

**Document Name:**

- Contractor Quality Control Plan for Welding Work
- Inspection and Test Plan for Welding work

No.	Item description	Responsibility		
		CC	TPI	Owner
<b>7.</b>	<b>Welding items</b>			
<b>7.1</b>	<b>Weldings</b>			
7.1.1	Welding test 1) Welding procedure specifications 2) Welding procedure qualification 3) Welder performance qualification tests	H		
7.1.2	Inspection prior to welding 1) Surface cleaning 2) Cutting, beveling and cleaning 3) Alignment 4) Socket welding 5) Defect of tack welds 6) Preheating and interpass temperature 7) Qualification of welder 8) Welding procedure 9) Electrical characteristics - Current - Voltage - Travel speed 10) Welding position 11) Roof pass condition 12) Slag inclusion between passes 13) Interpass characterisTPIs 14) Finishing after back chipping 15) Craters removal on first layer for low alloy steels 16) Environmental conditions 17) Welder identification marking	H		
7.1.3	Inspection prior to welding material 1) Storage and issuing condition 2) Keeping and drying condition - Temperature - Holding time	H		
<b>7.2</b>	<b>Visual inspection of welds</b>			

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7.2.1	Bead appearance	H		
7.2.2	Imperfections in welds	H		
7.2.3	Internal weld protrusions of butt welds for orifice flanges	H		
7.2.4	Socket welding for small pipes 1) Insertion 2) Lack of fusion 3) Size of welds	H		
7.2.5	Beads after PWHT	H		
7.2.6	Physical damage	H		
7.2.7	Surface weld defects and internal weld defects (Crack, inclusion, lack of penetration and fusion)	H		
<b>7.3</b>	<b>Nondestructive examination</b>			
7.3.1	Radiographic examination (RT)	H		
7.3.2	Liquid penetrant examination (PT)	H		
7.3.3	MagneTPI parTPIIle examination (MT) (if required)	H		
7.3.4	Ultrasonic examination (UT)(if required)	H		
7.3.5	Leak test (LT) (if required)	H		
<b>7.4</b>	<b>Positive material identification</b>			
7.4.1	Finished welds of low alloy steel (if required)	H		
7.4.2	Finished welds of type stainless steel (if required)	H		
<b>7.5</b>	<b>Postweld heat treatment (if required)</b>			
7.5.1	Heat treatment condition 1) Cooling method, heating source, temperature	H		
7.5.2	Heat treatment cycle 1) Heating rate, holding temp. cooling rate, min. holding time	H		
7.5.3	Hardness test (Brinell hardness value or equivalent)	H		

**CC:** Construction Contractor

**TPI:** Third Party Inspection

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**H: Hold Point;** Hold on the production till TPI Inspector performs inspection and supervise the required test

If you want to use this draft for inspection and test plan you need to fill the TPI and Owner Column based your project requirement. You may use following abbreviation for filling the columns:

**W: Witness Point;** Manufacture shall notify client and TPI Inspector but there is no hold on the Construction;

**R: Document Review;** Review means Review document, which includes of material test certificates, test reports, records and etc.

**A: Approval**

**SW: Spot Witness;** for items with spot witness contractor shall notify TPI inspector as fulfilling the monitoring;