General Rules for the Certification of Persons

Specific Requirements for the Certification of Persons

Heat Treatment Supervisors and Operators

1. GENERAL

This document defines any supplementary and/or substitutive procedures applied by RINA to the certification of heat treatment personnel, with reference to the requirements of the General Rules for the certification of Persons RC/C 85.

The paragraphs of these Rules refer to (and keep the same numbering of) the corresponding paragraphs of the general Rules for the certification of persons which were subject to any changes and/or integrations.

This document defines the requirements and modalities for the certification of competence of those personnel who perform heat treatments either on new steel structures and products or during maintenance activities of the same.

Two specialist profiles are identified on the basis of personal knowledge, training and experience:

- Heat treatment supervisor
- Heat treatment operator

2. DEFINITIONS

In addition to the requirements of p. 2 of document RC/C 85, the terms and definitions listed below apply:

Heat treatment supervisor: qualification level that can be assigned to personnel who provide evidences of the knowledge, professional skill and training required by the reference standards and by these Rules and who have successfully completed the relevant examinations for certification.

Heat treatment operator: qualification level that can be assigned to personnel who provide evidences of the experience, knowledge, professional skill and training required by the reference standards and by these Rules and who have successfully completed the relevant examinations for certification.

3. REFERENCE DOCUMENTS

- General Rules for the Certification of Persons, RC/C 85, issued by RINA Services SpA

4. EXAMINATION ADMISSION REQUIREMENTS

BASIC REQUIREMENTS

The candidate shall meet the following requirements:

- be an Italian citizen or a citizen of another Country of the European Community (other nationalities will be evaluated on a case by case basis)
- for non-Italian citizens, be fluent in the Italian language, B2 level

ACCESS REQUIREMENTS

- *Physical fitness*:

  the candidate shall provide evidence of good vision, being able to read the Jaeger 1 eye chart or 4.5 Times New Roman character or equivalent characters with 1.6-mm height at a distance of 1.6 m, with one eye or both, with the aid of spectacles, if necessary

- *Education*:

  - heat treatment supervisor: at least a technical or scientific upper secondary school diploma

- heat treatment operator: at least a lower secondary school certificate.

- *Training*:

  the candidate must provide evidences of having the knowledge required to carry out the tasks for the requested profile by attendance to a training course with duration specified in Table 1 that allows for the acquisition of the following knowledge and skills:

  a) thermology principles; microstructure of metal alloys and their evolution during heat treatment; TT influence on the mechanical characteristics of materials and welded joints; types, scopes and aims of heat treatments; checks and inspections before and after a heat treatment;

  b) global and localized heat treatments; temperature measuring and recording systems; insulating materials and techniques; specific influence of heat treatment conditions on microstructure; selection and setting up of heat treatment parameters; treatment quality control; management of any non conformities raised after the treatment; corrective actions; personal protection and safety equipment during the operating phase; issue and storage of documents, references to standards; drafting of instructions/procedures.

Table1

Profile	Training hours
Supervisor	40 hours
Operator	24 hours

- *Experience:*

  the candidate must provide evidences of having a specific working experience with a minimum duration as per Table 2.

Table 2

Profile	Minimum experience
Supervisor	36 months
Operator	12 months

5. ASSESSMENT AND CERTIFICATION PROCESS

To be admitted to the examination, a candidate shall provide evidences of compliance with the pre-requisites set out in p. 4 of these Rules by sending the "Certification Contract" duly filled in with any required annexes to RINA.

Upon receiving the documentation, RINA checks for its completeness and reserves the right to request and examine further documents/additional information, as an integration and support to the previously received information.

If the examination result is positive, RINA shall inform the candidate of the start of the certification procedure and the examination date together with the relevant examination board (qualified by RINA according to its own instructions).

The candidates and the examination board will be present at the examination, which will be held at RINA offices or another suitable center; the examination board shall be made up of at least one examiner.

The examination shall be generally held in one day, except in the presence of a high number of candidates and/or special agreements with the examination board.

Before the examination starts, the examination board shall check that each candidate:
- shows a valid identity document,
- signs the "List of Attendees" sheet, which is previously provided by RINA to the examination board.

The subjects of the tests focus on the subjects described in Chapter 4 of this document.

The assessment examination shall be structured as follows:

a) **Written test**
The written test shall consist of general and specific multiple-choice questions, selected from RINA's set of questions.
The time allowed to the candidate for the written test is, on average, two minutes for each question.
The minimum number of questions for the candidates concerned with heat treatments is shown in Table 3.

Table 3

CERTIFICATION	NUMBER OF QUESTIONS	
	OPERATOR	SUPERVISOR
GENERAL TEST	20	40
SPECIFIC TEST	20	40

b) **Practical test**

- Candidates to certification of heat treatment operators shall draft an operating instruction with method and technique depending on the industrial sector where they operate;
- Candidates to certification of heat treatment supervisors shall draft a procedure on a treatment chosen by the examination board.

c) **Oral test**

Candidates to certification of heat treatment supervisors shall also be subject to an oral interview/test with discussion and analysis of the results (of both written and practical tests).

To be deemed ready for certification a candidate must obtain the 70% minimum pass grade foreseen for each test and and the 80% minimum pass grade for the examination test as a whole.

Total assessment N must be calculated as follows:

N= 0.33 ng + 0.33 ns + 0.33 ni
where:

- ng is the assessment of the general examination
- ns is the assessment of the specific examination
- ni is the assessment of the written instruction/procedure

A candidate who fails to successfully complete an examination shall repeat said examination for the failed test(s) within one calendar year; if this term is exceeded, the candidate shall repeat the entire examination.

6 – ISSUE OF CERTIFICATES

The result of the Examination Board assessment is sent to RINA for an independent check and the decision about certificate issue; if the assessment result is positive, RINA issues, for each examined candidate, a specific certificate with a validity of 5 years that attests that the candidate has successfully passed the examination.

7 – CERTIFICATION VALIDITY

The period of validity of the certificate issued by RINA is five years.

8 – CERTIFICATION MAINTENANCE

8.1 Renewal

The certificate validity can be renewed for 5 more years provided that the candidate:

a) confirms the physical fitness requirements;
b) provides evidences of having carried out his/her working activity without significant interruptions.

If any claims or legal disputes arise, RINA will evaluate their management and decide whether to maintain, suspend or revoke certification.
Following the above documental review, RINA reserves the right to request further documents.

RINA informs the candidate of the assessment result and, if positive, extends the certificate validity for 5 more years.

8.2 Extension

A candidate who is already certified as heat treatment operator may ask for the extension of his/her certification to heat treatment supervisor by attending the written test, only with regard to specific questions as per Table 3, and the practical test by drafting a procedure on a treatment selected by the examination board.

9 – RECERTIFICATION

Every ten years, within the expiry date of the certificate and preferably with a certain advance, the person who intends to renew certification shall:

a) confirm the physical fitness requirements;
b) provide evidences of having carried out his/her activity satisfactorily without significant interruptions;
c) attend the practical and oral tests mentioned in p. 5 above.

If any claims or legal disputes arise, RINA will evaluate their management and decide whether to maintain, suspend or revoke certification.
RINA informs the candidate of the assessment result and, if positive, extends the certificate validity for 5 more years.

10 – TRANSFER OF CERTIFICATES

RINA reserves the right to evaluate any requests for transfer of similar certificates issued by another CB.

11 - SUSPENSION, REINSTATEMENT, REDUCTION AND REVOCATION OF A CERTIFICATE

The requirements set out in the General Rules for the Certification of Persons RC/C 85 apply.

12 - ENROLLMENT IN THE REGISTER OF CERTIFIED PERSONS

The requirements set out in the General Rules for the Certification of Persons RC/C 85 apply.

13 - USE OF CERTIFICATION LOGOTYPES

The requirements set out in the General Rules for the Certification of Persons RC/C 85 apply.

14 - MANAGEMENT OF CLAIMS

The requirements set out in the General Rules for the Certification of Persons RC/C 85 apply.

15 - CONTRACTUAL TERMS AND CONDITIONS

The requirements set out in the General Rules for the Certification of Persons RC/C 85 apply.