



## 1. TITLE OF THE CERTIFICATE (NL)

**Diploma Beroepsonderwijs**  
**Kwalificatie: Technicus service en onderhoud elektrotechniek en instrumentatie**  
**Kwalificatiedossier: Service- en onderhoudstechniek**

In the original language

## 2. TRANSLATED TITLE OF THE CERTIFICATE (EN)

**Certificate Senior Secondary Vocational Education**  
**Qualification: Technician service and maintenance electrotechnology and instrumentation**  
**Qualification file: Service and maintenance technology**

This translation has no legal status

## 3. PROFILE OF SKILLS AND COMPETENCES

Core task 1: Inspects equipment, installations and systems

- 1.1 Prepares for the inspection of equipment, installations and systems
- 1.2 Takes precautions for inspection working duties
- 1.3 Performs sensory inspection on equipment, installations and systems
- 1.4 Performs measurements and tests on equipment, installations and systems
- 1.5 Makes an initial diagnosis and reports results
- 1.6 Rounds off inspection work on equipment, installations and systems

Core task 2: Optimises equipment, installations and systems and corrects malfunctions

- 2.1 Prepares for resolving malfunctions and optimising equipment, installations and system
- 2.2 Takes precautionary measures for resolving malfunctions and optimising equipment, installations and systems
- 2.3 Disassembles, modifies, repairs and assembles components of equipment, installations and systems
- 2.4 Checks and tests work performed on equipment, installations and systems
- 2.5 Delivers equipment, installations and systems
- 2.6 Rounds off maintenance and modification work

Core task 3: Locates and analyses (the causes of) complex malfunctions in the electro-, measure-, regulation technical and mechatronic parts in equipments, installations and systems

- 3.1 Prepares for resolving malfunctions
- 3.2 Localises and analyses (the causes of) complex malfunctions
- 3.3 Adjusts and regulates the electro-, measure- and regulation technical and mechatronic parts of equipment, installations and systems
- 3.4 Supervises colleagues

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

The Technician service and maintenance electro technology and instrumentation works for production companies, installation companies and service companies which focus on maintenance, analyses of malfunctions and modification of the mechatronic part, electrical part and/or measure part and control part of industrial equipment, installations and systems. Examples are production machines, process installations, lift installations and railway vehicles. The Technician service and maintenance electro technology and instrumentation performs maintenance on electrical part, mechatronic part, or measure parts and control parts of equipment, installations, and systems which may be complex. He locates (complex) malfunctions, corrects them and carries out repairs and modifications if necessary.

**\* Explanatory note**

This document is designed to provide additional information about the specified certificate and does not have any 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://www.europass.cedefop.europa.eu/>

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## 5. OFFICIAL BASIS OF THE CERTIFICATE

<p><b>Name and status of the body awarding the certificate</b> The certificate issued on completion of the programme is signed by the examination board at the school where the pupil attended the programme.</p>	<p><b>Name and status of the national/regional authority providing accreditation/recognition of the certificate</b> Ministry of Education, Culture and Science</p>																				
<p><b>Level of the certificate (national or international)</b> Qualification level 4 of the Dutch VET qualification structure Characteristics: non-job related skills such as tactical and strategic capacities. The professional bears his or her own responsibility, which is not only related to practical implementation in terms of monitoring and supervision, but also a more formal, organisational responsibility. The range of tasks also includes drafting new procedures. NLQF-niveau 4 - EQF level 4 - ISCED 3A</p>	<p><b>Grading scale / Pass requirements</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10px;">10</td><td>excellent</td></tr> <tr><td>9</td><td>very good</td></tr> <tr><td>8</td><td>good</td></tr> <tr><td>7</td><td>very satisfactory</td></tr> <tr><td>6</td><td>pass</td></tr> <tr><td>5</td><td>fail</td></tr> <tr><td>4</td><td>unsatisfactory</td></tr> <tr><td>3</td><td>very unsatisfactory</td></tr> <tr><td>2</td><td>poor</td></tr> <tr><td>1</td><td>very poor</td></tr> </table>	10	excellent	9	very good	8	good	7	very satisfactory	6	pass	5	fail	4	unsatisfactory	3	very unsatisfactory	2	poor	1	very poor
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<p><b>Access to next level of education/professions</b> The Technician service and maintenance electro-technology and instrumentation can be transferred to Technician service and maintenance electro-technology and instrumentation or Technician data technology, Electro-technology (infra-technology) or expand his knowledge starting with service and maintenance to the assembly of installations or infra-technical nets or to assembly of products. He can be promoted to become a specialist or manager in terms of service and maintenance in electro-technical domains, a planning officer maintenance, a project coordinator, a head of a work place, a designer/product developer, project supervisor, service coordinator, contract guardian, contract manager (hbo). He can progress further through technical or physicist higher professional educations such as Electro-technology, Technical business administration, Industrial products designing and Mechanical engineering.</p>	<p><b>International agreements</b> Technician service and maintenance electrotechnology and instrumentation is not a regulated profession in the Netherlands. However, the education and training for this profession on qualification level 4 is regulated under the European directive 2005/36/EC, amended by directive 2013/55/EU. The regulated education and training gives access to regulated professions at the level of a diploma according to article 11 of this directive.</p>																				
<p><b>Legal basis</b> Act on Vocational Education and Training (WEB), registered number of qualification (crebo): 25309 The education and training for this qualification is offered as of 01-08-2015.</p>																					

## 6. OFFICIALLY RECOGNISED WAYS OF ACQUIRING THE CERTIFICATE

<p>Senior secondary vocational education features two learning pathways: the school-based pathway (bol) and the training on the job pathway (bbl). In the school-based pathway, the majority of the course consists of theory at school. The extent of the practical component (vocational practice) is between 20% and 60%. In the training on the job pathway, the extent of vocational practice is at least 60% of the course. The participant works four days a week in a training company, and attends school for theory subjects just one day a week. In principle it is possible to follow both learning pathways, but which pathway is offered will depend on the individual educational institution.</p>	
<p><b>Average duration of the education/ training leading to the certificate</b></p>	<p><b>3 years (4800 study hours) (depending on previous education)</b></p>
<p><b>Entry requirements</b> The certificate preparatory vocational secondary education (vmbo) advanced vocational programme, combined programme, or theoretical programme, or a comparable level.</p>	

## 7. ADDITIONAL INFORMATION

Dutch senior secondary VET is based on qualification files, that each contain one or more qualifications. The information included in part 3 and 4 is derived directly from the qualification file determined by the Minister of Education, Culture and Science. The complete qualification file can be found at [kwalificaties.s-bb.nl](http://kwalificaties.s-bb.nl), only in Dutch.

Optional subjects are linked to the qualification. The optional subjects have a total size of 15% of the course duration. The optional subjects completed by the student are listed on the certificate.

Additional information, including a description of the Dutch national qualifications system, is available at the Netherlands National Reference Point (NRP): [www.s-bb.nl](http://www.s-bb.nl). The NRP is the information centre for vocational qualifications in the Netherlands. SBB has been appointed in this capacity by the Ministry of Education, Culture and Science.