

1. TITLE OF THE CERTIFICATE (ES)

**Certificado de Profesionalidad de nivel 3 en
FMEM0211 FABRICACIÓN POR MECANIZADO A ALTA VELOCIDAD Y ALTO RENDIMIENTO**

2. TRANSLATED TITLE OF THE CERTIFICATE (EN)

**Professional Certificate Level 3 in
FMEM0211 HIGH-SPEED AND HIGH-PERFORMANCE MACHINING MANUFACTURE
(This translation has no legal status)**

3. PROFILE OF SKILLS AND COMPETENCES

The holder of this certificate will have acquired the **general competence** to obtain pieces through high-speed and high-performance machining, planning and controlling the operational processes of machining and manufactured products, adapting the manufacturing plans to the needs of the process, designing tools, preparing and setting up machines, being responsible for first-level maintenance of equipment, ensuring criteria of quality, while complying with the company's occupational risk prevention and environmental plans, and current law. This general competence is divided into the following **skills units** (UC):

- Adapt the manufacturing plans to high-speed and high-performance machining (UC2164_3).
- Design clamping fixture for high-speed and high-performance machining (UC2165_3).
- Plan high-speed and high-performance machining (UC2166_3).
- Carry out high-speed and high-performance machining operations (UC2167_3).

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

- Adaptation of the manufacturing plans to high-speed and high-performance machining (MF2164_3).
- Design of clamping fixtures for high-speed and high-performance machining (MF2165_3).
- Planning of high-speed and high-performance machining (MF2166_3).
- High-speed and high-performance machining operations (MF2167_3).
- Practical training at the workplace in high-speed and high-performance machining manufacture (MP0432)

(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:

- Generate the geometry of the piece adapted to the machining and high-speed or high-performance manufacturing plans using computer-aided design (CAD).
- Prepare CAM programs to obtain pieces through high-speed or high-performance machining based on the manufacturing process and technical information, or a computer file containing graphic information on the piece.
- Carry out operations to prepare and set up machine tools for high-speed or high-performance machining, using the equipment or resources required, and based on technical documentation and specifications.
- Operate machine tools for high-speed or high-performance machining, complying with the process specifications, and obtaining the required quality while observing the rules governing occupational risk prevention and environmental protection.
- Apply techniques for checking pieces, following established control guidelines, indicating any faults or anomalies observed, as well as their causes, with the aim of ensuring the quality of the pieces.
- 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 areas of planning and production in companies dedicated to manufacture by high-speed and high-performance machining. The holder may work in the subsector of the metal transforming industry, above all in the following economic activities: metallurgy; manufacture by high-speed and high-performance machining; manufacture of metal products; manufacture of machinery and mechanical equipment; manufacture of computer, electronic or optical products; manufacture of motor vehicles and transport material.

The most pertinent occupations and positions are:

- Machine-tool fitter for working with metals, in general.
- Machine-tool fitter with CNC, for working with metals.
- High-speed and high-performance machine-tools operator.
- High-speed and high-performance machine-tools CNC programmer.
- High-speed and high-performance machining process planner.
- Designer of tools for high-speed and high-performance machining.

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 3 of the National Repertoire of Professional Certificates corresponds to level 4 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 3 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 618/2013 of 2 August, establishing four professional certificates in the professional family Metal working, which are included in the National Repertoire of Professional Certificates and update the professional certificates established in Appendices I and II of Royal Decree 1521/2011 of 31 October. (Appendix II, Code: FMEM0211)

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	94	590
Practical training at the workplace	6	40
Total duration of training leading to the certificate		630

Entry/access requirements:

- *Bachiller* Diploma (upper secondary education); or
- Professional Certificate Level 2 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>

Information on Professional Certificates of the Map of Qualifications and Vocational Training in Spain

