

VRISHAL ENGINEERING PRIVATE LIMITED



PROCEDURE FOR WELDING CONSUMABLE STORAGE & CONTROL

CLIENT: AARTI INDUSTRIES LTD, JHAGADIA, ZONE-4

PROJECT: CORAL-2

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1 SCOPE

This procedure is applicable for the project CORAL-2 for both Workshop & Site use.

2 PURPOSE

This procedure outlines the method for control system for storage and quality of welding consumables that will be used for production welds in both Workshop & Site.

3 DISTRIBUTION & INTENDED AUDIENCE

AIL: AARTI INDUSTRIES LTD, JHAGADIA, ZONE-4

AIL-TPI

VEPL: VRISHAL ENGINEERING PRIVATE LIMITED

4 ABBREVIATIONS

Abbreviations	Definitions
QA/QC	Quality Assurance/Quality Control
ASME	American Society of Mechanical Engineers
WPS	Welding Procedure Specification
WQT	Welder & Welding Operator Qualification Test
SMAW	Shielded Metal Arc Welding
GTAW	Gas Tungsten Arc Welding
FIFO	First In First Out

5 REFERENCE DOCUMENTS

SR. NO	DOCUMENT NAME	DOCUMENT NUMBER	LATEST REVISION
1	Process Piping Code	ASME B31.3	2020
2	Welding & Brazing Qualifications	ASME Sec IX	2023
3	Spec. for Welding Rods, Electrodes, & Filler metals	ASME SEC II C	2023

6 RESPONSIBILITIES

Store In charge - is responsible for storage & issue control of welding consumables. Maintaining consumable baking register

QA/QC Engineer: - is responsible for selection of welding materials based on WPS & project specifications. Verification of consumable baking register.

7 PROCEDURE

- Welding consumables to be used on job shall conform to the requirements of ASME Sec – II Part C and project specifications / classification mentioned in relevant WPS.
- QC Engineer shall be responsible for maintaining the test certificates of welding consumables received at site and for checking the certificates for technical conformance before issuing the consumables for use.
- All welding electrodes shall be supplied in clearly identified vacuum sealed cartons of good condition and stored under a controlled environment of 21°C minimum temperature and 60% maximum humidity.
- Prior to use the welding electrodes shall be baked in ovens as per consumable manufacturer recommendations or 250°C to 350°C for 2 hour.
- Upon completion of baking, electrodes shall be transferred to holding ovens at 120°C. Baking and holding ovens shall have adequate means of ventilation and temperature control. The oven's temperature gauges shall be regularly checked and calibrated.

- Supervisors shall issue ‘Consumable Requisition’ for welding consumables, based on the applicable WPS to be employed for the particular weld.
- Not more than 30-electrodes and 10 filler wire shall be issued to welders based on the welding requirements. The electrodes shall be stored in portable heated quivers at a min. temp of 100°C.
- Calibrated Baking Oven, Holding Oven & Portable Quiver shall be used. Calibration Certificates shall be tagged with B.O & H.O respectively and P.Q Certificates shall be provided on request.
- Unidentifiable electrodes / wire shall not be used.
- The unused electrodes shall be returned to the stores and transferred to the baking oven. These electrodes shall again be dried as per the welding consumable manufacturer’s recommendations.
- Register indicating the loading /unloading time and temperature is to be maintained for the welding consumables.
- Damaged, leftover electrodes shall be collected in an identified rack or bin.
- Issuance of consumable shall be as per FIFO basis.

Storage and Release:

- Each production section shall be issued only the accepted material for the job welding material store keeper shall record the date, quantity and lot no. Issued before issue production section shall verify the consumable to specified classification number and size as per requirement.
- The store for welding shall be controlled access area unauthorized personnel should be prohibited from entering in the store.

Storage condition:

- The Temperature and Humidity shall be checked and record kept for verification. Humidity shall not be more than specified by manufacture.
- The filler wire for FCAW & GTAW to be kept separately in dry place (Hot in direct contact with ground) Rusted or contaminated wire shall not be used.

8 REPORTING

Report shall be generated in Baking Register. (Annexure: I)

ANNEXURE: I