

Date

**Client**

Address

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**Attention: Project Personnel**

Dear Sirs,

**RE: Pressure Vessel Specifications**

As per our meeting on (current date), please find the following deaerator vessel specifications, these requirements are **additional** to all requirements of the current **ASME Code for Pressure Vessels**.

**1) Metallurgy**

- The vessels shall be constructed of **SA 516 Grade 70** material or equivalent.
- any equivalent metallurgy acceptable to the **ASME Code** shall only be used with permission from Purchaser.
- All flanges shall be of a "weld neck" design
- A minimum of **1/8" corrosion allowance** is required.

**2) Welding**

- Weld filler material shall be the same tensile strength as the plate, not to exceed 70 ksi.
- Doubler plates shall not be used as backing bars.
- All welding procedures must be acceptable to the ASME code and be approved by Purchaser.

**3) Weld Profiles**

- All butt welds shall be smoothly profiled and without excessive reinforcement or undercut.
- All thickness discontinuities on the head to shell welds must be addressed with no greater than a **4:1** taper.
- Process side fillet welds to the pressure shell must be smoothly profiled.

**4) Extraneous Welds**

- Temporary welds on either the process or the outside of the pressure shell are not allowed.
- The location of all welds, temporary or otherwise, not shown on vessel drawing must be documented to allow for future inspection.
- Any extraneous welds or arc strikes must be blend ground out.

**5) NDT Inspections**

- **100% radiography (RT) of all pressure welds are required.**
- All RT cassettes shall be double loaded with one set being forwarded to Purchaser.
- Where RT is not possible, such as nozzle welds to the pressure shell, wet fluorescent magnetic particle testing (WFMP) or shear wave ultrasonics (UT) may be substituted.
- a WFMP inspection shall be done all process side pressure welds prior to post weld heat treatment
- Light grinding of the welds is required for this inspection

**6) Post Weld Heat Treatment**

- **Post Weld Heat Treatment (PWHT) is required.**
- The heating rate above 800° F shall be no greater than 200 deg/hr.
- The PWHT temperature of 1150° F shall be a minimum of 1 hour.
- The cooling rate to 800° F be no greater than 200° deg/hr.

**7) Wet Fluorescent Magnetic Particle Inspection**

- a post –PWHT wet fluorescent magnetic particle examination of the process side pressure welds shall be performed to establish a “baseline” for future inspections.

**8) Purchaser Inspections**

- **Purchaser** representatives shall have free access for inspection at all times during fabrication.
- Inspection by **Purchaser** representatives does not relieve the supplier of their inspection responsibilities.

Respectfully submitted,  
**Q A Engineering Ltd.**

R P Eckert, P.Eng.