

**TECHNICAL SPECIFICATION**

Specification Number: WP                      Issue: B                      Date: 19 June 2009

Subject: **PLASTIC LINING WELDING AUDIT**

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**1. SCOPE**

This Technical Specification shall apply to operations required for the inspection (in accordance with methods employed by Gerber) and suitable repair of welded plastic lining.

**2. DEFINITIONS**

In this Technical Specification unless the context requires otherwise:

**Contractor** means the service provider or its subcontractor who will undertake the works;

**ITP** means the detailed inspection and test plan(s) for the Works;

**Superintendent** means the superintendent for the contract, as defined in the conditions of contract, who is appointed by the Water Corporation to manage/oversee the work under the contract on behalf of the Water Corporation;

**Technical Specification** means this technical specification;

**Works** for the purpose of this Technical Specification means the inspection and any repair work to be undertaken by the contractor to which this Technical Specification applies.

**3. STANDARDS / CODES**

- a) All plastic lining welding shall comply with the Australian Standard(s) or Code(s) of practice (including amendments) specified in the Contract Specification or stated on the Contact Drawings.
- b) The applicable edition(s) of standards / codes are those current two weeks prior to tender close date.
- c) The relevant standard / code is deemed the minimum standard applicable unless otherwise stated in the specification.

**4. GENERAL**

- a) The Contractor shall supply all necessary plant, equipment, materials and labour, prepare the surface, repair and maintain plastic lining applied to steel and/or cast iron surfaces in accordance with this Specification.
- b) Work shall only be carried out by companies with experience on projects of similar nature.

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- c) Only skilled workmen shall be employed on the work. They shall be effectively supervised, and follow accepted procedures of surface preparation and suitable welding techniques.

**5. METHOD OF REPAIR**

- a) Small areas, up to 250mm in length, displaying a lack of fusion shall be repaired using a repair patch (25mm wide welding strip).
- b) Where the defective area is longer, the faulty weld strip shall be removed and the lap re-welded with a new weld strip.
- c) Multiple repairs on the initial weld strip shall be removed. Either a new strip (25mm wide welding strip) or a section of 100mm strip shall be placed over the defective area with a minimum overlap onto the faulty area of 50mm. The patch shall be sealed to the existing area and the edges welded with a 25mm wide cover strip.
- d) Where the repairs on the flaps are longer than 100mm or there is a total of more than 1,000mm on any one flap, the entire flap shall be removed and the joint then covered with a 100-150mm wide strip. The edges shall then be sealed with 25mm cover strip.

**6. INSPECTION & TESTING**

- a) A thorough examination of all welded joints is required. Faulty welds may give an impression of being fused, as a small weld bead could be present. This is often caused by excessive heat input.
- b) Attention shall be paid to the start and finish of a welded strip. These areas typically suffer from a lack of fusion due to insufficient heat input.
- c) Defects indicate a lack of heat directed on to the parent material and weld strip or excessive weld speed and heat input. The latter does not allow for both materials to heat evenly. Insufficient contact pressure on the weld zone will result in a lack of fusion.
- d) Inspections shall comprise of at least the following;
- Visual examination of the total welded strip (both sides).
  - Use of a blunt knife during visual examination to check fusion.
- e) Any area with no visible weld bead shall be treated as a defect.
- f) All repairs on flap areas shall be fully inspected. These areas are difficult to repair due to the lack of support and pressure, resulting in poor fusion.
- g) All plant, equipment, materials and methods used may be subject to inspection by the Superintendent.

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**7. CONTRACTOR'S RESPONSIBILITY**

The preceding inspection clause shall not relieve the Contractor of his responsibility to furnish materials and perform work in accordance with the requirements of the specification.

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