

**Document Name:**

- Contractor Quality Control Plan for Silo and Hopper Assembly and Erection
- Inspection and Test Plan for Silo and Hopper Assembly and Erection

No.	Item description	Responsibility		
		CC	TPI	Owner
<b>3.7</b>	<b>Silo/Hoppers</b>			
3.7.1	Pre-installation check <ul style="list-style-type: none"> <li>1) Settlement                             <ul style="list-style-type: none"> <li>- Dimensional check before silo/hopper erection</li> <li>- Diameter, direction and slope</li> <li>- Visual</li> </ul> </li> <li>2) Welding test                             <ul style="list-style-type: none"> <li>- Welding procedure specs.</li> <li>- Procedure qualification test</li> <li>- Welder performance qualification tests</li> </ul> </li> </ul>	H		
3.7.2	Erection <ul style="list-style-type: none"> <li>1) Welding inspection                             <ul style="list-style-type: none"> <li>- Visual inspection</li> </ul> </li> <li>2) Cone                             <ul style="list-style-type: none"> <li>- Vacuum test</li> <li>- Radiographic examination of butt joints for annular under shell plates</li> </ul> </li> <li>3) Shell plates                             <ul style="list-style-type: none"> <li>- Radiographic examination</li> <li>- Liquid penetrant examination of welding seams, if specified</li> <li>- Magnetic particle examination, if specified</li> <li>- Level and out of plumbness</li> </ul> </li> <li>4) Roof plates                             <ul style="list-style-type: none"> <li>- Air test for roof plate &amp; pontoon compartments</li> <li>- Oil penetration or vacuum test for deck plate and pontoon</li> </ul> </li> <li>5) Appurtenance                             <ul style="list-style-type: none"> <li>- Orientation and dimensional check</li> <li>- Liquid penetrant examination of shell nozzle and reinforcing plate</li> <li>- Air test of shell nozzle reinforcing plate</li> </ul> </li> </ul>	H		

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	<ul style="list-style-type: none"> <li>- Air test of roof drain pipe for hopper/silo</li> <li>- Visual checks</li> </ul>			
3.7.3	Final check after erection <ul style="list-style-type: none"> <li>1) Leak test</li> <li>2) Final inspectin</li> <li>3) Visual check</li> <li>- Plumbness checks</li> <li>- Roundness checks</li> <li>- Peaking checks</li> <li>- - Banding checks</li> </ul>	H		

**TPI:** Third Party Inspection

**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;