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Title PROCEDURE FOR PREPARING ELECTROCHEMICAL/CORROSION TEST SPECIMENS

EFFECTIVITY AND APPROVAL

Revision 0 of this procedure became effective on 1/26/89. This procedure consists of the pages and changes listed below.

Page No.	Change	Date Effective
1 through 4	-	26 January 1989

Supersedes Procedure No. None

Approvals

Written By	Date	Technical Review	Date
Hersh K. Manaktala Hersh K. Manaktala	1/20/89		1/26/89
Quality Assurance	**Date**	**Cognizant Director**	**Date**
	1/26/89	Allen R. Whiting	1/26/89

CNWRA Form TOP-1

PROCEDURE FOR PREPARING ELECTROCHEMICAL/CORROSION TEST SPECIMENS

1. PURPOSE

The purpose of this procedure is to describe the requirements for preparing test specimens for evaluating the electrochemical behavior of metallic materials for HLW canisters.

2. SCOPE AND APPLICATION

This procedure describes the equipment to be utilized for specimen preparation, and specimen storage, record keeping and identification, and sample archive requirements.

2.1 APPLICABLE DOCUMENTS

The following documents form a part of this procedure, as applicable:

(1) CNWRA Technical Operating Procedure Manual

(2) CNWRA Quality Assurance Program Manual

3. RESPONSIBILITY

(1) The cognizant engineer of the project shall be responsible for the implementation and control of this procedure.

(2) The specimen fabricator shall be responsible for implementing the requirements of this procedure.

4. EQUIPMENT

(1) Band Saw

(2) Milling Machine

(3) Lathe

(4) Threading taps

(5) Shaper

(6) Grinder

(7) Measuring tools (calipers, micrometers, etc)

(8) Surface roughness measuring equipment

(9) Bench/tool-makers microscope

(10) Other, as approved prior to specimen fabrication

(11) NDT equipment, as necessary

5. PROCEDURE

(1) The test specimens shall be prepared using standard machine shop techniques and practices.

(2) The specimens shall be of shape and size, and shall meet the dimensional tolerance, surface finish, chamfer, and other requirements as stated in the work order and/or drawings/sketches accompanying the work order.

(3) No procedures or tools(s) that can alter the surface/bulk microstructure or corrosion properties of the fabricated specimens shall be used, e.g. flame/gas cutting torch, laser beam, cutting/grinding without adequate cooling, chemical etchants/acids, etc.

(4) The specimen fabricator shall return the test samples in plastic containers/bags with proper identification and specimen material traceability records. Specimens fabricated from different materials, or different heat/lot of the same material shall be properly identified and stored in separate containers/bags.

6. IDENTIFICATION AND STORAGE (AT CNWRA LAB)

(1) The fabricated test samples shall be stored in sealable plastic containers/bags. Proper identification records of

material (alloy), traceability of chemical composition and wrought material fabrication records, heat/lot number, date of specimen fabrication, and number of archive specimens to be retained are to be kept with the test specimens.

(2) The containers/bags containing specimens shall be stored in a dessicator, prior to use, to reduce the interaction of atmospheric moisture with the specimens.