

1. TITLE OF THE CERTIFICATE (ES)

**Certificado de Profesionalidad de nivel 2 en
FUSIÓN Y COLADA**

2. TRANSLATED TITLE OF THE CERTIFICATE (EN)

**Professional Certificate Level 2 in
SMELTING AND REFINING
(This translation has no legal status)**

3. PROFILE OF SKILLS AND COMPETENCES

The holder of this certificate will have acquired the **general competence** to carry out smelting and refining operations for the smelting of metal alloys, controlling the products obtained, and carry out the preparation, start-up, operation and first-level maintenance of facilities, machines and tools; following criteria of quality, safety and respect for the environment. This general competence is divided into the following **skills units** (UC):

- Prepare equipment and carry out smelting and refining (UC0586_2).
- Prepare machines and facilities for automated smelting processes (UC0587_2).

The professional skills are acquired through the **learning outcomes** defined within the related Training Modules (MF):

- Smelting and refining processes (MF0586_2).
- Auxiliary smelting systems (MF0587_2).
- Practical training at the workplace in smelting and refining (MP0038)

(See legal basis for all learning outcomes information acquired by the holder of this Certificate in each MF).

As a reference the learning outcomes include in the Practical training at the workplace that complete and reinforce the learning outcomes acquired in the other training modules, are:

- Line the furnaces and ladles for smelting and refining, ensuring quality standards and complying with the rules on the prevention of occupational and environmental risks.
- Carry out the process of ferrous and/or non-ferrous metal smelting, based on the raw materials, their amounts and the final product to be obtained, and applying the standards governing occupational and environmental risk prevention.
- Carry out the process of refining using the moulds and smelted material in the smelting furnace, respecting the rules governing the prevention of occupational and environmental risks.
- Analyse the chemical elements of the metal alloys and the observable characteristics using metallographic procedures.
- Participate in the auxiliary smelting processes (selection of materials, feeding of pieces, tools, emptying/filling deposits, evacuation of waste, storage), using both manual and automated techniques, in conditions ensuring prevention of occupational and environmental risks.
- Adapt programmes for controlling automatic feeding systems for machines that utilise PLCs and robots in conditions that ensure the prevention of occupational and environmental risks.
- Operate the different parts (pneumatic, hydraulic, electrical) involved in handling, transport and feeding, guided by a supervisor, acting on the regulating elements and carrying out first-level maintenance in conditions ensuring the prevention of occupational and environmental risks.
- Carry out a response control on automated systems, checking the trajectories and synchronism of movements, making the necessary measurements and complying with the rules on the prevention of occupational and environmental risks.
- Take part in the company's working processes, following the rules and instructions established at the workplace.

4. RANGE OF OCCUPATIONS ACCESSIBLE TO THE HOLDER OF THIS CERTIFICATE

The holder of this certificate may work in the sector of metal transformation industries, in smelting companies related to: the manufacture of metal products, construction of machinery and mechanical equipment, manufacture of parts for automotive vehicles, naval construction, construction of transport material, manufacture of precision, optical and similar equipment.

The most pertinent occupations and positions are:

- Secondary smelting operator (metallurgy).
- Smelting process operator.
- Operator of the secondary smelting refining machine, in general.
- Secondary smelting furnace operator.
- Smelting furnace operator.
- Gravity smelting technician.
- Refining machine operator for metallic alloys.

5. OFFICIAL BASIS OF THE CERTIFICATE

Name and status of the national/regional authority providing accreditation/recognition of the certificate

The Ministry of Employment and Social Security or the corresponding autonomous regional administration within the scope of its competence, in the name of the King. The certificate is valid throughout Spain.

Level of the certificate

The Professional Certificate Level 2 of the National Repertoire of Professional Certificates corresponds to level 3 of the International Standard Classification of Education (ISCED-P 2011).

The European Qualification Framework (EQF) level:

Grading scale/Pass requirements

The grading scale and pass level of the training modules are expressed on a scale of 0 to 10. The minimum score for a pass is 5 in every training module including a pass in the practical training at the workplace module.

The grading system is as follows:

- FAIL: 0 to 4.9
- PASS-SATISFACTORY: 5 to 6.9
- PASS-GOOD: 7 to 8.9
- PASS-EXCELLENT: 9 to 10

Access to next level of education/training

This Professional Certificate Level 2 gives access to Professional Certificate Level 3 within the same professional area and family.

For validation purposes, the educational authorities will recognise the professional module or modules of the VET diplomas corresponding to the skills units included in the training modules of this certificate.

Legal basis

Royal Decree 1969/2008 of 28 November, establishing three professional certificates in the professional family Metal working, which are included in the National Repertoire of Professional Certificates. (Appendix I, Code: FMEF0108)

6. OFFICIALLY RECOGNISED WAYS OF ACQUIRING THE CERTIFICATE

This certificate may be acquired by:

1. Training: Completion with a pass grade of the face-to-face or online training programme.
2. Recognition of the professional skills acquired through professional experience or non-formal training (prior learning): Completion of a process of skills evaluation and accreditation in all the skills units making up the professional certificate.
3. Dual training: Completion of a training and apprenticeship contract, which may range from 1 year (or 6 months, if stipulated as such in the collective agreement) to 3 years, during which effective working time is combined with time dedicated to training under the training programme for the professional certificate.

The training method (number 1 above) requires successful completion of the training modules and the practical training at the workplace:

Description of vocational training received	Percentage of total programme (%)	Duration (hours)
Training modules	80	320
Practical training at the workplace	20	80
Total duration of training leading to the certificate		400

Entry/access requirements:

- Compulsory Secondary Education Diploma (Lower secondary education); or
- Professional Certificate Level 1 in the same professional area.
- If neither of the above or higher certifications are held, a pass in the key skills tests.

Additional information: Professional certificates are instruments for official accreditation of the professional qualifications in the National Catalogue of Professional Qualifications for all economic activities, within the scope of the labour administration. The National Repertoire of Professional Certificates is divided into three qualification levels (Level 1, Level 2 and Level 3), and by sectors into 26 professional families and 102 professional areas. More information is available at: www.sepe.es

National Europass Centre: www.oapee.es

(*) **Explanatory note:** This document is designed to provide additional information about the specified certificate, but has no legal status in itself. The format of the description is based on the following texts: Council Resolution 93/C 49/01 of 3 December 1992 on the transparency of qualifications; Council Resolution 96/C 224/04 of 15 July 1996 on the transparency of vocational training certificates; and Recommendation 2001/613/EC of the European Parliament and of the Council of 10 July 2001 on mobility within the Community for students, persons undergoing training, volunteers, teachers and trainers.

More information is available at: <http://europass.cedefop.eu.int>

