PLASTERING AND DRY-WALL SYSTEMS (21)

EuroSkills Technical Description

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CONTENTS

WorldSkills Europe, by a resolution of the Competition Development Committee (CDC) and in accordance with the Constitution, the Standing Orders and the Competition Rules, has adopted the following minimum requirements for this skill for the EuroSkills Competition.

The Technical Description consists of the following:

Effective 05.02.2018

Mr Guillaume Suteau
Chair - CDC

Ms Szofia Csiszar
Vice Chair - CDC

1 INTRODUCTION

1.1 NAME AND DESCRIPTION OF THE SKILL COMPETITION

1.1.1 THE NAME OF THE SKILLS COMPETITION IS

Plastering and Drywall Systems

1.1.2 DESCRIPTION OF THE ASSOCIATED WORK ROLE(S) OR OCCUPATION(S)

The skilled plasterer may work on both internal and external plastering and rendering work. Much modern internal work is completed using drywall systems which involve the plasterer creating metal frames and installing plasterboard before the application on the final surface. These constructions can be complex and include curves and openings for doors and windows. Traditional plastering involves the preparation of the background prior to application of the plaster surface. The plasterer will prepare materials for use and be fully aware of legislation and official guidance relating to the preparation and use of materials. In addition to plastering flat surfaces, the skilled plasterer will create and install decorative mouldings. Plasterers will also be required to make repairs.

The plasterer may work on large construction sites for domestic, commercial or industrial use, in single domestic and commercial premises or on historic buildings and heritage sites. Much plastering work on larger sites is sub-contracted and as such many skilled plasterers will be self-employed, meaning that they have to take responsibility for tax and other earnings related regulation.

A high degree of accuracy, care and skill is required. Preparation for plastering work will include complex mathematical calculations. The practitioner needs to be able to read, interpret and analyse complex specifications describing the work required and be able to convert these plans into reality.

A range of materials can be used depending on the site and the planned use of the finished building. Some materials can be harmful, so care must always be taken by the plasterer to prevent injury or damage in use or disposal of waste.

Plasterers often form part of a team, working efficiently and effectively with other skilled craftsmen in a logical and well planned manner.

1.2 THE CONTENT, RELEVANCE AND SIGNIFICANCE OF THIS DOCUMENT

This document incorporates a Role Description and Standards Specification which follow the principles and some or all of the content of the WorldSkills Standards Specifications. 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 Standard Specification framework
- WSE – WorldSkills Europe Assessment Strategy
- WSE – Online resources as referenced in this document
- Host Country – Health and Safety regulations

2 THE STANDARDS SPECIFICATION

2.1 GENERAL NOTES REGARDING WSSS / WSESS

Where appropriate WSE has utilised some or all of the WorldSkills International Standards Specifications (WSSS) 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 Standards Specification (WSESS) using the same principles and framework to that used for the development of the WSSS. For the purposes of this document the use of the words “Standards Specification” will refer to both WSSS and WSESS.

The Standards Specification 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) *(TBA for WorldSkills Europe)* Helpfully, for the global consultation on the WSSS in 2014, around 50 per cent of responses came from European industry and business.

Each skill competition is intended to reflect international best practice as described by the Standards Specification, 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 STANDARDS SPECIFICATION

SECTION		RELATIVE IMPORTANCE %
1	**Work organization and self-management**	**15**
	The individual needs to know and understand: • laws relating to hygiene, safety and related to plastering and drywall systems • different types of personal protective equipment (PPE) • precautions for the safe use of power and cordless tools • building methods and construction technology • basic knowledge of: • electricity	

	• plumbing • drainage • security systems • integrated entertainment systems • safe use, storage and appropriate uses for materials used in plastering and drywall systems • balance between economics and quality dependent on the expected output and circumstances • the need for security for the storage of tools and materials • good working knowledge of mathematics and geometry • dispose of waste safely and be aware of the possibilities for recycling	
	The individual shall be able to: • create and maintain a safe and hygienic working environment • install the work area to avoid injury, especially to the back, elbows, shoulders and knees • apply standards and laws relating to security, safety and hygiene in plastering and drywall systems • effectively use the appropriate personal protective equipment (PPE) • use correct power and cordless tools in a safe manner • store plasterboards and related products safely and securely • be proactive in own continuous professional development in order to keep abreast of and methods of working in the construction industry and changing technologies, for example acoustics and the green agendas • work effectively as part of a team • work effectively with other trades on a construction site • take appropriate care of customer's fixtures, fittings, carpets and belongings • apply mathematic geometry principles to the calculation of angles, areas, perimeters, curves, arcs, volumes, ratios etc	
2	**Planning**	**15**
	The individual needs to know and understand: • customer needs whether domestic or commercial • impact of the use of the building on the plastering techniques and materials used • required quality and standards such as the Q standard • the prioritisation of work and the planning or order of work with other trades • sourcing materials • stock control and rotation including the importance of use by dates	
	The individual shall be able to: • read and interpret documentation from a variety of sources • interpret and work from different accepted specifications • prepare specifications, mainly for private work • provide advice and guidance to other professionals such as architects and quantity surveyors	

	• read and interpret drawings and specifications • calculate materials in accordance with plans and specifications • describe in writing and verbally the process of installation • explain complex specialist and technical information about installations to clients and other professionals	
3	**Construction**	**10**
	The individual needs to know and understand: • standards and laws relating to construction of partitions and ceilings in plasterboard • appropriate international standards (CE will post norm on forum) • specialist terminology • construction methods including timber framed buildings • framing systems used in construction of walls • framing systems used in construction ceilings • screws and fastenings used in construction of walls and ceilings • different types of plasterboard and fibre cement boards	
	The individual shall be able to: • set out the different elements of walls and ceilings • measure accurately • accurately cut metal profiles • erect framing with inserts for windows and doors – square, plumb and levelled • screw, fix or crimp metal components • channel and stud metal profiles • install curved metal work such as archways, barrelled ceilings • cut and fix with adhesives and screws plasterboard sheets • cut and fix with adhesives and screws fibre cement boards • construct frames using Expanded Metal Lath (EML)	
4	**Insulation**	**8**

	The individual needs to know and understand:
	• standards, laws and codes of practice relating to;
	  • thermal insulation in buildings
	  • acoustic insulation in buildings
	  • spread of fire
	• safety regulations relating to the storage, handling and installation of insulation materials
	• materials used in;
	  • thermal insulation in buildings
	  • acoustic insulation in buildings
	  • prevention of the spread of fire
	• appropriate use of materials used in;
	  • thermal insulation in buildings
	  • acoustic insulation in buildings
	  • prevention of the spread of fire	

	• impact of building regulations • the influence on the green agenda and sustainability on the insulation products and techniques • current and changing technologies and practices relating to insulation	
	The individual shall be able to: • install and fix acoustic products • install and fix thermal products • install and fix fire proof material and other materials to prevent the spread of fire • use resilient material • test installations and modify accordingly	
5	**Finishing of Plasterboards**	**12**
	The individual needs to know and understand: • different methods of finishing plasterboards • materials and techniques used in finishing plasterboards	
	The individual shall be able to: • prepare the plasterboard to receive the finish • cut the beads and trims • mix plastering compounds • finish plasterboard joins manually by taping and jointing finishes • manually sand the finished joints • apply full surface coating • finish plasterboard using a skim coat of Gypsum plaster	
6	**Plastering**	**15**
	The individual needs to know and understand: • types of plaster and their uses • types of background surfaces and their impact on plastering • techniques and practices for plastering • tools and equipment used in plastering • how to complete patching and repairs • cutting of internal and external mitred corners • use of plaster coatings	
	The individual shall be able to: • prepare surfaces for plastering • mix plaster to correct consistency • apply render, float, skim and set coats to straight and curved surfaces • apply smooth coat finishes • repair plasterwork	
7	**Creation and Fitting of Decorative Mouldings**	**6**
	The individual needs to know and understand: • methods and principles of making decorative mouldings	

	• range and use of decorative mouldings • adhesives used in the fitting of decorative mouldings	

	The individual shall be able to:
	• listen to, interpret and respect the opinion of customers
	• interpret a proposed theme
	• cut products accurately
	• create internal and external mitres accurately
	• apply and stick decorative coatings in a professional manner
	• prepare and run in-situ moulds
	• measure and cut components accurately
	• cut and fix paper-faced cornices
	• match, mitre and install cast ornamental cornices and panel mouldings including;
	  • moulds
	  • arches
	  • coving
	  • dado rails
	  • cornices
	  • skirting
	  • panel moulds
	  • ceiling roses
	• repair decorative mouldings	

8	**External Plastering**	**12**
	The individual needs to know and understand: • legislation and guidance relating to the application of external plastering and coatings • safe working practices in relation to external plastering • equipment and PPE needed for external plastering work • characteristics, quality, uses and limitations of available materials and techniques • methods of application • appropriate and safe disposal of waste	

	The individual shall be able to:
	• meet contract specification
	• apply legislation and official guidance in working methods
	• use and maintain PPE, equipment and resources appropriately and effectively
	• dispose of waste safely
	• measure, mark out, apply and finish
	• prepare materials and apply to external backgrounds;
	  • brick and/or block and/or concrete surfaces
	  • bellcasts
	  • internal and external angles
	  • reveals
	  • walls
	  • installation of Expanded Metal Lath (EML)
	• form industry recognised external rendering finishes;	

	• two-coat work • three-coat work • internal and external angles • reveals • apply textured trowel coat finishes	
9	**Heritage**	**7**
	The individual needs to know and understand: • various specialist materials used on heritage sites and historical buildings • history of building and building techniques • laws and regulations relating to planning and conservation	
	The individual shall be able to: • respect a building's history • understand and follow plans and specifications • communicate effectively with clients • communicate effectively with officials • prepare materials • prepare the building ready for renovation or repair for both internal and external surfaces • apply appropriate plastering techniques according the building's history and use whilst maintaining the building's integrity for both internal and external surfaces	
	Total	**100%**

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 Development Committee (CDC) 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. Where the earlier terms “objective” and “subjective” still occur, these must be understood to mean measurement and judgement for all procedural and practical purposes. All assessment 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 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 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 Standard Specification.

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 EuroSkills Competition, in that it ties assessment to the standards that represent the skills to be tested. 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 Standard 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 EuroSkills marking form.

Each marking form (Sub Criterion) has a specified day on which it will be marked.

Each marking form (Sub Criterion) contains Aspects to be assessed and marked by measurement or judgement. Some Sub Criteria have assessment by both measurement and judgement, in which case there is a separate marking form for each method

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 by measurement or judgement 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, the benchmarks, and a reference to the section of 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 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).

	CRITERIA									TOTAL MARKS PER SECTION
STANDARD SPECIFICATION SECTIONS	A	B	C	D	E	F	G	H	I	
1										
2										
3										
4										
5										
6										
7										
8										
9										
TOTAL MARKS PER CRITERION										100

4.5 ASSESSMENT AND MARKING BY JUDGEMENT

In addition to measurement, Experts are expected to make professional judgements. These are normally judgements about quality. Benchmarks will be designed, agreed and recorded during the design and finalization of the Marking Scheme and Test Project in order to steer and support these judgements.

Marking through judgement uses the following scale:

- 0: performance below industry standard to any extent, including a non-attempt
- 1: performance that meets industry standard
- 2: performance that both meets industry standard and surpasses that standard to some extent
- 3: excellent or outstanding performance relative to industry standards and expectations.

4.6 ASSESSMENT AND MARKING BY MEASUREMENT

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 ASSESSMENT OVERVIEW

For both measurement and judgement there will be three Experts in the assessment team.

Good practice in assessment comprises measurement and judgement applied both specifically and broadly. The final proportions of measurement and judgment, whether specific or broad, will be determined by the standards, their weightings and the nature of the Test Project.

4.8 COMPLETION OF SKILL ASSESSMENT SPECIFICATION

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 content of this Table is advisory and subject to change during the detailed development of assessment.

SECTION	CRITERION	MARKS		
		Judgement	**Measurement**	**Total**
A	Standard Construction	0	30	**30**
B	Technical Construction	0	15	**15**
C	Taping and coatings	5	15	**20**
D	Mouldings and plaster coatings	4	11	**15**
E	Freestyle module	4	6	**10**
E	Health, safety and cleanliness	0	5	**5**
F	Recycling	0	5	**5**
	Total =	**13**	**87**	**100**

4.9 SKILL ASSESSMENT PROCEDURES

Criteria A: Standard Construction

This will be assessed using the following sub criteria.

- The accuracy of the measurement of the given dimensions.
- The plumbness of the construction.
- The squareness of the construction.
- The precession of the cutting of the plasterboards.
- The straightness of the construction.
- The levels on the construction.
- The technical conformity.

Criteria B: Technical Construction

This will be assessed using the following criteria:

- The accuracy of the fitting of materials used
- The correct position of the plasterboards
- The squareness of the construction.
- The precession of the cutting of the plasterboards.

Criteria C: Taping and coating

This will be assessed using the following criteria:

- The correct use of tapes and beads.
- To assess coatings at q1,q2,q3,q4,
- The correct bedding in of the beads and tapes.
- The straightness of the tapes and beads.
- The smoothness of the tapes and beads.
- The smoothness of the coatings.
- The technical conformity.
- The general aspect of the completed work

Criteria D: Mouldings and plaster coatings

This will be assessed using the following criteria:

- The accuracy of the measurement of the given dimensions.
- The squareness of the components.
- The plumbness of the mouldings.
- The precision of the cutting and filling of the internal and external mitres on the components
- The straightness of the components.
- The level of the components.
- The technical conformity.
- The general aspect of the completed work.

Criteria E: Freestyle module

This will be assessed using the following criteria:

- The accuracy of the measurement of the given dimensions in the drawing supplied to the competition judges on day 2.
- The completion of the model.
- The general aspect of the model.
- No pre-made products,

- Templetes and moulds are allowed
- No painting is allowed but colored plaster is allowed

Criteria F: Health and safety and general cleanliness

This will be assessed throughout the Competition.

- Tolerances for structure and plasterboard: ±1mm for the dimensions lower than 300mm; ±2 mm for the dimensions between 300mm and 1200mm; ±3mm for the dimensions higher than 1200mm
- Tolerances in straightness for coatings and finishing: ±1mm for the dimensions lower than 500mm;
  ±2 mm for the dimensions between 500mm and 1500mm; ±3 mm for the dimensions higher than 1500mm
- Tolerances for mouldings and ornamentation: +-1mm for the dimensions lower than 300mm, ±2mm for the dimensions higher than 300mm

Special local (host country) technical specification can be used to assess. In this case, those specifications/norms must be given by 3 months before the competition.

5 THE TEST PROJECT

5.1 ENERAL 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 Standards Specification.

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 2.1.

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

[ ] Test Project assessed at end of Competition

[X] Test Project with separately assessed modules

[ ] Test Project assessed in stages

[ ] Series of standalone modules

[ ] Other

If other, please specify here:

5.3 TEST PROJECT DESIGN REQUIREMENTS

The Test Project should be designed to attract and engage spectators.

One module will be freestyle with a maximum of 2 hours. This module will be done and assessed at the last day of the Competition. The competitors can prepare their work before the competition (templates, drawings, etc.). But no pre made items can be used.

The compulsory Test Project consists of 4 separate modules which will be assessed in line with the test project description.

- Module 1: Internal arrangement

- Module 2: Thermal or acoustic solution
- Module 3: Decoration and ornamentation
- Module 4: Freestyle module

The Competitors have to carry out, independently the following tasks:

- Set out the walls, ceilings and decorative elements.
- Build the walls and ceilings using a metal frame and clad them with plasterboard.
- Tape, joint and finish the plasterboards.
- Measure, cut and fix the prefabricated decorative sections formed from plaster.
- Use a decorative plastering technique to create a plaster effect which can be applied to the required module. This can be moulding sections run by the competitor, decorative coatings, Venetian plaster, sgraffito or lighting effects. The Competitor has a free choice of technique. The materials for this exercise can be brought to the competition by the competitor if they are not on the infrastructure list but they must contain plaster. Templates and specialist tools can be brought and used by the competitor as well as special accessories such as spot lights. The Competitors must consider the space implications regarding the workshop floor space as the Competitor will not be allowed to encroach past their allotted space.

Module 1 – Internal arrangements

- This module cannot exceed 2.1 metres in height.
- This module must contain a 2 sqm straight and plumb surface which will be used for application of module 4.
- This module must contain at least 1 angle and 2 edges.
- The wall can be curved and can contain a door or window opening.

Module 2 – Thermal or acoustic solution

- This module can be independent or fixed to module 1.
- It must contain some insulating material to improve thermal or acoustic performance.

Module 3 – Decoration and ornamentation

Three months prior to the start of the competition the chief expert must choose a combination of 3 of the following elements: cornice, plinths, coatings and mouldings. All experts must decide on the combination on the discussion forum. The combination with the most votes will be chosen.

- All experts will bring a proposal for this module using the chosen combination to the competition.
- Experts will vote to decide the preferred proposal at the competition. Voting will be as per the competition rules.
- An easy square part of this module can be used as a speed test.

Module 4 - Freestyle

- The experts decide some compulsory measurements in respect of this module based on the 2 sqm wall.
- The theme of the freestyle module could be the decision of the next Host Country.

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.

5.4.1 WHO DEVELOPS THE TEST PROJECTS OR MODULES

The Test Project / modules are developed under the supervision of the Jury President and Chief Expert by:

[ ] All Experts

[X] Some Experts, an expert can propose more than one project

[ ] Nominated Experts

[X] Equipment supplier

Opmerking [S1]: Please check only one box

The Test Project modules can be drawn by a CAD professional.

5.4.2 HOW AND WHERE IS THE TEST PROJECTS OR MODULES DEVELOPED

The Test Project or modules are developed:

[X] Jointly on the Discussion Forum

[ ] By an external enterprise

[ ] 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	not applicable
3 months prior to the Competition	Until 3 months before the current Competition
At the Competition	not applicable

The material catalogue available in the Host Member country is needed to develop the Test Project modules.

5.5 TEST PROJECT VALIDATION

When the Test Project modules have been designed it must be agreed by all Experts that the Test Project modules can be completed within the material, equipment, knowledge and time constraints of the Competitors.

5.6 TEST PROJECT SELECTION

[ ] By vote of Experts at the previous Competition

[X] By vote of Experts on the Discussion Forum

[ ] By vote of Experts at the current Competition

[ ] By random draw by Technical Director 3 months before the current Competition

[ ] Other

The Test Project modules 1, 2 and 3 are developed by all Experts on the Discussion Forum. Together the Experts will discuss and develop the final Test Project modules and the Marking Scheme with the Chief Expert facilitating the process. At the end of the Test Project development, the majority of Experts (50% +1) must agree on the design.

At the competition, each Expert must bring a Test Project proposal for module 3. Experts will vote on the module for this Competition. Voting will be as in the Competition Rules.

If other, please specify here:

5.7 TEST PROJECT CIRCULATION

The Test Project is circulated via the website as follows:

[X] Submitted to Secretariat for circulation 3 months before the current Competition

[ ] Not circulated

[ ] Other

If other, please specify here:

5.8 TEST PROJECT COORDINATION (PREPARATION FOR COMPETITION)

Coordination of the Test Project will be undertaken by:

[ ] Skill Management Team

[X] Chief Expert

[ ] Chief Expert and Deputy Chief Expert

[ ] Chief Expert and Workshop Manager

[ ] Chief Expert with selected Experts

[ ] Chief Expert with Competition Organizer

[ ] Experts

[ ] Other

Chief Expert with sponsor or supplier

If other, please specify here:

5.9 TEST PROJECT CHANGE AT THE COMPETITION

Not applicable if there if at least 30% of the content of the Test Project will be unknown in advance to the Experts and Competitors. Otherwise additional changes to total 30% plus change will be required.

5.10 MATERIAL OR MANUFACTURER SPECIFICATIONS

If Host Member's norms and manufacturer specifications are required to allow the Competitor to complete the Test Project, the manufacturer / supplier must provide by 3 months before the Competition the necessary documents in English:

- Host Member's norms
- Technical specifications
- Installation guide

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
- 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 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

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

- All Competitors must bring and 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.
- All Competitors must bring and use:
  - Safety shoes
- Competitors must keep their workspace clear of obstacles and the floor space clean permanently.
- Failure by the Competitor to comply with safety directions or instructions may incur loss of marks for the marking point: security.
- Judges will wear the appropriate personal safety equipment when inspecting, checking or otherwise working with a Competitor's Test Project.

8 MATERIALS AND EQUIPMENT

8.1 INFRASTRCUTURE 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 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

No toolbox can exceed 1 cubic meter and 160kg in weight. Toolbox numbers are not limited but the total weight and volume cannot exceed the specified values.

The following is a list of tools a Competitor may choose to bring:

- meter or measuring tape (2m)
- ruler (1m)
- square
- mitre box
- feather edge ruler
- trowels, different types
- plastering knives and plastering spatulas
- plasterer's float, different types
- joint rules/ mitre tools
- hammer
- wood and metal saws
- special saws for plasterboard
- abrasive paper
- rubber breakers
- brushes
- metal stud guillotine
- pencils
- felt board/ felt sponge
- Japanese spatulas
- chalk lines

- jig saw
- screw gun (single screw or collated)
- grignoteuse
- reglets
- gouges
- sponges
- surform plane
- tin snips

8.3 MATERIALS, EQUIPMENT AND TOOLS SUPPLIED BY EXPERTS

Not applicable.

8.4 MATERIALS AND EQUIPMENT PROHIBITED IN THE SKILL AREA

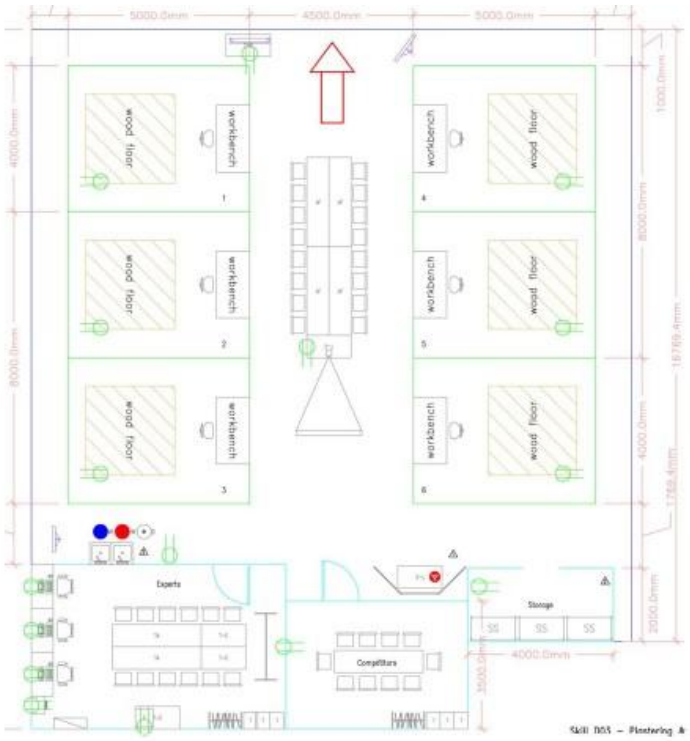
All metal sections are to be cut by a drywall guillotine or tin snips (either manual or cordless) and as a result electrical chop saws with circular rotating blades are prohibited in the Competition.

All mitres to cornice and panel moulds must be cut by hand and as a result electrical chop saws with circular rotating blades are prohibited in the Competition.

8.5 PROPOSED WORKSHOP AND WORKSTATION

Workshop layouts from previous competitions are available by contacting the Technical Coordinator at: jordy.degroot@worldskillseurope.org

Workshop layout:



9 VISITOR AND MEDIA ENGAGEMENT

- Try a trade
- Speed test in module 3 (decoration and ornamentation)
- Display screens (architectural works in plaster and plasterboard)
- Test Project descriptions
- Career opportunities

10 SUSTAINABILITY

Who of us does not live surrounded by gypsum? What home does not have plaster on the walls or plasterboards for its ceilings and interior lining? Who has not been impressed by offices, hotels and public institutions whose interiors are shaped into intricate arches and curves, which are made possible by the use of plaster and plasterboards to create an aesthetically pleasing environment?

- Gypsum has been used by mankind in construction or decoration in the form of plaster and alabaster since 9000 B.C. During the time of the pharaohs, gypsum was used as mortar in the construction of Cheops Pyramid (3000 B.C.). In the Middles Ages and Renaissance, decorations and artistic creations were made of plaster. Since then, the range of construction related uses has continued to expand.
- The process to obtain plaster is simple: the mineral is extracted from the earth's crust (open or underground quarries), it is then exposed to certain thermal processes whereby it is partially dehydrated and after grinding becomes a fine white powder – commonly known as Plaster of Paris – which hardens when moistened and allowed to dry. There isn't any VOC (Volatile Organic Compound) inside.
- Gypsum is furthermore a raw material which can be eternally recycled to manufacture gypsum based products (closed-loop recycling). We could say that gypsum is in that case close to being a "totally renewable natural resource".

Incomparable Features:

- Gypsum is fire protective. Gypsum is non-combustible and able to delay a fire's spread up to 4 hours. Gypsum acts, in this case, as a fire barrier and thus reduces home or business fire damage
- Gypsum regulates sound and solutions. Gypsum walls, ceilings and floors together with insulation materials create quiet zone in the house or business environment. They are designed to provide a physical barrier to sound, incorporate a sound break and minimize reverberation. These solutions are virtually indispensable for the interiors of homes and offices and indeed all types of buildings where people congregate such as school, shops, cinemas, airports, etc.
- Gypsum acts as a thermal insulator when combined with insulation materials. Thanks to its low thermal conductivity, gypsum plasterboards contribute together with the insulating material to the insulation of external walls and linings.
- Gypsum equilibrates humidity and heat peaks. Gypsum is capable of storing humidity when a room is humid and automatically releasing this humidity if the indoor air becomes too dry. Plaster and Plasterboards have also a "heat-storing" ability. Small temperature increases are absorbed and radiated back later when the temperature in the room decreases.
- Gypsum is impact resistant. The gypsum industry provides plasterboards, plaster blocks and plaster with a degree of hardness equivalent to a thick wall heavy masonry construction.
- Gypsum is multifaceted, multipurpose, supple and aesthetic. A richness of forms can be created in plasterboard, plaster or stucco. For architects, building with gypsum products allows them to answer, even more dramatically to the demands of their customer while remaining within an affordable budget. In Short, gypsum allows the creation of stunning interiors in any and all styles, from the classical to the modern.