

■ Standard Operating Procedure (SOP)

Title:	Bracket Weld Inspection Procedure
Document ID:	SOP-BWI-2025
Revision:	1.0
Effective Date:	22-Aug-2025
Prepared By:	QA Department
Approved By:	Maintenance Supervisor

■ Objective

To ensure all mounting bracket welds meet structural integrity and safety standards through standardized inspection methods.

■ Inspection Methodology

- Visual Inspection
- Use adequate lighting and magnification if needed.
- Check for cracks, porosity, undercut, spatter, and incomplete fusion.
- Document any visible defects with photographs and notes.
- Dye Penetrant Test (DPT)
- Clean weld surface thoroughly.
- Apply penetrant and allow dwell time as per manufacturer's instructions.
- Remove excess penetrant and apply developer.
- Inspect for indications of surface-breaking defects.

■ Passing Criteria

- No visible cracks, deformation, or corrosion.
- Welds must be continuous, smooth, and free of defects.
- Dye test must show no signs of surface-breaking flaws.
- Bracket must pass load-bearing simulation if applicable.

■ Documentation Requirements

- Complete Inspection Report Form
- Attach annotated photos of inspected welds
- Record batch number, inspector name, and date
- Upload signed copy of this SOP with inspection results