and is feasible (paragraph 5.5).

5.4 TEST PROJECT 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 Who develops the Test Project or modules

Proposals for the Test Project/modules (module four) are developed by all Experts.

5.4.2 How and where is the Test Project or modules developed

The proposals for the Test Project/modules are developed independently.

5.4.3 When is the Test Project developed

The Test Project is developed according to the following timeline:

TIME	ACTIVITY
At the previous Competition	The Experts define the requirements of the individual modules. The Experts vote on module four (design, lettering). The winning project is sent to the WorldSkills Secretariat.
Immediately after the previous Competition	Module four is circulated on the website.
Six (6) months before the Competition	Choice of wallpaper, module two: The wallpaper must be 53cm wide, it must have a pattern (with repeat) and has to be washable. The Chief Expert selects a minimum of three wallpaper samples and requests all the registered Experts to vote on them via the Discussion Forum on the WorldSkills website. The wallpaper that receives the most votes is selected. The selected wallpaper is ordered by the WM.
Three (3) months before the Competition	Two rolls of the chosen wallpaper are sent to each Competitor and the Workshop Manager is informed of the number of rolls of wallpaper required for the competition. The Test Project (all modules) is circulated to Competitors on the WSI website. It includes beside the chosen Test Project the final list of tasks written in the three official languages. Module five: the last Test Project at the Competition.
Before the current Competition	The Experts choose the lettering (module four, decide on the method of application and prepare the Test Project for the competition for each Competitor. The file format for the lettering must be available in Adobe Illustrator format. The Experts vote on module five (paragraph 5.3). The winning project is sent to the Technical Director. The Experts determine a colour shade as a sample for module five. All Competitors are provided with a colour sample, approx. 20x20 cm in size and also a white sheet of paper for the colour shade approximately 20x30cm. 20 measurement points are fixed for modules two, four and five. 13 of these measurement points will be drawn by lot at the end of the competition and included in the rating. The Experts make the final assessment of modules four and five on the basis of the submitted assessment criteria.

5.5 TEST PROJECT VALIDATION

Each submitted Test Project must be accompanied by a functional demonstration/proof of construction/feasibility in the given time etc. for example with a photograph of a project that was completed in compliance with material and equipment specifications, the required professional skills and the time limit.

5.6 TEST PROJECT SELECTION

By vote of Experts at previous Competition for module four (Design) and by vote of Experts six months before the current Competition for module two (Wallpaper). Module five will be chosen before the current Competition.

Choice of the modules four and five according to paragraph 5.3.

Statement
The majority of the Experts (at least 50% + 1), including the Chief Expert and Deputy Chief Expert must agree on decisions. If there is parity of votes, the Jury President has the deciding vote.

Only projects that comply with all the specifications outlined under paragraphs 5.3 will be put to the vote.

Only those are entitled to vote who have submitted a project that has been accepted for the voting process.

5.7 TEST PROJECT CIRCULATION

The Test Project is circulated via the website as follows:

Module four is circulated immediately after the previous Competition.

All other modules are circulated three months before the current Competition.

5.8 TEST PROJECT COORDINATION (PREPARATION FOR COMPETITION)

Coordination of the Test Project will be undertaken by the Chief Expert.

5.9 TEST PROJECT CHANGE AT THE COMPETITION

Decisions to change the modules one and three can only be made for the next Competition. Up to 30% of the modules may be changed by the Experts at the venue of the current competition according to the following scale:

- 9%: choice of lettering (part of module four). The lettering (name of the venue and year) will be decided in accordance with the chosen design. Furthermore, the Experts will decide on the application technique.
- 17%: choice of the mural (module five) including colour tone and the colour shades.
- Other changes are not permitted.

5.10 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.

The following material specifications must be complied with at the competition venue:

- All coating materials must be water-based;
- Wallpapers according to paragraph 5.4.3;
- The door must be a real door with moulding and pre-primed.

For modules three, four and five MDF panels are required, minimum 22mm thick, for stability. The Competitor workstations need to be a minimum of 5mx6m.

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 skill specific Discussion Forum (http://forums.worldskills.org). Skill related decisions and communication are only valid if they take place on the forum. The Chief Expert (or an Expert nominated by the Chief Expert) will be the moderator for this Forum. Refer to 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
- Marking Schemes
- Test Projects
- Infrastructure List
- Health and Safety documentation
- 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 during the Competition is defined in the Skill Management Plan that is created by the Skill Management Team led by the Chief Expert. The Skill Management Team comprises the Jury President, Chief Expert and Deputy Chief Expert. The Skill Management Plan is progressively developed in the six months prior to the Competition and finalized at the Competition by agreement of the Experts. The Skill Management Plan can be viewed in the Expert Centre (www.worldskills.org/expertcentre).

7 SKILL-SPECIFIC SAFETY REQUIREMENTS

Refer to Host Country/Region Health and Safety documentation for Host Country/Region regulations.

The following skill-specific safety requirements apply:

- All Competitors must use safety glasses when using any hand, power or machine tools or equipment likely to cause or create chips or fragments that may injure the eyes;
- Experts will use the appropriate personal safety equipment when inspecting, checking or working with a Competitor's project;
- All Competitors must bring with and use:
- Coveralls,
- Work gloves,
- Rubber gloves,
- Safety goggles (white glass),
- Regular vapour respirator,
- Working shoes in leather.

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 Experts for the next Competition. The Competition Organizer will progressively update the Infrastructure List specifying the actual quantity, type, brand, and model of the items. Items supplied by the Competition Organizer are shown in a separate column.

At each Competition, the Experts must review and update the Infrastructure List in preparation for the next Competition. Experts must advise the Technical Director 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.

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 MATERIALS, EQUIPMENT AND TOOLS SUPPLIED BY COMPETITORS IN THEIR TOOLBOX

The following tools and materials (incl. tools and materials for the special painting technique) will be brought by the Competitor in a toolbox:

- Filler for wood,
- Abrasive materials,
- Personal tools for all modules,
- Materials for module three, free technique,
- Drawing and measuring tools (commercially available),
- Various brushes, rollers and pads,
- 1 x set of paper hanging tools,
- 1 x Mahl stick and Painters ruler,
- 1 x disposable sieves,
- 1 x screwdriver,
- 1 x spirit or digital level,
- 1 x sponge,
- 1 x set of palettes knives,
- 1 x glass scraper,
- 1 x grid for roller tray several foam rubber rolls,
- 1 x masking tape dispenser.

8.3 MATERIALS, EQUIPMENT AND TOOLS SUPPLIED BY EXPERTS

Not applicable.

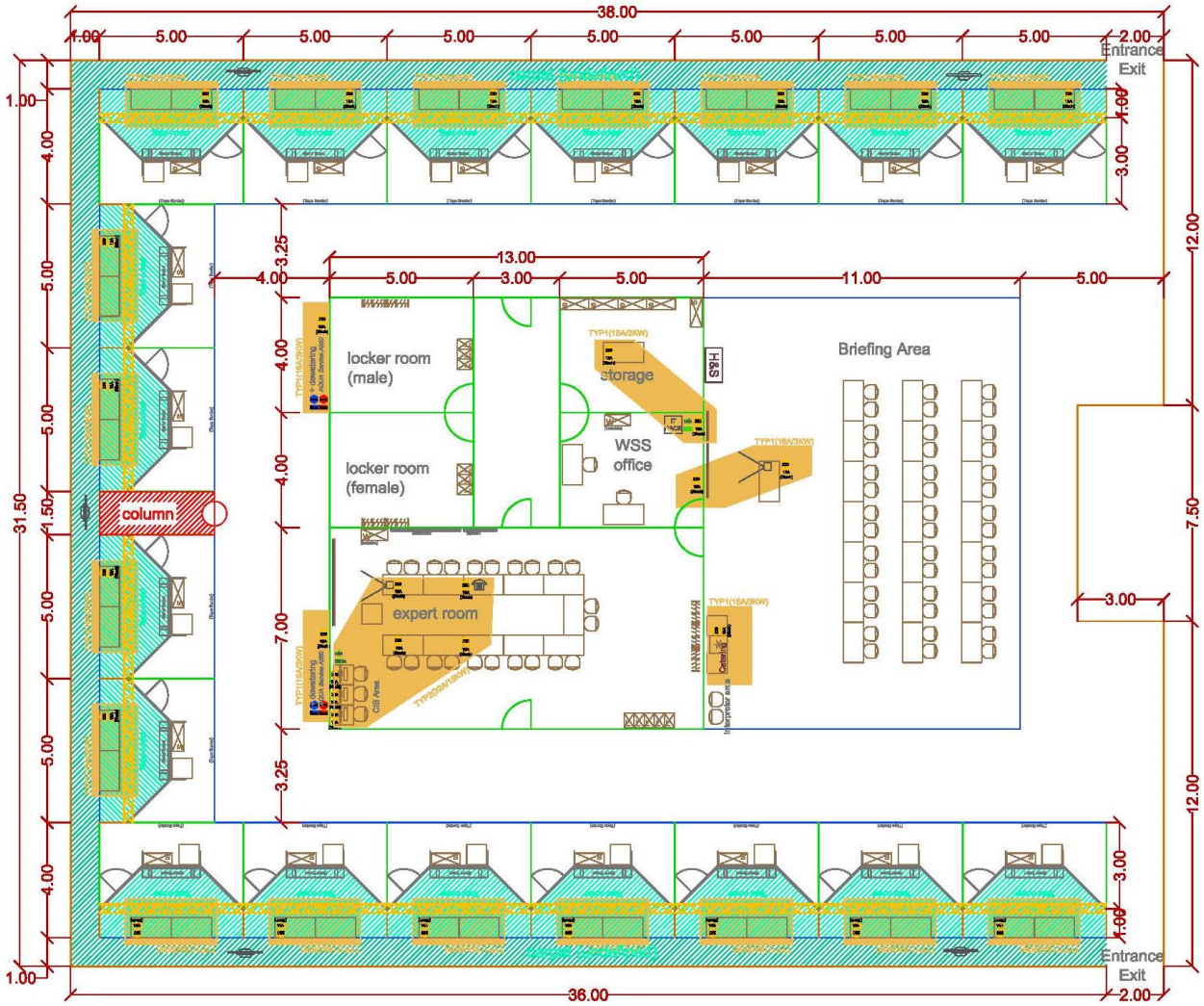
8.4 MATERIALS AND EQUIPMENT PROHIBITED IN THE SKILL AREA

Not applicable.

8.5 PROPOSED WORKSHOP AND WORKSTATION LAYOUTS

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

Example workshop layout:



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

- Workstation
  A workstation with a wall to work on will be made available to each Competitor (see paragraph 8.5). On-site conditions must be taken into account.

  The area for the workstation for each Competitor must be 5m x 6m.

- Type of construction
  The walls must consist of wood, plaster or a similar material 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) before the beginning of the competition.

  The finished walls must be tested for adhesion strength with adhesive tape!

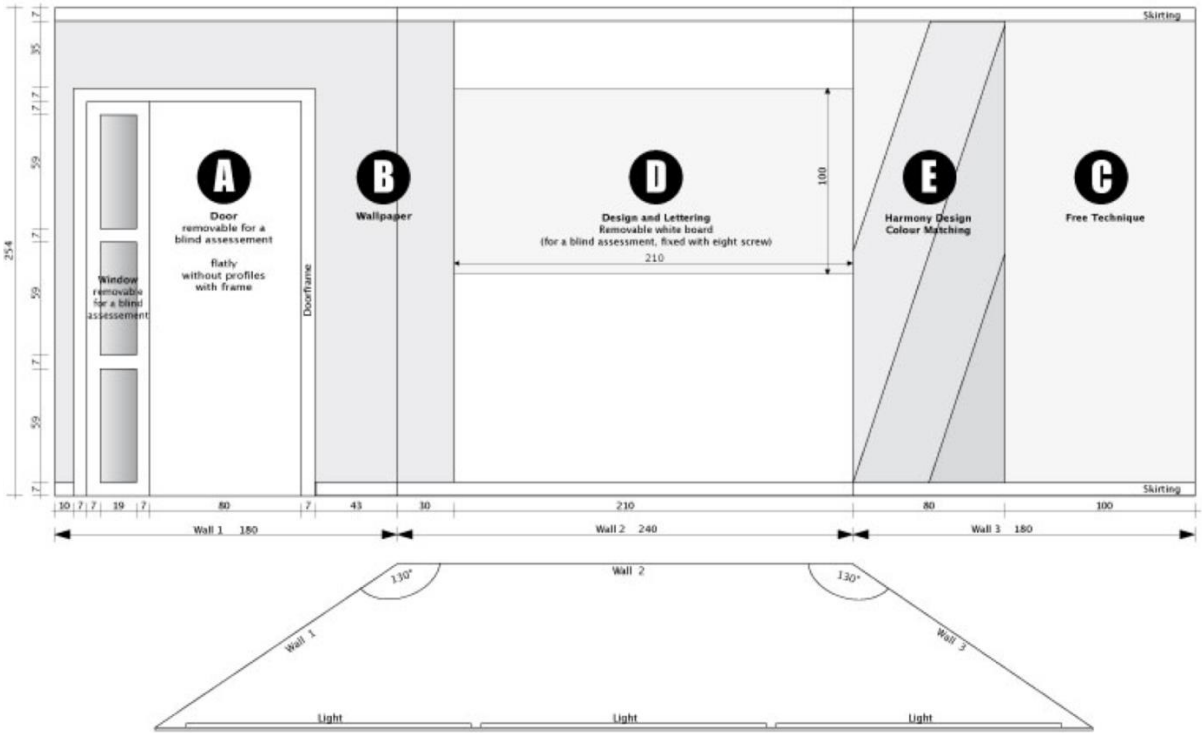
- Preparation at the Competition venue (by the Workshop Manager)
  The surfaces to be treated (walls, doors, panels etc.) must be prepared by the respective Workshop Manager according to the instructions for the assignment/given by the Chief Expert.

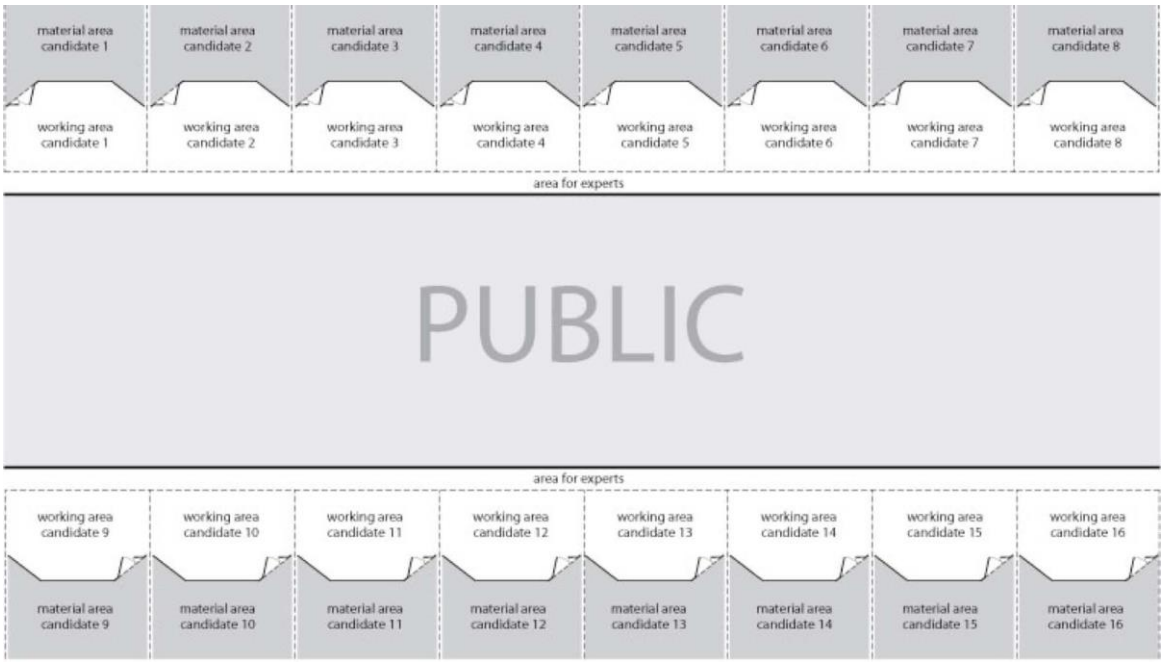
  The templates, lettering and transfer sheets must adhere to the surface (work surface in the booth) but should not cause damage when removed. The sheets will be tested by the Workshop Manager and made available after consultation of the Chief Expert.

- Workstation layout
  The space must be made available for the work booths and work stations of the Competitors according to paragraph 8.5. This layout is an example and non-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 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 work station of each Competitor is shown below (measurements in centimetres). There must be enough room for equipment and machines as outlined under 8.5.





9 VISITOR AND MEDIA ENGAGEMENT

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

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

10 SUSTAINABILITY

- Recycling;
- Use of 'green' materials;
- Use of completed Test Projects after Competition.