KENAS
Delivering Trust

KENYA
ACCREDITATION
SERVICE

ACC-CD-22-01

Criteria For Welders Certification

Table of Contents

1 Background Information 2
1.1 Purpose 2
1.2 Scope 2
1.3 Role(s) and Responsibility 2
2 Terms and Definitions 2
2.1 Acronyms and Abbreviations 2
2.2 Definition of Terms 3
3 Criteria 3
3.1 Introduction 3
3.2 Certification Criteria 3
3.3 Competence of welders examiner 4
3.4 Accommodation and Equipment 5
3.5 Test Records 5
4 Associated Documents 6
5 Revision/ Amendment Records 6

Approved Version

1 Background Information

1.1 Purpose

This criterion sets out the additional Accreditation requirements for bodies operating certification of person that operates the welder's certification scheme. The Certification Body needs to demonstrate conformance to ISO/IEC 17024:2012, related IAF mandatory documents and KENAS procedures and guidance documents.

1.2 Scope

This document spells out the additional requirements to ISO/IEC 17024:2012 and outlines unique requirement for the welder's certification scheme accredited by KENAS. The criteria in this document will be applied in conjunction with those in the assessor guide ACC-CD-02-01, the procedure on Management of Assessment, Surveillance, Re assessment and Reporting ACC-PR-07-01 and the relevant IAF Mandatory Documents. Accreditation shall be on the basis of demonstrated competence of the Certification Body in line with welder certification scheme.

1.3 Role(s) and Responsibility

Role	Responsibility
All KENAS Technical Staff	Process owner
SCBO	Reviewer
CMIV	Recommender
CEO	Approval
All KENAS Technical Staff	Compliance

2 Terms and Definitions

For the purpose of this manual, the following terms and definitions shall apply in addition to those given in ISO/IEC 17000 and the Kenya Accreditation Service Act 2019.

2.1 Acronyms and Abbreviations

CEO	Chief Executive Officer
CMIV	Chief Manager, Inspection and Verification
KENAS	Kenya Accreditation Service
SCBO	Senior Accreditation Officer, Certification

Approved Version

KEBS	Kenya Bureau of Standards

2.2 Definition of Terms

2.2.1 Mechanical Test Assessor

A third-party attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific conformity assessment tasks.

2.2.2 Radiographic Interpreter

Approved signatory of a laboratory accredited by KENAS for the interpretation of the radiographs required by this standard and appointed by a test authority to assess a radiograph.

2.2.3 Accredited Laboratory

An organisation accredited KENAS to issue KENAS accredited test reports relating to the assessment of mechanical tests and/or the interpretation of radiograhs.

3 Criteria

3.1 Introduction

3.1.1 Kenya Bureau of Standards (KEBS) have developed a scheme for personnel in fusion welding of steel in accordance to ISO 9606-1:2012 specifies the requirements for qualification testing of welders for fusion welding of steels.

3.1.2 The standard provides the technical rules for a systematic qualification test of the welder, and enables such qualifications to be uniformly accepted independently of the type of product, location and examiner or examining body.

3.1.3 The scheme is used to qualifying welder's ability manually to manipulate the electrode, welding torch or welding blowpipe, thereby producing a weld of acceptable quality.

3.1.4 The scheme for personnel in fusion welding of steel include those fusion-welding processes which are designated as manual or partly mechanized welding.

3.2 Certification Criteria

3.2.1 Certification bodies shall assess and certify welders according the following standards:

a) ISO 9606-1- 2013 Qualification testing of welders, Fusion welding, Part 1: Steels
b) ASME-Sec-IX-2015 Procedures, Part I: Fusion Welding of Steel

Approved Version

c) AWS-D1.1-2015/2010 Welding and Brazing Qualifications
d) AWS:D 1.3/D1-3M:– 2008 Structural Welding – Sheet Steel
e) AWS:D 1.5 : 2007 Bridge Welding Code
f) AWS: D 1.6 :2010 Structural Welding Code – Stainless Steel
g) AS 1796—2001 Certification of welders and welding supervisors

3.3 Competence of welders examiner

3.3.1 The welder examiner undertaking tests in accordance with ISO 9606-1- 2013 would normally be expected to have a background in engineering, welding, metallurgy or non-destructive testing.

3.3.2 They must also have had extensive experience in the assessment of nick-break tests and bend tests and the interpretation of radiographs of fusion welded butt joints in steel.

3.3.3 Qualified as a radiographer and registered in the Radiology registration board

3.3.4 Staff undertaking the interpretation of radiographs must be familiar with;

a) The general requirements of ISO 9606-1- 2013
b) The definition of radiographic sensitivity and methods of determining sensitivity
c) The definition of radiographic film density and methods of determining film density
d) The general requirements of ISO 17636-2:2013 Non-destructive testing of welds -- Radiographic testing -- Part 2: X- and gamma-ray techniques with digital detectors with regard to:
    i) Surface condition of the weld to be radiographed
    ii) Weld image location
    iii) Density of radiographs
    iv) Use of image quality indicators
    v) Radiograph viewing

3.3.5 Staff undertaking the assessment of mechanical tests must be familiar with ISO 9606-1- 2013

3.3.6 Staff carrying out the assessment of mechanical tests or interpreting radiographs need to possess good eyesight. An adequate level of visual acuity is defined ISO 17636-2:2013

3.3.7 All approved signatories shall have r adequate eyesight during KENAS assessments.

3.3.8 Staff seeking signatory approval status must meet the requirements set out in Evaluation of Technical signatories' procedure ACC-CD-03-01.

Approved Version

3.3.9 Staff carrying out mechanical assessments and interpretation of radiographs in accordance with ISO 9606-1:2012 must be KENAS Approved Signatories and must have personally carried out the work for which they are signing (taking responsibility).

3.4 Accommodation and Equipment

3.4.1 The CB must demonstrate that it has access to radiographic viewing facilities that comply with the requirements of ISO 17636-2:2013

3.4.2 The light output of radiograph viewers shall be adequate and checked for sufficient light output.

3.4.3 Formal calibration is not required but operators shall have a positive means for ensuring suitability but formal measurement of light output using an appropriate light measuring procedure may be one means for ensuring suitability.

3.4.4 Equipment such as a densitometer or a density strip must be held for the assessment of the density of radiographs. The radiograph viewing room must be equipped with charts or graphs enabling radiographic sensitivity to be calculated when wire type image quality indicators are used.

3.4.5 The CB must have access to a press and formers complying with the requirements of ISO 9606-1- 2013 for the purpose of conducting bend tests and nick-break tests.

3.4.6 The formers must be subjected to dimensional checks at least annually and records of such checks must be maintained. Where formers are not under the direct control of the laboratory (e.g. not owned by them), a record is to be generated at the time of use to show that the former was fit for purpose.

3.5 Test Records

3.5.1 Test records relating to welder qualification tests must include:

a) A clear, unique identification of the particular test plate under examination. This identification must also appear on the radiographs produced for interpretation. In general, use of the welder's initials alone is **not** sufficient identification
b) The name of the person undertaking the assessment of the mechanical tests and/or the interpretation of the radiograph
c) The date on which the tests were undertaken
d) The mechanical test assessor’s assessment of the test pieces following the nick-break and bend tests
e) The density of the radiograph film in the weld area
f) The radiographic sensitivity achieved

Approved Version

g) The radiographic interpreter's interpretation of the weld discontinuities revealed by the radiograph
h) The results of the welder qualification tests must be reported on the appropriate welder test sheet shown in the Standard.

4 Associated Documents

Ref	Document Identifier	Document Title
1.	ISO 9606-1- 2013	Qualification testing of welders, Fusion welding, Part 1: Steels
2.	ASME-Sec-IX-2015	Procedures, Part I: Fusion Welding of Steel
3.	AWS-D 1.1-2015/2010	Welding and Brazing Qualifications
4.	AWS:D 1.3/D1-3M:–2008	Structural Welding – Sheet Steel
5.	AWS:D 1.5 : 2007	Bridge Welding Code
6.	AWS: D 1.6 :2010	Structural Welding Code – Stainless Steel
7.	AS 1796—2001	Certification of welders and welding supervisors

5 Revision/ Amendment Records

Date	Ver	Revised By	Reason for Revision
10/10/2022	01	RSQ	Newly developed/formatted document

Approved Version