Annex A (Normative)

Body of Knowledge

This annex is part of this standard and includes mandatory elements for use with this standard.

A1. Introduction

A1.1 Capabilities

(1) Judges quality
(2) Interprets specification limitations and intent
(3) Communicate results and makes reports to supervisor

A1.2 Qualifications

(1) Physical condition
(2) Vision
(3) Knowledge of welding
(4) Knowledge of drawings, specifications, specific codes, and procedures used by the employer
(5) Knowledge of testing methods
(6) Experience
(7) Education and training

A1.3 Responsibilities

(1) General
(2) Specific company responsibilities
(3) Personal and company safety practices

A2. Welding, Cutting, and Brazing Processes

(1) Processes used in fabricating the product being inspected
(2) Overview of each process
(3) Discontinuities that may be encountered with each process
A3. Material Fundamentals
(1) Weldability
(2) Metallurgy
(3) Chemistry
(4) Mechanical
   (a) Tensile strength
   (b) Hardness
   (c) Toughness
(5) Testing for mechanical properties
(6) Metallographic tests

A4. Fabrication
(1) Joint preparation
(2) Joint fit up
(3) Welding procedure specification
(4) Welder qualification
(5) Other fabrication documents

A5. Heat Treatment
(1) Preheat
(2) Interpass temperature
(3) Postweld heat treatment

A6. Nondestructive Examination
(1) Visual inspection
   (a) Application and acceptance standards
   (b) Tools and their use
(2) Liquid penetrant testing
   (a) Procedures
   (b) Acceptance standards
(3) Magnetic particle testing
   (a) Acceptance standards
   (b) Procedures
(4) Other testing and inspection
   (a) 100% sampling
   (b) Random sampling
   (c) Radiographic
   (d) Ultrasonic
(5) Specific company procedures

A7. Inspection Documentation
   (1) Verify dimensions
   (2) Verify written welding procedures
   (3) Verify welder qualification papers
   (4) Review NDE reports
   (5) Prepare narrative reports

A8. References
   (1) ANSI Z49.1, Safety in Welding, Cutting, and Allied Processes
   (2) Brazing Handbook, AWS
   (3) Welding Handbooks, Volumes 1–4, AWS
   (4) Welding Inspection, AWS
   (5) AWS A3.0M/A3.0, Standard Welding Terms and Definitions, Including Terms for Adhesive Bonding, Brazing, Soldering, Thermal Cutting, and Thermal Spraying
   (6) AWS A2.4, Standard Symbols for Welding, Brazing, and Nondestructive Examination
Annex B (Informative)
Sample Outline for Written Practice

This annex is not part of this standard but is included for informational purposes only.

JOB FUNCTIONS
A Welding Inspector Specialist (or assistant) employed by the _______________ Company is responsible for performing the following Functions:
(1) ____________________________________________________________
(2) ____________________________________________________________
(3) ____________________________________________________________ etc.

WRITTEN PRACTICE
A Welding Inspector Specialist (or assistant) is responsible for complying with the following written practices: 
(1) _______________________________________________________________________________________
(2) _______________________________________________________________________________________
(3) _______________________________________________________________________________________
(4) _______________________________________________________________________________________

QUALIFICATION AND CERTIFICATION
____________________ Company Certification as a Welding Inspection Specialist (or assistant) is based on the individual presenting evidence of ______ years of relevant experience combined with ______________ level of Education and meeting specified Physical requirements.

PERSONNEL TRAINING
Successfully completing training in the following:
(1) ___________________________________ consisting of ______ hours classroom combined with ______
hours practical. (see _____________________________ course outline)
(2) ___________________________________ consisting of ______ hours classroom combined with ______
hours practical. (see _____________________________ course outline)
(3) ___________________________________ consisting of ______ hours classroom combined with ______
hours practical. (see _____________________________ course outline) etc.
EXAMINATION
Attaining a minimum passing score of ___________ on each of the three parts of the ________________ Company Welding Inspection Specialist Test.

CERTIFICATION RESPONSIBILITY
__________________________ is Responsible for Certifying Welding Inspection Specialists (or assistants) for the ________________ Company and maintains applicable Records for each individual certified. The Records are maintained for a minimum period of ___________ and are available for review upon request. Certification records shall be audited for completeness and compliance with this standard on a ___________ basis.

CERTIFICATION MAINTENANCE
The performance of Certified Welding Inspector Specialists (or assistants) is monitored on a ________________ basis to verify continued proficiency of the individual.
Annex C (Informative)
Visual Acuity Record

This annex is not part of this standard but is included for informational purposes only.

Your Company Name

**VISUAL ACUTY RECORD**

The applicant is required to pass an eye examination, with or without correction, to prove: near vision acuity on Jaeger J2, or equivalent, at 12 inches. In addition, they shall also take a color perception test for red/green and blue/yellow differentiation.

<table>
<thead>
<tr>
<th>Applicant’s Name</th>
<th>S.S. or ID number</th>
<th>Date of examination</th>
</tr>
</thead>
</table>

**Examination:**

<table>
<thead>
<tr>
<th>Eye Correction</th>
<th>Meets Without Eye Correction</th>
<th>Meets With Eye Correction</th>
<th>Does Not Meet</th>
</tr>
</thead>
</table>

**Near Vision**

Jaeger J2 (or Equivalent)

- □ OR □

Distance of 12 inches (check only one)

**Color Perception**

<table>
<thead>
<tr>
<th>Differentiation</th>
<th>Meets</th>
<th>Does not meet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red/Green Differentiation</td>
<td>□ OR □</td>
<td>□</td>
</tr>
<tr>
<td>Blue/Yellow Differentiation</td>
<td>□ OR □</td>
<td>□</td>
</tr>
</tbody>
</table>

I certify that the above named applicant demonstrated the vision capabilities indicated above.

<table>
<thead>
<tr>
<th>Printed Name of Examiner</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Printed Name of Administrator</th>
<th>Signature</th>
<th>Date</th>
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</thead>
</table>
# Annex E (Informative)

## List of AWS Documents on Qualification and Certification

This annex is not part of this standard but is included for informational purposes only.

<table>
<thead>
<tr>
<th>Qualification Designation</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>B5.1</td>
<td>Specification for the Qualification of Welding Inspectors</td>
</tr>
<tr>
<td>B5.2</td>
<td>Specification for the Training, Qualification, and Company Certification of Welding Inspector Specialists and Welding Inspector Assistants</td>
</tr>
<tr>
<td>B5.4</td>
<td>Specification for the Qualification of Welder Test Facilities</td>
</tr>
<tr>
<td>B5.5</td>
<td>Specification for the Qualification of Welding Educators</td>
</tr>
<tr>
<td>B5.9</td>
<td>Specification for the Qualification of Welding Supervisors</td>
</tr>
<tr>
<td>B5.14</td>
<td>Specification for the Qualification of Welding Sales Representatives</td>
</tr>
<tr>
<td>B5.15</td>
<td>Specification for the Qualification of Radiographic Interpreters</td>
</tr>
<tr>
<td>B5.16</td>
<td>Specification for the Qualification of Welding Engineers</td>
</tr>
<tr>
<td>B5.17</td>
<td>Specification for the Qualification of Welding Fabricators</td>
</tr>
<tr>
<td>Certification Designation</td>
<td>Title</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>QC1</td>
<td>Specification for AWS Certification of Welding Inspectors</td>
</tr>
<tr>
<td>QC5</td>
<td>AWS Standard for Certification of Welding Educators</td>
</tr>
<tr>
<td>QC9</td>
<td>Administrative Procedures for Alleged Violations of AWS Certification Programs</td>
</tr>
<tr>
<td>QC13</td>
<td>Specification for the Certification of Welding Supervisors</td>
</tr>
<tr>
<td>QC14</td>
<td>Specification for the Certification of Welding Sales Representatives</td>
</tr>
<tr>
<td>QC15</td>
<td>Specification for AWS Certification of Radiographic Interpreters</td>
</tr>
<tr>
<td>QC17</td>
<td>Specification for AWS Accreditation of Certified Welding Fabricators</td>
</tr>
<tr>
<td>QC19</td>
<td>Specification for AWS Certification of Robotic Arc Welding Personnel</td>
</tr>
<tr>
<td>QC20</td>
<td>Specification for AWS Certification of Resistance Welding Technicians</td>
</tr>
<tr>
<td>QC47</td>
<td>Specification for AWS Certification of Welders and Accreditation of Test Facilities</td>
</tr>
</tbody>
</table>