



## Technical Outline ES2010 4040 Plastering

For the execution of EuroSkills Competitions





## Technical Outline EuroSkills 2010 Skills Promotion Nr. 4040

**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: 07.11.2009    Place: Lisbon	Date: 07.11.2009    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 Plastering.

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

1.1.3 The Skills promotion consists of the trade Plasterer (ID 4041).

### 1.2 Description of the Skills promotion

#### **1.2.1 Scope and importance of the trade in society:**

Apply interior or exterior plaster, cement, stucco, or similar materials, and may also set ornamental plaster. The construction industry is huge and there are several opportunities for aspiring plasterers. The needs of the plastering industry are for heavily skilled professionals with a high level of commitment as well.

Plasterwork is one of the most ancient of handicrafts employed in connection with building operations, the earliest evidence showing that the dwellings of primitive man were erected in a simple fashion with sticks and plastered with mud. Soon a more lasting and slightly material was found and employed to take the place of mud or slime, and that perfection in the compounding of plastering materials was approached at a very remote period is made evident by the fact that some of the earliest plastering which has remained undisturbed excels in its scientific composition that which we use at the present day. The pyramids in Egypt contain plasterwork executed at least four thousand years ago, probably much earlier, and yet existing, hard and durable, at the present time. From recent discoveries it has been ascertained that the principal tools of the plasterer of that time were practically identical in design, shape and purpose with those used to day. For their finest work the Egyptians used a plaster made from calcined gypsum just like plaster of Paris of the present time, and their methods of plastering on reeds resemble in every way our lath, plaster, float and set work. Hair was introduced to strengthen the stuff, and the whole finished somewhat under an inch thick. Very early in the history of Greek architecture we find the use of plaster of a fine white lime stucco, such has been found at Mycenae. The art had reached perfection in Greece more than five centuries before Christ, and plaster was frequently used to cover temples externally and internally, in some cases even where the building was of marble. It formed a splendid ground for decorative painting, which at this period of Grecian history had reached a very high degree of beauty.

Plasterers are usually employed by contracting companies in the building/construction sector (residential, commercial and industrial, new constructions as well as renovation works), in specialized SMEs or large contracting firms. They go from construction sites to other building sites meaning often changing locations and project managers or owners.

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

Plasterers apply decorative and protective coverings of plaster, cement or similar materials to the interiors and exteriors of buildings.

Plastering is one of the oldest and most important crafts in the building trades worldwide.

Plasterers apply plaster to interior walls and ceilings to form fire-resistant and relatively soundproof surfaces. They also apply plaster veneer over drywall to create smooth or textured abrasion-resistant finishes. In addition, plasterers install prefabricated exterior

insulation systems over existing walls - for good insulation and interesting architectural effects - and cast ornamental designs in plaster.

Plasterers can plaster either solid surfaces, such as concrete block, or supportive wire mesh called lath. When plasterers work with hard interior surfaces, such as concrete block and concrete, they first apply a brown coat of gypsum plaster that provides a base, which is followed by a second, or finish coat, also called "white coat," made of a lime-based plaster. When plastering metal-mesh lath foundations, they apply a preparatory, or "scratch coat" with a trowel. They spread this rich plaster mixture into and over the metal lath. Before the plaster sets, plasterers scratch its surface with a rake-like tool to produce ridges, so that the subsequent brown coat will bond tightly. They then apply the brown coat and the finish, white coat.

Applying different types of plaster coating requires different techniques. When applying the brown coat, plasterers spray or trowel the mixture onto the surface, then finish by smoothing it to an even, level surface. Helpers usually prepare this mixture.

For the finish, or white coat, plasterers themselves usually prepare a mixture of lime, plaster of Paris, and water. They quickly apply this using a "hawk," that is a light, metal plate with a handle, along with a trowel, brush, and water. This mixture, which sets very quickly, produces a very smooth, durable finish.

Plasterers also work with a plaster material that can be finished in a single coat. This "thin-coat" or gypsum veneer plaster is made of lime and plaster of Paris and is mixed with water at the jobsite. This plaster provides a smooth, durable, abrasion-resistant finish on interior masonry surfaces, special gypsum baseboard, or drywall prepared with a bonding agent.

Plasterers create decorative interior surfaces as well. One way that they do this is by pressing a brush or trowel firmly against a wet plaster surface and using a circular hand motion to create decorative swirls. Plasterers sometimes do more complex decorative and ornamental work that requires special skill and creativity. For example, they may mould intricate wall and ceiling designs, such as cornice pieces and chair rails. Following an architect's blueprint, plasterers pour or spray a special plaster into a mould and allow it to set. Workers then remove the moulded plaster and put it in place, according to the plan.

When required, plasterers apply insulation to the exteriors of new and old buildings. They cover the outer wall with rigid foam insulation board and reinforcing mesh, and then trowel on a polymer-based or polymer-modified base coat. They may apply an additional coat of this material with a decorative finish.

As a plasterer,

- you prepare the working area and the surfaces to be treated (removing old materials, protecting adjoining surfaces, supplying, storing and installing materials and equipment (e.g. scaffolding),
- you assess and control the conditions of the surfaces to be worked on (façades, walls, ceilings),
- you take measurements and have the needed quantities of materials available,
- you repair, - if necessary - replace and prepare the structures to be covered,
- you put in place the new bases: base coats, laths, gypsum boards,
- you install the correct materials, using the best techniques: set corners and angles, wire-mesh frames, mix and apply coats (base and finish) of plaster, cement, render or similar materials, fix cornices, install plasterboards, insulation and moisture barriers, finish joins and nail holes, etc,
- you perform decorative tasks, installing prefabricated or poured in place mouldings and other special fittings, you fabricate or perform on site ornamental tasks, for instance sgraffito for scratched ornament in plaster,
- you communicate with your client to give explanations about your work and make sure that the expected result will be reached.

Plasterers are usually employed by contracting companies in the building / construction sector (residential, commercial and industrial, new constructions as well as renovation works), in specialized SMEs or large contracting firms. They go from construction sites to other building sites meaning often changing locations and project managers or owners. Most plasterers work indoors, except for those who apply decorative exterior finishes. They may work on scaffolds high above the ground.

Plastering is physically demanding. The work can also be dusty. It can irritate the skin, eyes, and lungs unless protective masks and gloves are used.

Workers need to be in good physical condition and have good manual dexterity. Artistic creativity is helpful for those who apply decorative finishes.

The required competencies include a thorough knowledge of the structures to be covered, the correct materials to be used and the best techniques available.

Plasterers can work alone but often work in teams, so it is important to cooperate efficiently. They also demonstrate their communication skills while dealing with their clients. They have to organize their work according to a detailed planning, have the right equipment and the specified materials available in time and in the correct quantities; they have to solve problems occurring on site in order to deliver quality work and to reach the expected result. They have to comply with the applicable environmental, health and safety standards and regulations.

### **1.2.3 The competences include general social/soft skills:**

- Creativity
- Critical thinking
- Flexibility/adaptability
- Honesty/integrity
- Interpersonal communication
- Leadership
- Proactive work attitude
- Self motivation
- Teamwork
- Time management
- Work ethics skills
- Influencing skills
- Research skills
- Presentation skills
- Customer service & client relationship
- Ability to take, create, acknowledge and live up to personal responsibilities
- Problem-solving skills
- Working under pressure
- Safety and health care

## **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

- ☐ individual competition.

The competitors promote, within the context of an industrial process, their skills by means of making a project in competition with candidates from the countries involved. The competition consists of individual performances.

The competition will advertise and promote the following skills and competencies:

- Preparing the work to be performed
- Assessing and preparing the surfaces to be treated
- Execution of the bases and of the finishing activities
- Fabricating and putting in place moulding and other ornamental items
- Cleaning the site
- Delivering the final result

**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 competitor will have to work out the following modules:

- Module 1: Application of a decorative plastering technique (coatings, sgraffito)
- Module 2: Application of a decorative plastering technique (thin application coatings, mouldings run by their own)

### **2.3 Test Project developer**

The Test Project/modules is/are developed by:

- ☐ all 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 Is there a team competition with overall results, please describe how the overall results will be produced!

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 (except Test Projects with fault finding parts).

## 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.

Please specify skill-specific safety requirements here OR enter 'None'.

If entering safety requirements start with introductory sentence then list bullet points:

- all Competitors must bring and use safety glasses when using any hand, power or machines, 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
- competitors must keep their workspace clear of obstacles and the floor space clean permanently,
- experts will 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.

- all consumable materials
- zinc moulds
- 8 work tables: 1,50 m x 1,20 m
- steps for competitors
- 40 (5/competitor) water buckets

### 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 4040 Plastering			
Trade 4041 Plasterer			
Section	Criterion	Marks	Objective Subjective
A	Measurement	20	20/0
B	Work Process	20	20/0
C	Dimensions	20	20/0
D	Layout	20	20/0
E	Impression	20	0/20
	<b>Total</b>	<b>100</b>	<b>80/20</b>

## Annex II

### Workfloor Setup

The total estimated area for 8 participating countries should be 170 m<sup>2</sup>, including storage and office area.

For each competitor:

- approximately 9 m<sup>2</sup> will be available, including personal working space
- 2 plasterboard walls will be erected (2,40 m x 2,60 m (height)). The working space will be open and facing the visitors.
- electrical power
- water supply
- the floor should be waterproof (no carpet).

