worldskills Europe

Technical Description

Cabinetmaking

1 Introduction

1.1 Name and description of the skill competition

1.1.1 The name of the skill competition is

Cabinet making

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

Cabinetmaking covers the manufacture of free-standing and built-in furniture and units, using wood at the sole or main material. It may include the design of furniture, but normally comprises the creation of furniture and units from designs prepared by others. Cabinetmaking differs from joinery through the quality of the wood and associated materials used, and the intricacy and aesthetic quality
of the finished items. There is, however, some overlap between cabinetmaking and joinery.
A cabinetmaker generally works on commercial and residential assignments of a high quality and value. They will therefore exhibit very high standards of skill and professionalism in order to justify clients' expectations and willingness to pay. Most cabinetmakers work in small companies which have
to be very sensitive to their reputation and market in order to sustain their businesses' viability.
The cabinetmaker will produce furniture and fittings in a workshop, at least until installing fitted items.
However, in order to meet clients' needs, including for the items to add to the aesthetic qualities of their environment they are placed in, they will know intimately where bespoke items are intended to be placed. For items produced speculatively rather than for known clients, the cabinetmaker will have
a clear view of the types of location and setting that will show the items at their best.
The cabinetmaker will produce, interpret and/or adapt drawings, set out and measure, cut, form joints,
assemble, install if need be, and finish to a high standard. The quality of their work will show in:
The selection of the wood and other materials;
The placing of the wood to bring out its particular characteristics;
Construction techniques which allow for the natural movement of timber to achieve longevity and quality in the furniture piece;
The selection of additional materials including veneers and fittings;
The near-perfect fit of each part following accurate measurement, cutting and assembly, and the final
appearance of the item.
Work organization and self-management, communication and interpersonal skills, problem solving, innovation and creativity, working precisely and accurately are the universal attributes of the cabinetmaker. They assume a high level of personal responsibility and autonomy. From working safely
through to exceptional planning and organizing, accuracy, concentration, and attention to detail to achieve an excellent finish every step in the process matters and mistakes are largely irreversible and
very costly.
Modern technology and mass production have enabled furniture and fittings, previously available only
to the wealthy, to be more widely available. However, for those with disposable income and an eye for
quality, the cabinetmaker is able to produce furniture and fittings that are a lasting pleasure both to

use and to look at. In this discerning market the outstanding cabinetmaker will always be in demand.

1.2 The content, relevance and significance of this document

This document incorporates a Role Description and Occupational Standards which follow the principles and some or all of the content of the WorldSkills Occupational Standards. In doing so WSE acknowledges WorldSkills International's (WSI's) copyright. WSE also acknowledges WSI's intellectual property rights regarding 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:

- WSE – Competition Rules
- WSI – WorldSkills Occupational Standard framework
- WSE – WorldSkills Europe Assessment Strategy
- WSE – Online resources as referenced in this document
- WSE – Code of Ethics and Conduct
- Host Country – Health and Safety regulations

2 The Occupational Standards

2.1 General notes regarding WSOS / WSEOS

Where appropriate WSE has utilised some, or all, of the WorldSkills International Occupational Standards (WSOS) for those Skills Competitions that naturally align between the two international competitions. Where the Skill is exclusive to the EuroSkills Competition, WorldSkills Europe has developed its own Occupational Standards (WSEOS) using the same principles and framework to that used for the development of the WSOS. For the purposes of this document the use of the words “Occupational Standards” will refer to both WSOS and WSEOS.

The Occupational Standards 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. Helpfully, for the global consultation on the WSOS in 2014-2021, around 50 percent of responses came from European industry and business.

Each Skill Competition is intended to reflect international best practice as described by the Occupational Standards, and to the extent that it is able to. The Occupational Standards 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 Occupational Standards are 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 Occupational Standards. 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 Occupational Standards. They will reflect the Occupational Standards 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 Occupational Standards to the extent practically possible. A variation of five percent is allowed, provided that this does not distort the weightings assigned by the Occupational Standards.

2.2 Occupational Standards

Section		Relative importance (%)
1	**Work organization and self-management**	**10**
	The individual needs to know and understand: • Health and safety legislation, obligations and regulations which control the work process • The principles of working safely with electrical equipment and tools • Emergency procedures and reporting processes for accidents, first-aid and fire	

Section		Relative importance (%)
	• The situations when personal protective equipment (PPE) must be used • The uses, care, maintenance and storage of tools, machines, equipment and materials • The significance of keeping a clean and tidy work area • Ways in which working practices can minimise wastage and manage/control costs • Sustainability measures applying to the use of 'green' materials and recycling • Principles of work planning, operations and time management • The significance of planning, accuracy, checking and attention to detail in all working practices • The role of the individual in maintaining a successful business • The value of managing own continuing professional development	
	The individual shall be able to: • Follow health and safety standards, rules and regulations • Maintain a safe working environment • Identify and use the appropriate personal protective equipment including safety footwear, ear and eye and dust protection • Select, use, clean, maintain and store all hand and powered tools and equipment safely • Select, use and store all materials safely • Plan the work area to maximise efficiency and maintain the discipline of regular tidying and cleaning • Measure accurately and avoid wastage • Work efficiently and check progress and outcomes regularly to avoid financial penalties • Critically evaluate own work	
2	**Communication and interpersonal skills**	**5**
	The individual needs to know and understand: • The importance of establishing and maintaining client confidence and trust • Non-verbal communication • The negotiation process • The roles and requirements of associated trades and professions • Effective methods of communication with different groups and individuals • The value of building and maintaining productive working relationships with colleagues and managers • The importance of swiftly resolving misunderstandings and conflicting demands • Reporting methods	
	The individual shall be able to:	

Section		Relative importance (%)
	• Gain the trust of clients and manage expectations positively • Visualize and interpret clients' wishes, giving advice and making recommendations or providing options which meet/improve their design and budgetary requirements • Liaise with suppliers to negotiate prices and place orders • Produce estimates for clients • Recognize, respect, and adapt to changing circumstances and requirements • Order components from other departments, allowing for enough time for production, and in a timely manner for own production to continue without hinder • Communicate with others with reference to drawings, variations to documents, and restrictions • Follow instructions, meet deadlines, and report on progress in the appropriate format	
3	**Problem solving, innovation and creativity**	**5**
	The individual needs to know and understand: • Principles of style, form and aesthetics • The available options for enhancing quality through style and technique • The common types of problem which occur during the work process • Diagnostic approaches to problem solving • The challenges of complex projects • Trends and developments in the industry	
	The individual shall be able to: • Consider, explore and discuss style, form and aesthetics with clients and specialists • Check work regularly to minimise problems at a later stage • Recognise, clarify and resolve problems swiftly and through appropriate processes • Develop creative solutions to challenges when working on complex projects • Contribute ideas to improve the product and overall level of client satisfaction • Keep up to date with changes and trends in the industry • Demonstrate a willingness to try new methods	
4	**Working with drawings**	**15**
	The individual needs to know and understand: • the essential information that must be included in a working drawing • the ISO standards which must be followed	

Section		Relative importance (%)
	• geometry and trigonometry • the significance of an accurate working drawing as a basis for accurate cabinetmaking • the importance of checking the working drawing for missing information or errors and pro-actively taking corrective action • the options for adding value through construction style and technique	
	The individual shall be able to: • establish the required uses and environment of the finished product • establish the required or appropriate materials for the product • establish the dimensions, characteristics and style of the required product • produce drawings both to scale and full size (the TD seems to suggest this) • produce drawings which clearly indicate the type of construction • interpret given drawings, optimising the potential for high quality construction • clarify and correct missing or incorrect information • determine the types and quantities of the required materials for the product	
5	**Selecting and preparing materials**	**25**
	The individual needs to know and understand: • The importance of thinking through each project to ensure that everything is in place to enable completion • The implications for the business/organization of not setting out correctly • Calculations to assist accuracy and the efficient use of time and materials • The characteristics and uses of hardwood and softwood • The characteristics and uses of board materials • The characteristics and uses of veneers • Methods for identifying defects and limitations in the materials selected • The characteristics of the selected material when in use by the client • The basis for selecting fittings for hinges, locks, catches, stays, handles, and shelves	
	The individual shall be able to: • Visualize whole projects to identify and resolve challenges • Select the material in order to avoid defects and enhance appearance • Select fittings for use and appearance	

Section		Relative importance (%)
	• Set out materials in order to determine all the measurements, sections, angles, mitres, and joints • Use geometric methods to determine complex angles, joints, and intersections • Label material and items as appropriate • Transfer points, measurements, and angles accurately from plans to materials • Set out directly on materials where appropriate • Produce components which will fit together with items from CNC machines. • Make jigs for stationery machines, based on drawings and within safety requirements • Produce shaped elements, using jigs on stationery machines	
6	**Jointing and assembly**	**30**
	The individual needs to know and understand: • how solid wood and board material components are joined to create and assemble items • the balance to be struck between the type of joints and required durability • the properties, uses and limitations of glues and other fixing materials	
	The individual shall be able to: • use prepared solid wood to set out the required type and size of joints for an assembly • use hand and/or hand-powered tools to cut and prepare a wide range of joints including mortise and tenon, finger joints, mitres, dowel joints, halving joints and dovetail joints • use woodworking machines to form or part-form joints • use woodworking machines to form grooves, rebates and mouldings • cut board materials and prepare joints using a dimension saw • apply edging strips and face veneers to a panel	
7	**Preparation of surfaces and finishing**	**20**
	The individual needs to know and understand: • how various components are prepared for polishing • the uses and limitations of preparatory techniques and materials • methods of fitting doors and drawers into a cabinet carcase • the uses and limitations of polishing materials and agents • the importance of checking finish against client requirements and expectations and personal standards	
	The individual shall be able to: • position and fit hinges	

Section		Relative importance (%)
	• control the fit around door edges • fit drawers and other moving items into carcases to achieve a glide fit • produce surfaces that are free from defects • produce surfaces on a complete assembly that are free from defects • produce soft edges to the components or assemblies • polish the components or assemblies • review the items for harmony, proportion, fit and finish	
	Total	**110**

3 The assessment approach & principles

3.1 General guidance

Note: this Section and Section 4 summarize a great deal of new information and guidance regarding assessment. Please refer to the Competition Rules for greater detail.

The Competition Committee (CC) establishes the principles and techniques to which assessment at the EuroSkills Competition must conform.

Expert assessment practice lies at the heart of the EuroSkills 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 EuroSkills Competition: the Marking Scheme, Test Project, and Competition Information System (CIS).

Assessment at the EuroSkills Competition falls into two broad types: measurement and judgement. All assessments will be governed by explicit benchmarks, referenced to best practice in industry and business.

The Marking Scheme must include these benchmarks and follow the weightings within the Occupational Standards. The Test Project is the assessment vehicle for the Skill Competition, and also follows the Occupational Standards. 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 Technical Description and the principles for assessment as set out in the WSE Assessment Strategy. They will be agreed by the Experts and submitted to WSE for approval together, in order to demonstrate their quality and conformity with the Occupational Standards.

Prior to submission for approval to WSE, the Marking Scheme and Test Project will be reviewed by the WSE 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 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 Assessment overview

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

Sections A to H:

A Dimensions

Specific dimensions are measured. All dimensional marking is done by templates supplied by the Workshop Manager.

B Conforming to drawing

The project must conform to the drawing in all instances

C Face marking and joints before gluing

Indication of face marking system, refer to the 'Assessent Guide - Aspect C' for details. The inside of the joints is assessed before gluing, including fit, and accuracy. Dowels and biscuits must be inserted in a uniform manner for presentation/marking.

A selected dovetail joint(s) to be made with hand tools only. No electric tools/ jigs/ guides are permitted.

D Joints after gluing

Inspection of joints at assessment time. The joints should have no gaps and show no evidence of fillings (glue, sawdust, wax, etc.).

E Fitting and movable parts

Hardware fitting to doors, drawers etc. according to drawing and information sheets. Fit and function of moving parts. Incorporating of parts made from external departments or external supplier. Wax or lubricant is only allowed on moving parts.

F Surfaces

The quality of finish of all surfaces e.g. solid wood, veneered panels, and edges should be ready for polishing. The surfaces should show no evidence of fillings (glue, sawdust, wax, etc.). Surfaces are prepared to a maximum of 240 grit abrasive paper. Surfaces should be level with no visible cross scratches.

G Use of material

A penalty for the use of extra materials due to mistake up to a maximum of 3 points. 1/2 point per mistake.

H Safety

• Follow health, safety, and environment standards, rules and regulations;

• Maintain a safe working environment;

• Identify and use the appropriate personal protective equipment including safety footwear, ear, eye, and dust protection;

• Follow safety guide and instructions for use of jigs on stationery machines;

• Select, use, clean, maintain, and store all hand and powered tools and equipment safely.

4.10 Skill Assessment Procedures - Mark distribution

This section defines the assessment criteria and the number of marks (judgement and measurement) awarded. The total number of marks for all assessment criteria must be 100. The table below is advisory only for the development of the Test Project and Marking Scheme.

SECTION	CRITERION	MARKS		
		Judgement	**Measurement**	**Total**
A	Dimensions	0	19	**19**
B	Conformity to drawing	0	7	**7**
C	Joints before gluing	20	5	**25**
D	Joints after gluing	20	0	**20**
E	Fitting and movable parts	5	5	**10**
F	Surfaces	13	0	**13**
G	Use of materials	0	3	**3**

H	Health and Safety	0	3	**3**
Total =		**58**	**42**	**100**

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 Occupational Standards.

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

The Test Project will not cover areas outside the Occupational Standards, or affect the balance of marks within the Occupational Standards other than in the circumstances indicated by Section 2.1.

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 the EuroSkills Competition's 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 Standard Specification. Section 2.1 refers.

5.2 Format/ structure of the Test Project

The Test Project is a single Test Project assessed in stages.

An element of the Test Project may be carried out under control conditions and with restricted equipment.

5.3 Test Project design requirements

- The drawings for a Test Project proposal must be created in AutoCAD format DWG and also saved as a PDF file on the WorldSkills Europe template and include the correct specifications.
- The drawings must be to the scale of 1:1, 1:2 or other suitable scale, and the format should include a maximum of two drawings of size A1. Smaller sizes are allowed if suitable to expedite work at the Competition.
- The orthographic drawing can be produced at an identified reduced scale. Test Project proposals should be produced considering the need for 30% change;
- Test Project proposals must be in English;
- Test Project proposals must only have 1 drawer and 1 hinged component, ie. door;
- Maximum clamping dimension shall be 900 mm. This means that the maximum jaw-to-jaw dimension of the clamp should 1000 mm or less to allow for clamping blocks (cauls). The maximum dimension of a project (height + width + depth) is to be 2500 mm.
- Test Project can be completed in 18 hours;

5.4 Test Project development

The Test Project MUST be submitted using the templates provided by WSE. Use the Word template for text documents and DWG template for drawings. Please contact jordy.degroot@worldskillseurope.org for guidance.

If the Test Project is designed by an Independent Test Project designer, then the Test Project must be designed in accordance with the WSE Independent Test Project Guide v1.1.

If your Skill wishes to have an Independent Test Project designer, you must ensure that WorldSkills Europe is made aware of this, so that it can be assured that there is proper funding in place, or that the Independent Test Project designer is aware that he/she will do this task free of charge.

5.4.1 Who develops the Test Projects or modules

The Test Project / modules are developed under the supervision of:

The initial proposed Test Project/modules are developed independently by all Experts.

The final Test Project/modules are developed by an Independent Test Project Designer (ITPD).

Plan B. If we do not get a ITPD then we will need to select (by vote or draw) one of the final 3 test project completed by the Experts at C-3 months, circulate and then agree and apply a 30 % change to the selected TP during either C-2 before the competition.

5.4.2 How and where is the Test Projects or modules developed

The Test Project or modules are developed in the following manner:

• The Test Project is developed by an Independent Test Project designer

Plan B will take over if we dont have an Independent Test Project designer

5.4.3 When is the Test Project developed

The Test Project is developed according to the following timeline:

TIME	ACTIVITY
4 months prior to the Competition	All proposals ; at the term, 2 weeks to examinate
At the term of examining	2 weeks for voting the definitive Test Project
3 months prior to the Competition	Selected Test Project is known
After voting	A past Expert makes 30% changes (an another past Expert advisory checks them) and both keeps changes secret till C -2 : a- dwg drawing b- marking scheme. One of them prepares the presentation of changed project for Experts on site (preferable) or online in C-2.
Before the Competition	SMT has final responsibility to check and ensure the the Test Project compliancy with Infrastructure

5.5 Test Project validation

Test Project validation will be conducted as required by the competition rules. See 5.4.3.

5.6 Test Project selection

- Test Project is designed by an Independent Test Project designer, therefore there is no selection process

Plan B.

- By vote of Experts on the Discussion Forums

5.7 Test Project circulation

Please note that if a Test Project is known by the Chief- and/or Deputy Chief Experts, and/or any of the other Experts, it must be shared via the forums before the start of the Competition. This also means that this Test Project is subject to a 30% change before the start of the Competition.

The Test Project is circulated via the website as follows:

- Submitted to the Secretariat for circulation 3 months before the current Competition

5.8 Test Project coordination (preparation for competition)

Coordination of the Test Project will be undertaken by:

- Skill Management Team

5.9 Test Project change at the competition

See 5.4.3.

5.10 Material or manufacturer specifications

Specific material and/or manufacturer specifications required to allow the Competitors to complete the Test Project will be supplied by the Host Organization and are available via the forums. 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.

Specific material and/or manufacturer specifications required to allow the Competitor to complete the Test Project will be supplied by the Competition Organizer. 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.

5.11 Software specifications

Requirments of AutoCad for DWG drawings.

6 Skill management and communication

6.1 Discussion forum

Prior to the EuroSkills Competition, all discussion, communication, collaboration, and decision making regarding the Skill Competition must take place on the skill specific Discussion Forum, which can be reached via www.worldskillseurope.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 WorldSkills Europe website www.worldskillseurope.org. Please contact jordy.degroot@worldskillseurope.org for guidance.

The information includes:

- Competition Rules
- Technical Descriptions
- Test Projects
- Infrastructure List
- EuroSkills Health, Safety, and Environment Policy and Regulations
- Other Competition-related information

6.3 Test Projects and Marking Schemes

Circulated Test Projects will be available at the WorldSkills Europe website from www.worldskillseurope.org. Please contact jordy.degroot@worldskillseurope.org for guidance.

6.4 Day-To-Day management

The day-to-day management of the Skill Competition during the EuroSkills 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 at www.worldskillseurope.org. Please contact jordy.degroot@worldskillseurope.org for guidance.

7 Skill specific safety requirements

7.1 Requirements

Refer to Host Country/Region Health and Safety documentation for Host Country/Region regulations. This document will be shared via the forums. One overall Health and Safety document will be published, as well as Skill specific safety requirements.

8 Materials and equipment

8.1 Infrastructure List

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

The Infrastructure Lists will be available at the WorldSkills Europe website from www.worldskillseurope.org. Please contact jordy.degroot@worldskillseurope.org for guidance.

The Infrastructure List specifies the items and quantities requested by the Experts for the next Competition. The Host Organization will progressively update the Infrastructure List specifying the actual quantity, type, brand, and model of the items.

At each Competition, the Experts must advise the Competition Manager 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 Competitors toolbox

WorldSkills Europe aims to minimize the sending of toolboxes as much as possible. We therefor ask you to keep this in mind when writing the section below. Please be advised that competitors should bring as little as possible and what they do bring **MUST** be true hand tools. Only items are allowed that would significantly affect their ability to perform the task and deliver the Test Project to a high standard.

Toolbox cannot exceed 1,75 m³ of total shipping volume (from ground to top x length x depth) and maximum 1,4 m of height. If toolbox is larger, Expert of that Competitor has to select tools and equipment to fit in 1,75 m³ before 30% change of Test Project has revealed

8.3 Materials, equipment and tools supplied by Competitors in their toolbox

The following tools ARE allowed to be carried in the toolboxes:

- Competitors may bring any conventional hand tools they wish.
- Competitors may bring sanding blocks provided they are clearly marked and not made of the same wood as the Test Project.
- Competitors may bring a maximum of two (2) portable power tools of their choice, except if the power tool listed below are being supplied by the Competition Organizers.
- Competitors may bring are one inverted router table including a selection of cutters.
- If required Competitors must bring extra hose, fittings, and adaptors to accommodate different brands of power tools they are using. Only 1 one extraction unit allowed per Competitor, and this is supplied by the Competition Organizer.
- Competitors may bring any clamp up to 400mm long.

• Competitors may bring a limited amount of abrasives, glue, and tape.

The following tools are NOT allowed to be carried in the toolboxes:

• Competitors may not bring any power tool that is being supplied by the Competition Organizers.
• Competitors may not bring any tooling for stationary machinery supplied by Competition Organizer the except for drill bits and router cutters.
• Competitors may not bring any solid wood, MDF or jigs.

The Competition Organizer and/or Sponsor will provide each Competitor with 1 of each of the following:

• Sliding mitre saw with a high-quality cross cutting blade, stand and fences
• Mobile dust extractor
• Orbital Sander
• 1/4" Router
• 1/2" Router
• Drill with a minimum 10mm chuck
• MFT Table or similar arrangement;

The Competition Organizer and/or Sponsor will provide the following for Competitors to share (1 tool between 4 competitors)

• Biscuit Joiners
• Domino Joiners
• Track saw

Confirmation of power tools will be discussed and decided on the EuroSkills Discussion Forum prior to the Competition after sponsorship has been confirmed.

The Competition Organizer and/or Sponsor will also provide:

• An array of clamps over 400mm for Competitors to share
• Consumables (glue, biscuits, dowels, abrasives, etc.)
• Small amount of ear plugs, saftey glasses and dust masks

8.4 Materials, equipment and tools supplied by the Experts

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

8.5 Materials, equipment and tools prohibited in the Skill area

• Competitors are not permitted to bring prefixed or ensemble jigs, fixtures, or templates.
• Fixed angles, except 90º and 45º. Commercially available or similar templates (1:6, 1:7, 1:8) for setting out dovetails are allowed. Jigs/saw guides/routing templates are not permitted.
• Fixed measurements are not permitted except for and limited to 1 piece at a measurement of 300mm to use on the chop saw for mearurement purposes. This can be made from Perspex, Sikablock/ Modelboard or similar manmade material and clearly marked for its purpose.
• Competitors cannot bring rigid clamps over 400 mm long. If longer clamps are required then these will be provided by the competition organisers.

- Competitors may not bring any solid wood, plywood, or MDF to use in the competition. Such pieces can be used for C-1 setup and must be removed prior to the competition commencing.
- All fixtures in the competitors area must not exceed 1400mm in height, with the exception of work lamps/lights and dust extraction boom arms.

8.6 Workshop Layout

Workshop layouts from previous competitions are available by contacting the Competition and IT Coordinator at: jordy.degroot@worldskillseurope.org. New Workshop Layouts will be communicated via the forums when completed.

Please be advised that you will have the opportunity to discuss your Workshop Layout proposal with the Host Organization during the Skills Development Workshop (SDW) and the Competition Preparation Meetings (CPM).

For workshop layout development, please refer to the forums.

9 Skill-specific rules

9.1 Introduction

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 Personal laptops – USB – memory sticks – mobile phones

- Competitors are not allowed to use personal laptops, tablets, or mobile phones inside the workshop area during the competition time. Any digital communication device must be stored in the Competitor locker during competition time. These can be removed during breaks and lunch time or at the end of each Competition day.
- Competitors can only use certified hearing protection, that does not have any communication or music capabilities.
- The Chief Expert, and Experts are allowed to use personal laptops or tablets inside the Expert room.

9.3 Personal photo cameras – video taking devices

It is forbidden to take pictures of the Test Project drawings, or any documents or information that is related to assessment and marking.

9.4 Communication between compatriot experts and competitors

- CC time must be held outside Competitor’s workstation.
- During CC time Competitors and Experts can only communicate verbally. The use of drawings, sketches, notes etc. is not permitted.
- Competition materials must be checked by Competitors without help from Experts.

9.5 Other

Competitors workstation

- Experts cannot enter any Competitor’s workstation, from C-1 to C3 without permission by the Skill Competition Manager and Chief Expert, unless in case of an emergency, injury, or illness.

- Chop saw must not be placed facing the public, and with minimal interference to other Competitors.
- Saftey board can be used behind chop saw and router table for saftey, these must not exceed 1400mm high
- No items can be above 1400 mm except for vacuum hose and lamp.

Shared machining area

Only designated Expert or Workshop Manager Assistant can assist Competitors in fitting tooling to machines. Expert cannot fit for compatriot Competitor. Competitors may not bring any tooling for stationary machinery supplied by the Competition Organizer except drill bits. All stationary machines should be set to zero (squared) after use. It is always the Competitors' responsibility to check the machine before work begins. Competitors should arrive at machines prepared. Calculations and cutting list should be made before arriving at the machine. Competitors should use their individual cards to book machines and if they are not ready to use them their card will be placed at the bottom of the list.

Test Project

A selected dovetail joint(s) will be made with hand tools only and no electric tools or saw guides is permitted. Surfaces will be prepared to a maximum of grit 240 abrasive paper. Wax or lubricant only allowed on moving parts.

Tools

- Competitors cannot bring any rigid clamps over 400 mm long.
- There will be only one extraction unit allowed per Competitor.
- The only stationary power tool the Competitor can bring is an inverted router table.
- Competitors may not bring any tooling for stationary machinery supplied by the Competition Organizer except for drill bits.
- Competitors may not bring any solid wood, plywood, or MDF.
- Competitors may bring sanding blocks, clamping blocks, straight edges, fence liners as long as they are not the same wood as the Test Project and clearly marked for there purpose.
- Competitors can bring up to five (5) portable power tools.
- Competitors are not permitted to bring prefixed or ensemble jigs, fixtures, or templates.

Drawings, Recording, Information

Test Project drawings and documents in paper or digital format are not allowed to be removed from the competition area until the conclusion of competition on C3.

10 Visitor and media engagement

10.1 Engagement

Following is a list of possible ways to maximize visitor and media engagement, within the remit of the Competition Rules:

- Try-a-Skill;
- Display screens;
- Test Project display;
- Career opportunities;
- Daily reporting of competition status.

11 Sustainability

11.1 Sustainability

This Skill Competition will focus on the sustainable practices below:

- Recycling;
- Use of completed Test Projects after Competition;
- If possible, certified wood is used for Test Project;
- If possible, project materials should be local to the Competition Organizer.