Nash Engineering FZCO

DOCUMENT COVER SHEET

DOCUMENT TITLE

VISUAL INSPECTION PROCEDURE
NASH/WO8356/VIP/001

CLIENT	ENERPROCESS
PROJECT NAME	TBA
MANUFACTURER	NASH ENGINEERING FZCO
ADDRESS	JEBEL ALI FREE ZONE , DUBAI, U.A.E.
NASH W.O.NO	N-8356
DESCRIPTION	STRUCTURAL SUPPORTS
P.O.NO.	ENER-NASH-2025-PO-200

REV	COMMENTS	DATE	NASH	ODS MIDDLE EAST
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QC Dept. NASH ENGINEERING FZCO P.O.BOX 261430 - JEBEL ALI FREE ZONE - U.A.E.

VISUAL INSPECTION PROCEDURE

1. INTRODUCTION

The purpose of this procedure is to define the methods and acceptance criteria employed by NASH for the Visual Inspection of Structures manufactured in accordance with AWS D1.1 – 2020 EDITION AND PROJECT SPECIFICATION:

SCOPE: 100% VISUAL INSPECTION FOR THE STRUCTURALS.

2. REFERENCE DOCUMENTS

NASH "QUALITY CONTROL MANUAL"

AWS D1.1 – 2020 EDITION FOR THE STRUCTURALS.

ASNT SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing" AND

Project Specification:

- **APPROVED ITP.**
- **APPROVED DRAWINGS.**

3. DEFINITIONS

ASME – American Society of Mechanical Engineers
ASNT – American Society for Nondestructive Testing

4. RESPONSIBILITIES

Personnel assigned to Visual Inspections will perform these activities in accordance with good working practice and the requirements of this procedure.

The Quality Control Manager will be responsible for quality control activities, including visual inspections. He will ensure that only personnel skilled in the practices, equipment and standards addressed when carrying out the inspection and assessing the results are engaged in performing visual inspection for quality control purposes.

VISUAL INSPECTION PROCEDURE

5. PROCEDURE

5.1 General

Visual inspections will be carried out as part of the receiving, in-process or final inspection of materials and product. Visual inspection will be performed as follows:

- Raw material inspection
- Joint preparation
- Alignment and fit up
- Weld inspection.
- Manufactured Product.

For each project, the extent of such examinations, acceptance criteria and applicable codes and standards and will be defined in the relevant Inspection and Test Plan.

5.2 Personnel

Personnel carrying out visual inspection should have a natural or corrected near distance acuity such that they are capable of reading J-1 letters on a standard Jaeger type test chart for near-distance vision, or equivalent methods. Personnel performing visual inspection of welds shall be qualified in accordance with following requirements.

(1) Instruction in the fundamentals of the Visual Inspection method.

(2) On-the-job training to familiarize the Visual Inspectors with appearance and interpretations of weld defects. The length of time for such training shall be sufficient to assure adequate assimilation of the knowledge required.

(3) Upon completion of (1) and (2) above, the Visual Inspectors shall be given an Oral or Written examination and performance examination by NASH to determine if the Visual Inspectors are qualified to perform the Visual Inspection and interpretation of results.

Alternatively, personnel qualified to AWS QC-1 shall be used for Visual Examination of welds.

5.3 Equipment

Personnel carrying out visual inspections will use appropriate aids and measuring devices such as weld gauges and temperature indication crayons.

VISUAL INSPECTION PROCEDURE

5.4 General Procedure

Visual inspections are made directly. However, remote visual inspections may be performed using visual aids such as mirrors, bore scopes, fibre optics, cameras or other suitable instruments. Such system shall have resolution capability at least equivalent to that obtainable by direct visual observation.

Direct visual inspections will generally be made when access is sufficient to enable an item to viewed from within 24 inches of the surface to be inspected and at an angle not less than 30 degrees to the surface. Where welds are obscured or not directly visible, mirrors may be used to improve the angle of vision. Aids such as low power magnifying lenses of a reasonable size may also be used to assist visual inspections.

The surface under visual inspection should be evenly illuminated naturally or, if necessary, by flashlight or auxiliary lighting should be so arranged that glare or reflections from the surface under inspection be avoided, as far as possible.

A minimum light intensity of 1076 Lux (100 Ft Candles) shall be maintained during Visual Examination.

Visual inspection prior to fabrication and after welding will comprise of the following:

1. Raw materials will be checked to detect any condition that could cause weld defects or affect the safety of the Item.
2. Materials must be checked for imperfections.
3. All internal surfaces of Structures must be inspected prior to and after Blasting.
4. The surfaces to be welded must be smooth and free from thick scale, slag, rust and any other foreign material for a distance of a least ½" from the weld joint.
5. Tack welds will be subjected to the same quality requirements as the final weld. Where tack welds are cracked or dimensionally unacceptable, they will be removed by grinding or chipping.
6. Fillet welds will be checked to ensure uniformity over the whole length of the joint and size.
7. The surface of finished welds shall be regular without pronounced humps or depressions at stop/start regions. The imperfections, if any, should not hinder proper evaluation of subsequent non-destructive examinations.

5.5 Evaluation and Acceptance Standards

All inspections shall be evaluated in accordance with the acceptance standards of the referring Code Section.: **AWS D1.1 TABLE 8.1.**

5.6 Repairs

Defects will be completely removed from welded joint and upon completion, rewelded or repaired joints will be retested by the same non-destructive inspection processes as the original weld.

5.7 Records

Upon completion of inspections, the inspector(s) executing visual inspections will report the findings on a Raw Material Inspection Report, for raw material inspections, or Visual Inspection Report, for other visual inspections.

6. APPENDICES

Visual Inspection Report.

WELD VISUAL EXAMINATION REPORT

REPORT NO		DATE:	PAGE : OF
CLIENT		INSPECTION CODE	
W.O.NO./ **Mfr.SI.No :**		QUANTITY	
DRG. NO.		LIGHTING	
PROCEDURE NO		VISUAL AIDS	
ITP NO		SURFACE CONDITION:	

REMARKS

SL NO	DRAWING No.	MARK NO.	DESCRIPTION	WELDER NO.	REMARKS

	NASH ENGG QC ENGINEER	CLIENT	AUTHORIZED INSPECTOR
NAME:			
SIGNATURE:			
DATE:			