

ISOQUAM

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Zertifizierungsges.m.b.H.



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## CERTIFICATION OF JOB QUALIFICATION

# Certification Programme: "Qualified Employee /in the Metal Sector"

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Please note:

Wherever masculine forms are used in this text the reference is also to females. This document was compiled in accordance with our rules for the handling of documents, checked, and approved.

## Content

<b>1. Needs assessment</b>	3
<b>2. Consultation of interested parties</b>	3
2.1. Where qualified workers are needed	3
2.2. Certification programme	3
2.3. Support from interested parties	4
2.4. Responsibility	4
<b>3. Certification programme</b>	4
3.1. Target group / purpose	4
3.2. Programme components regarding practical skills	5
3.2.1. Course of training	6-7
3.3. Examination and evaluation	8
3.3.1. Examination prerequisites	8
3.3.2. Examination	9
3.3.3. Monitoring / recertification	9
3.3.4. Qualification of trainers and examiners	10
3.4. Communication – opinion on market transparency	10
<b>4. Certification mechanisms (confidentiality)</b>	10-11
<b>5. General validity (conformity)</b>	11
<b>6. Rotation / revision (objectivity)</b>	11
<b>7. Sample certificate</b>	11
<b>8. Programme committee (founding members)</b>	12

## 1. Needs assessment

Certification programmes for persons should only be established on the basis of specific legal requirements (e.g. a need to ensure public safety) or on the basis of a proven market need (e.g. credibility, trust, job improvement).

In recent years it has become increasingly difficult to satisfy industry's needs for specialists in the metal sector. On the one hand, potential candidates for relevant vocational training programmes are lost as a result of the fact that they choose to go on to higher-level schools (AHS, BHS); on the other hand, not all potential candidates manage to do well enough in the examinations at the end of the pertinent training opportunities they were offered. With this certification programme we want to create the possibility for persons who meet the criteria set for our target group to acquire the kinds of skills that are needed by industry, and which they are capable of learning, so that they will be able to find jobs on the labour market and be able to remain in them.

These efforts will also be supported by:

- educational institutions,
- labour market services,
- representatives of the metal sector
- the metalworkers union and the industrialists association (we have informed them)

## 2. Consultation of interested parties

The certification agency or organisation that proposes the certification programme should provide consultation with the interested parties on the following points:

- a) a description of the specific sector for which these persons are to be certified
- b) a description of the qualification/job skill requirements, assessment standards and procedures, including those for monitoring and recertification
- c) the degree of support for the programme on the part of the interested parties and proof of acceptance of the programme contents
- d) what organisation/agency or person is to be responsible for developing the proposed programme.

### 2.1. Where qualified workers are needed

The conception of the present certification programme took place in agreement with representatives of the concerned areas of industry. They are represented in the programme committee by:

- trainers (vocational training schools, trainers),
- companies that hire qualified workers and continue to train them,
- experts from a certification agency,
- representatives of labour unions (ÖGB, AK, WK)

### 2.2. Certification programme

The certification programme takes into account the practical knowledge that characterizes the various professions in the metal sector (farm machine technician, mechanical engineering technician, machine manufacturing technician, machine mechanic, metalworker, metal technician, toolmaking technician, tool mechanic, universal welder, materials tester). This certification programme is not intended for persons who obtain a qualification in one of the

above-mentioned professions, since this kind of qualification requires considerably more in the way of knowledge and ability to work independently in several areas.

### 2.3. Support from interested parties

This certification programme is supported by the organisations listed in section 0. Persons from there are also in the programme committee.

### 2.4. Responsibility

Primary responsibility for developing the certification programme lies with the programme committee and in particular with the chairman of the programme committee.

## 3. Certification programme

A work/practice analysis should be carried out at regular intervals (at least once every five years) in order to compile or confirm the following:

- a) a description of the target group and a statement regarding the purpose or the planned effect of certification
- b) a list of important and critical tasks carried out by experts on these types of professions
- c) a list of certification requirements, including the underlying principles, and the evaluation mechanisms that have been selected for each requirement
- d) specifications for what to include in examinations, e.g. a formal oral or written description, the types of questions to be asked, the cognitive level involved in the questions, the number of questions for each area covered, the amount of time to be allotted, a method for establishing acceptance of the final assessment, and the methods used to reach that assessment, to the extent that an examination constitutes part of the assessment process
- e) opinions as to how the proposed programme can create market transparency

### 3.1. Target group / purpose

The target group consists, on the one hand, of persons without any prior training and, on the other, of semi-skilled workers who have experience in the area in question or in related areas, but do not have a qualification, as well as persons who are able to carry out tasks in accordance with certification programme standards, but do not have sufficient specialist knowledge to be able to pass an apprenticeship examination, or persons who would be able to pass an apprenticeship examination in the area in question, but are demanding a shorter training period than what is required to obtain a skilled worker qualification. Persons under the age of 18 are not included in our target group.

Our purpose here is:

- to create a certification option for our target group so as to be able to document their skills
- to increase the qualification levels in our target group
- to improve transparency for potential employers
- to define an objective classification criterion (e.g. collective bargaining agreement "...")
- uniform definition of skills/competencies on the basis of EQF – Level 2

## 3.2. Programme components regarding practical skills

In terms of practical skills qualified workers should be able to do the following types of work with or without assistance, depending on their level of competence:

- Independently select primary and secondary materials for a piece of work or construct something based on drawings, work instructions, cards, etc.
- Independently dispose of waste created in the process of producing work pieces.
- Use available tools, machines, and devices correctly and after asking a supervisor.
- Be independently responsible for orderliness and cleanliness in the work area.
- Be able to understand workshop drawings and sketches in their own area of work. When they don't understand something they should ask their supervisor to help them find a solution.
- Necessary maintenance of equipment in the assigned work area should be carried out in consultation with the supervisor. Routine maintenance tasks should be carried out independently and documented.
- Carry out the construction of something or a part of something in the presence of a supervisor, doing so in accordance with instructions. Routine work involving making things should be carried out independently.
- Independently check finished parts or materials to be processed for compliance with the relevant requirements for the work area (dimensions, angles, surface, work completed).
- Correctly prepare work pieces for welding, under the supervision of a welding supervisor (based on WPS or a drawing). In the presence of a welding supervisor they should be able to tack weld constructions and to create simple welded joints (fillet welds) themselves (if no certification as a welder is planned).
- Protect themselves against accidents by means of personal protective equipment. They should independently report dangers that could lead to accidents in the workplace and if possible eliminate such dangers immediately.

**3.2.1. Course of training**

Requirements (knowledge and skills taught and absorbed in the course of training)

The following knowledge (knowing) is taught in the course of training and the necessary skills are acquired on the basis of practical exercises (understanding what you know):

	<b>Knowledge (knowing W); skills (F)</b>	UE <sup>1)</sup>
W	You need to have a good knowledge of the primary and secondary materials used in metalworking. You need to be able to select them appropriately and you need to know how to dispose of them; <ul style="list-style-type: none"> <li>• types</li> <li>• properties</li> <li>• standards</li> <li>• processing</li> <li>• use</li> <li>• disposal.</li> </ul>	72
F	For the work pieces you are asked to produce you need be able to select the correct primary and secondary materials based on a drawing or some other source, and then you need to check everything again to make sure it is correct (instructions on drawings) before you start to work on it. When you finish your work pieces you need to dispose of the waste in the correct manner;	
W	You need to have a good knowledge of tools, machines, and other devices; <ul style="list-style-type: none"> <li>• types</li> <li>• assembly</li> <li>• use</li> <li>• way they work.</li> </ul> You need to be able to name the areas tools, machines, and other devices are used in. You need to be able to describe the maintenance of tools, machines, and other devices;	72
F	You need to be able to correctly select and maintain the tools, machines, and other devices you need to produce your work pieces (safety, orderliness, and cleanliness);	
W	You need to have a good knowledge of machine elements; <ul style="list-style-type: none"> <li>• standards</li> <li>• fit and tolerance</li> <li>• bearings</li> <li>• connecting and fastening elements</li> <li>• locking elements</li> </ul>	38
F	You need to be able to produce your work pieces within the required tolerances and get everything to fit together as it should. You need to make appropriate use of the required connecting and fastening elements.	
W	You need to be able to read and understand technical drawings;	38

F	You need to be able to understand the information given on the drawings (marks, tolerances, surface areas, work step sequences) and produce work pieces to specification.	
W	You need to be able to read and understand technical documents <ul style="list-style-type: none"> <li>• assembly instructions</li> <li>• manuals</li> <li>• spec sheets</li> <li>• maintenance rules;</li> </ul>	38
F	You need to be able to service and maintain the equipment in a workshop (training workshop) in accordance with the maintenance schedules; and to keep maintenance records.	
W	You need to have a good knowledge of work techniques; <ul style="list-style-type: none"> <li>• marking</li> <li>• filing</li> <li>• measuring</li> <li>• sawing, machine sawing</li> <li>• drilling and rasping</li> <li>• thread cutting</li> <li>• riveting</li> <li>• chiselling</li> <li>• straightening and bending</li> <li>• polishing;</li> </ul>	316
F	You need to be able to sequence the work steps correctly for the work pieces to be produced. Work pieces are to be produced correctly, based on the drawing provided, with work steps being carried out in the right order.	
W	You need to have a good knowledge of current measurement and inspection technology; <ul style="list-style-type: none"> <li>• measuring and monitoring</li> <li>• measuring, monitoring, inspection equipment</li> <li>• calibration and adjustment of measuring, monitoring, inspection equipment</li> </ul>	38
F	In the process of producing work pieces use measuring and monitoring equipment to check individual work steps for correctness (dimensional stability, tolerance). Before you use measuring, monitoring, or inspection equipment test it to make sure it is working properly.	
W	You need to have a good knowledge of current welding techniques. <ul style="list-style-type: none"> <li>• welding metallurgy and properties of materials</li> <li>• welding techniques and their uses</li> </ul>	72
F	You need to be able to correctly select the welding techniques to be used. You should be able to do simple welding jobs yourself;	
W	You need to have a good knowledge of workplace safety rules and be able to describe personal protection equipment for the workplace;	38
F	You need to know where to find publicly posted laws in the workshop and you need to know the relevant rules for the workplace. You need to use personal protective equipment in the workplace;	
	Total teaching units	722

<sup>1)</sup> UE=teaching units and amount to at least 50 minutes. The duration of individual modules can vary up to 20% with regard to the planned duration. The individual points must all be discussed and the overall duration must not be more than 10% shorter than originally planned.

## 3.3. Examination and evaluation

### 3.3.1. Examination prerequisites

The following are brief statements of the prerequisites for admission to the examination. They, in turn, are following by a more detailed discussion of the subject:

- work experience in the metal sector **(this can also be in the course of training)**
- completion of training or proof of having an equivalent qualification  
At least two years of training without having passed an examination is equivalent to work experience and is considered proof of having an equivalent qualification. A period of training of this kind must be confirmed by the company in question. Copies of letters documenting training periods must be sent to the certification agency.

#### Work experience as an employee

- Work experience as an employee in the metal sector constitutes at least 4 years at a relevant or related company (e.g. metal industry) or
- proof of relevant training at a company in the sector or at a vocational training centre, where the amount to training received must be a minimum of 19 weeks (of 38 hours each).
- A letter confirming work experience as an employee must be presented to the certification agency.

#### Required course attendance

The amount of classroom teaching is defined in the following table (1 UE is equal to 50 minutes). Course enrollees are required to spend at least 80% of this time in class.

Proof of having an equivalent qualification can only be provided on the basis of an equivalence assessment by the programme committee. The curriculum in question will be judged on the basis of the criteria contained in this certification programme.

### 3.3.2. Examination

The examination consists of the following parts

<b>Examination parts</b>	
<p><b>Practical examination</b></p> <p>The candidates are required to take a practical examination. The work that is to be done in the examination is laid down in writing and corresponds to the area of competence stated on the certificate. All teaching materials can be used in the practical examination. The practical examination is to be completed within 6 hours under the watchful eye of an examiner. Each examination work piece must be clearly marked with the candidate's examination number. Outside assistance from third parties is not allowed.</p> <p>Given to document the level of skills attained, the examination is chosen from among a total of 10 possible variations the day it is taken.</p>	6h
<p><b>Oral examination</b></p> <p>The oral examination relates to the practical examination. The candidates are asked questions about the tools and machines that were used, the sequencing of work steps, measurement and testing equipment, as well as safety regulations and personal protection equipment. The results are summarized in an examination report.</p>	20min

### Certificate is issued

If the candidate passes the examination, and after checking the authenticity of the letters documenting the necessary amount of work experience, a certificate is issued.

### 3.3.3. Monitoring / recertification

Competence certificates are time limited. They are valid for a period of three years. In order to extend the validity of the certificate the holder must present a letter from his employer confirming that he is employed in the area of certified competence.

If the certificate runs out (more than 6 months) the certification process has to be gone through once again (practical examination).

### 3.3.4. Qualification of trainers and examiners

#### Trainers

Trainers must know their subject matter well and they must be well informed about the latest developments in the relevant technologies.

They must satisfy the following requirements:

- They must have a career qualification in the metal sector and, as a minimum, have more than five years experience as a skilled worker in the appropriate area of the metal sector and must also have completed a course as a specialist trainer.
- They must be employed in the appropriate area of the metal sector and keep their knowledge up to date by attending supplementary training courses.
- They must be named to the certification agency as trainers by the company training centre.
- Persons with higher levels of training in the appropriate areas satisfy the above-indicated requirements

#### Examiners

Examiners must know their subject matter well and they must be well informed about the latest developments in the relevant technologies.

They must satisfy the following requirements:

- They must have at least one career qualification as a master craftsman in the metal sector.
- They must have taken part in at least two examinations as an assistant under the supervision of a registered examiner.
- Or they must already have been an examiner in a career qualification examination.

Registered examiners should meet at least once a year with the other examiners for an exchange of views. The organisation of meetings of this kind is the responsibility of the certification agency but it can transfer this responsibility to an educational institution.

If an examiner fails to attend meetings with other examiners twice in a row the certification agency is entitled to retract its approval of his status as an examiner.

### 3.4. Communication – opinion on market transparency

Communication of the certification programme to persons in the relevant circles (trainees, organisations) takes place via the website of the certification agency and training provider, as well as through course programmes and advertising folders. Acceptance of the programme can be determined by taking polls and is discussed regularly at programme committee meetings.

## 4. Certification mechanisms (confidentiality)

All mechanisms should be developed by persons who are absolutely familiar with certification as well as with the relevant area and who have experience and skills in the development of such mechanisms.

The implementation of certification (evaluation, certification) will be handled and monitored by the certification agency SystemCERT. The assurance of stable workflows is made possible

by the use of a corresponding QM system at SystemCERT as well as by regular accreditation by the Federal Ministry of Economics and Labour (BMWA).

To ensure that everything is above board and there is full accountability records will be kept of all the above-indicated activities (training, trainer approval, examination committee, participant dates, among other things). The certification agency will carry out spot checks of the evaluation procedure (examination) in the framework of a special audit.

## 5. General validity (conformity)

All examinations should be in agreement with examination specifications, be applied equally, and without prejudice to anyone.

The conformity of the examination with the specifications of the programme is ensured on the basis of the standardized and accredited procedures employed by the SystemCERT Certification Office. This is supported by the curriculum of this Programme Committee and by the interested parties consulted.

## 6. Rotation/revision (objectivity)

The certification agency should define the mechanism that controls the rotation or revision of examinations in order to ensure objectivity and confidentiality.

Objectivity is ensured by the carefully structured mechanisms put in place by the accredited certification agency SystemCERT. The programme committee meets regularly (once a year would be an absolute minimum) to discuss revisions of the certification programme and examination modalities.

## 7. Sample certificate

Competence: Qualified Employee/in the Metal Sector

First name Last name Title

born on (date of birth) took and passed the Qualified Employee examination at (institution) on (date) in accordance with the SystemCERT certification programme and, as such, proven his/her qualification for employment as a Qualified Employee.

This competence certificate confirms for the holder that he/she has the knowledge and skills needed to .....

He/She has acquired and proven to be in possession of the required knowledge with the following focuses:

- xxx
- xxx

## 8. Programme Committee (founding members)

The members of the Programme Committee confirm with their signatures the validity of the present certification programme.

Leoben, August 2010

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**Sample A (Chairperson)**  
(Employer A)

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**Sample B (Vice Chairperson)**  
(Employer A)

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**Member C**  
(Employer A)

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**Member D**  
(Employer A)

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**Member E**  
(Employer A)

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**Member F**  
(Employer A)

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**Member G**  
(Employer A)

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**Member H**  
(Employer A)

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**Franz Gruber, Graduate Engineer**  
(SystemCERT Certification Office)