



Technical Outline ES2010 4100 Dry Wall System

For the execution of EuroSkills Competitions





Technical Outline EuroSkills 2010 Skills Promotion Nr. 4100

The technical outline consists of the following elements:

- Section 1 – Competition, Demonstration, Try a trade event
- Section 2 – Test Project Design Criteria and Marking
- Section 3 – Skill-specific Safety Requirements
- Section 4 – Material and Equipment
- Section 5 – Sample Workfloor Setup

The Technical Outline is in force if approved by the Board of ESPO.

Signed on behalf of the Board of ESPO

Mr. Stefan Praschl	Mr. Carlos Vintem
	
Date: 30.06.2009 Place: Lisbon	Date: 30.06.2009 Place: Lisbon

Note 1:

In the event of any conflict within the Technical Outlines, the English version will take precedence.

Note 2:

Words implying male gender shall automatically imply female gender also.

Note 3:

The sections 1-5 of the Technical Outlines will be developed by ESPO Members until June 2009.

SECTION 1 – Description of the Skills promotion and its content: Competition, Demonstration, Try a trade event

1.1 Name of the Skills promotion

1.1.1 The name of the Skills promotion is Dry Wall System.

1.1.2 The Skills promotion is part of the domain Construction & Building.

1.1.3 The Skills promotion consists of the trade Dry Wall System Installer (ID 4101).

1.2 Description of the Skills promotion

1.2.1 Scope and importance of the trade in society:

The development of new building technologies in Europe during the last decades of the 20th century affected rapid dissemination and wide use of Dry Wall Systems (DWS). It significantly reduced construction costs and time needed for the implementation of investment projects. Estimated annual use of plasterboards in EU in the years 2008-2009 amounts up to 1,5 billion m² - depending on the specificity and building tradition of individual countries - represents even up to 9 m² per capita, with a continuous growth trend. The use of a plasterboard-based technology also dramatically affects the emission of CO₂ into the atmosphere, which results from low energy consumption of manufacturing processes. The use of DWS for interior designs (eg. partition walls) allows to achieve the highest technical standards of fire and noise protection and safe occupancy. A large scale of plasterboard-based system application in all sectors of the building industry (housing, public utilities, commercial and industrial constructions) makes proper fixing by qualified workers a key element for a comprehensive approach to the implementation of investment projects.

A continuous growth of DWS technology has found its expression in the form of a new trade, thus expanding the offer of new jobs on the difficult labor market. A next stage of development of that trade may consist in the expansion of its scope by jobs connected with finishing elements, such as gypsum moldings. The quality of DWS trade makes influence on market commercial results and the market penetration.

The Dry Wall System Competition will be supported by Eurogypsum Association seated in Brussels.

1.2.2 The trade consists of the following work processes and needs the following competences:

Dry Wall System Installers should be able to:

- Reading and understanding building drawings.
- Seeking in the technical documents the best adapted solutions to answer the requirements of the project in the field of the performances and the aesthetics.
- Tracing the cleanings and installations.
- To build of works in boards of plaster cladding.
- To realize some coating to obtain a work ready to paint or to leave in this status.
- To have a high degree of accuracy (± 1 mm for the dimensions lower than 300 mm and ± 2 mm for the dimensions higher than 300 mm).

1.2.3 The competences include general social/soft skills:

- Time management
- Critical thinking
- Flexibility/adaptability

Skills for a strong Europe

- Honesty/integrity
- Interpersonal communication
- Leadership
- Proactive work attitude
- Self motivation
- Teamwork
- Work ethics skills
- Influencing skills
- Customer service & client relationship
- Ability to take, create, acknowledge and live up to personal responsibilities
- Problem-solving skills
- Working under pressure
- Creativity

1.3 Scope of Skills promotion at EuroSkills

The Skills promotion consists of
☐ a Skills competition,

1.3.1 Description of the Skills competition:

The competition is a
☐ one trade team competition

The work processes explained in the section 1.2.2 will be part of the competition. The work processes will be representative of the daily activities in the trade. Some will be quick some will take more time but never exceed a normal day work.

The activities will be assembled in modules and a detailed work schedule will be established in such a way that the competition area will constantly demonstrate activities during the whole day.

1.3.2 Description of the Skills Demonstration:

not applicable

1.3.3 Description of the try a trade event:

not applicable

SECTION 2 - TEST PROJECT DESIGN CRITERIA and MARKING

2.1 Format of the Test Project

The format of the Test Project is

- ☐ a single Test Project assessed in modules

2.2 Test Project Design requirements

The modules of the Test Project are designed in that way, that they can be worked out in the time given by the designer.

The competitor will have to work out the following modules:

- Module 1:
Twin frame partition with two layers of plasterboard lining on both sides fulfilled with mineral wool.
- Module 2:
Suspended ceiling on C profiles cross-shaped construction covered by one layer of plasterboard.
- Module 3:
Plasterboard attic lining fixed to roof wooden elements on C profiles construction with thermal insulation.
- Module 4:
Single frame partition with one layer of plasterboard and door frame.
- Module 5:
Gypsum finishing (skimming) on all internal surfaces.

2.3 Test Project developer

The Test Project/modules is/are developed by:

- ☐ some experts

2.4 Test Project marking scheme

Each Test Project must be accompanied by a marking scheme proposal based on the assessment criteria defined in Annex I.

2.4.1 The marking scheme proposal is developed by the person(s) developing the Test Project. The detailed and final marking scheme is developed and agreed by all Experts at the Competition.

2.4.2 As it is a team competition with overall results, the overall results will be produced, by the total amount of points of all the modules.

2.4.3 Marking schemes should be entered into the CIS prior to the Competition.

2.5 Test Project selection

The Test Project is selected as follows

- ☐ By vote of Experts on the Discussion Forum

2.6 Test Project circulation

The Test Project is circulated 3 month before the current Competition via ESPO discussion forums.

2.7. Assessment of Test Project

Annex I defines the assessment criteria and the number of marks (subjective and objective) awarded. The total number of marks for all assessment criteria must be 100.

SECTION 3 – SKILL-SPECIFIC SAFETY REQUIREMENTS

Refer to Organizer Health & Safety documentation for Organizer 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:

- protective clothes
- safety shoes
- safety glasses
- safety gloves

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.

- Experts have to wear the appropriate personal safety equipment when inspecting, checking or otherwise working with a Competitor's Test Project.

SECTION 4 – MATERIAL AND EQUIPMENT

4.1 Infrastructure List

The Infrastructure List lists all equipment, materials and facilities provided by the Organizer or Competition Partner.

The Infrastructure List specifies the items & quantities requested by the Experts for the next Competition. At each Competition, the Experts must review and update the Infrastructure List in preparation for the next Competition. Experts must advise the Secretary General of any increases in space and/or equipment.

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.

- 1 Mason's (spirit) level 200 cm
- 1 Square (1 m arm)
- 2 Bucket (10 l)
- 1 Plasterboard lifter
- 2 Ladder
- 2 Plasterboard yoke
- 1 Pneumatic drill

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

Information about materials, equipment and tools supplied by Competitors will be distributed with the Test Project 3 months prior the current competition.

4.3 Materials & equipment and tools prohibited in the skill area

Information about prohibited materials, equipment and tools will be distributed with the Test Project 3 months prior the current competition.

SECTION 5 – SAMPLE WORK FLOOR SETUP

Annex II shows the proposed Workshop and workstation layouts.

Annex I

Skills Promotion 4100 Dry Wall System			
Trade 4101 Dry Wall System Installer			
Section	Criterion	Marks	Objective Subjective
A	Measurements of construction elements location and fixing to timber frame	20	20/0
B	Measurements of plasterboards cutting and fixing	20	15/5
C	Measurements geometrical results: Squareness, plumb, level and tracing	25	25/0
D	Measurements of surfaces flatness & jointing, coatings and finishing (skimming)	25	20/5
E	Organisation/cleanliness	10	0/10
	Total	100	80/20

Section A: Measurements of construction elements location and fixing to timber frame

The assessment is carried out on a current basis for each of the modules after the fixing of the structure, however, prior to the fixing of a plasterboard.

This marking aspect checks the Competitor's ability to arrange and fix main elements of the structure (profiles, handles, hangers), in accordance with the technical documentation of individual structures within subsequent modules. Technical compliance with the provided CAD drawing is assessed.

The allowed deviation in spacing as compared to the documentation is 10 mm.

Each deviation falling into the range of:

- 11 - 20 mm accounts for minus 1 point
- 21 - 50 mm accounts for minus 3 points
- over 50 mm accounts for minus 5 points

Section B: Measurements of plasterboards cutting and fixing

The assessment is carried out on a current basis for each of the modules after the fixing of the plasterboard, however, prior to filling in of gaps at junctions. This marking aspect checks the Competitor's ability to cut and fix plasterboards in accordance with the technical documentation for individual structures within subsequent modules.

The allowed deviation in the length and/or width of cut and fixed plasterboards as compared to instructions in the technical documentation must not exceed 5 mm.

Each deviation falling into the range:

- 6 - 10 mm accounts for minus 1 point
- 11 - 20 mm accounts for minus 3 points
- over 20 mm accounts for minus 5 points

The spacing of screws has to comply with the technical documentation, with allowed tolerance of ± 3 cm.

Each deviation in the spacing of two neighboring screws as compared to the technical documentations, falling into the range:

- \pm from 1 to 5 cm accounts for minus 1 point
- \pm over 5 cm accounts for minus 3 points

Technical compliance with the provided CAD drawing and the technical documentation is assessed screw fastening penetration of screws into the plasterboard, the shape and linearity of cut edges of the plasterboard.

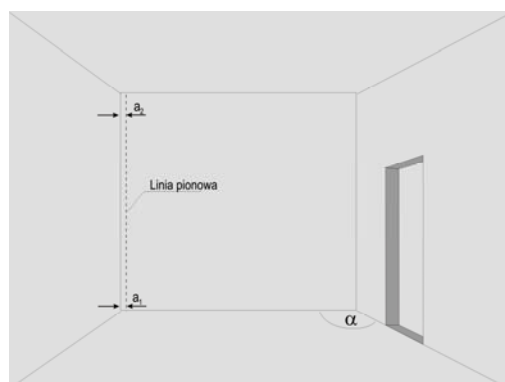
Section C: Measurements geometrical results: Squareness, plumb, level and tracing

The assessment takes place after the fixing of plasterboards in all modules, however, prior to filling in of gaps at junctions.

• **Squareness**

Right angles [α] at the intersection of planes (junctions):

- the partition wall (module 1) with the suspended ceiling (module 2)
- the partition wall (module 2) with the suspended ceiling (module 2)
- the partition wall (module 1) with the partition wall (module 4)

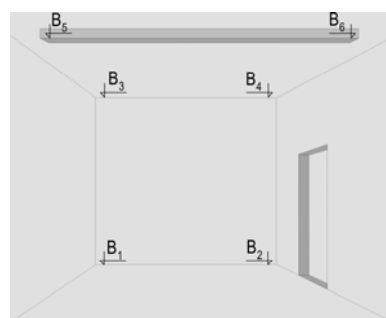
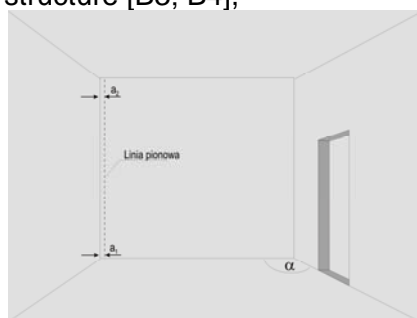


The allowed deviation is 1,5 mm per 1 m, and each exceeding of that limit accounts for minus 5 points.

• **Plumb & level**

Elements subject to assessment:

- plumb of tracing of partition walls (modules 1 and 4) and edges at the junction of the partition wall (module 1) with the partition wall (module 4) [a_1 ; a_2],
- level of the suspended ceiling (module 2) and the level of edges at the junction of the suspended ceiling with partition walls (modules 1 and 4) and the attic structure (module 3), as well as the level of edges between the vertical and the oblique plane of the attic structure [B_3 ; B_4],



The allowed deviation is 1,5 mm per 1 m, and each exceeding of that limit accounts for minus 5 points.

- **Tracing**

Elements subject to:

- tracing of the partition wall (module 1) towards the vertical part of the finished attic structure (module 3), location of the door-way in the partition wall (module 4) and tracing of the suspended ceiling (module 2) and its height from the workfloor level as well as dimensions. The allowed deviation is ± 1 cm as compared to the technical documentation, and each exceeding of that limit accounts for minus 5 points.

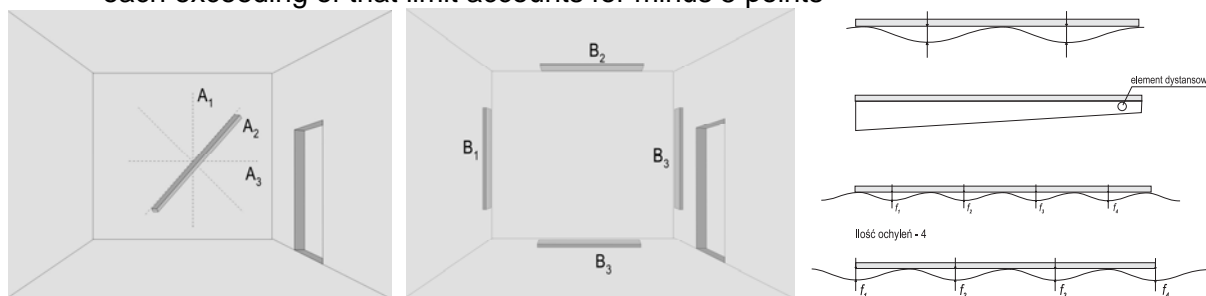
Section D: Measurements of surfaces flatness & jointing, coatings and finishing (skimming)

The assessment is carried out after the fixing of plasterboards in all modules, while joining the plasterboards and after the completion of coating of whole surfaces in all modules (final acceptance).

Elements subject to assessment:

- Flatness of surfaces (A1; A2; A3) and deviation of vertical and horizontal edges from a straight line (B1; B2; B3 i B4).

The allowed maximum spread is 2 mm on a 2 m rule, no more than (f1; f2; f3), and each exceeding of that limit accounts for minus 5 points

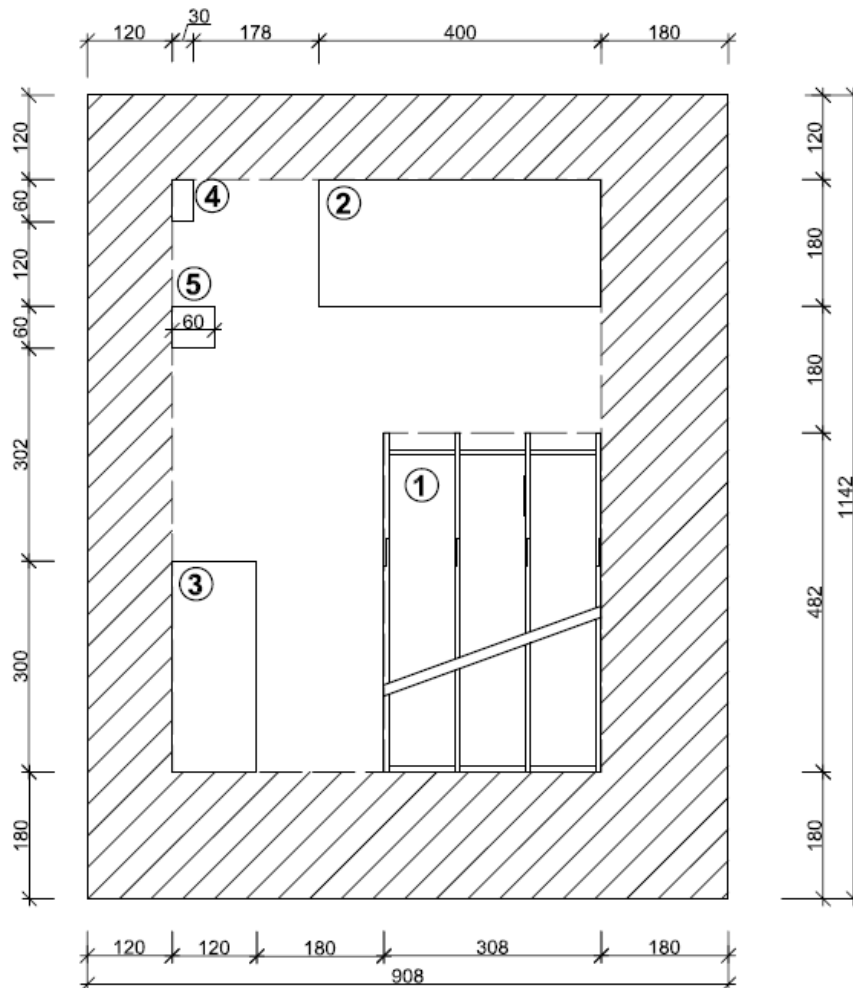


- Correctness of junctions between plasterboards and compliance with the technology described in the technical documentation Any irregularity accounts for minus 5 points.
- The quality of surface finishing, i.e. its smoothness and aesthetics.

A subjective assessment refers to assessment based on Eurogypsum criteria (Skimming Project).

Annex II

Workfloor Setup



- 1 – Working timber frame
- 2 – Materials store
- 3 – Working table (cutting, drawings)
- 4 – Switch-board
- 5 – Tool-box