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| Customer: | NTC | Dated: | 10th Jan., 2015 |
| Specification No: | NTNT26T11C Rev.0 | GA Drawing Ref: | 26000/NT001/01/0 |
| Enquiry Ref: | NT15E2099 | Page 1 of 3 | |

## Technical Specification for Steel Tank Container

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| **Tank Type:** | 20' ISO full frame collar tank, Type UN Portable Tank T11, insulated, steam heated, top side rails fitted | |
| **Quantity:** | 10 to 20 | |
| **Frame Dimensions:** | 20' x 8' x 8'6" | |
| **Capacity:** | 26,000 Litres +0 /- 1% | |
| **M.G.W.:** | 36,000 kg | |
| **Tare (est.):** | 3,770 kg +/- 3% | |
| **Max Payload:** | 32,230 kg | |
| **Working Pressure:** | 4 Bar | |
| **Test Pressure:** | 6 Bar | |
| **Max. Allowable Vacuum:** | 0.41 Bar | |
| **Design Temp:** | -40°C to +130°C | |
| **Vessel Material:** | SANS 50028-7 WNr 1.4402/14404 (C<0.03%)<br>Shell: Cold Rolled 2B finish<br>Ends: Internally polished to 1.2 Micron CLA | |
| | **Shell** | **Ends** |
| **Min. Calculated Thickness:** | 4.18 mm | 4.40 mm |
| **Corrosion Allowance:** | 0.20 mm | 0.20 mm |
| **Total Thickness:** | 4.40 mm | 4.60 mm after forming |
| **Main Frame Material:** | GB/T 1591-Q345D | |
| **Frame to Shell:** | 304 stainless steel | |
| **Corner castings:** | ISO 1161 - 8 off | |
| **Vessel Design Code:** | ASME VIII Div 1 | |
| **Radiography:** | Shell:<br>Ends: | ASME Spot<br>ASME Full |
| **Inspection Agency:** | LR or BV | |
| **Cargo carried:** | See dangerous cargo lists for UN Portable T11 tank | |
| **Stacking:** | Each container is approved for 10 high stacking | |
| **Design Approvals:** | IMDG T11, CFR 49, ADR/RID, CSC, TC, TIR, ISO, US/UK DOT | |

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**Fittings and Accessories:** Valves to be from agreed supplier, all flanges will be made by NTtank

**1. Manway Assembly**
1 x 500mm – 8 points fastening manlid, low profile with TIR provision, no dipstick holder fitted.
Gasket: PTFE encapsulated EPDM inner

**2. Relief Valve Assembly**
1 x 2 ½" BSP pressure relief valve without flameproof gauze
Set pressure: 4.4 bar
Gasket: PTFE/CNAF
Recessed weld in pad fitted horizontally off top centre line.

**3. Relief Valve Provision**
1 x 2 ½" BSP relief valve weld in pad (6 x M10 blind tapped holes on a 105mm PCD) complete with bolted blank flange.
Gasket: PTFE/CNAF
Recessed weld in pad fitted horizontally off top centre line.

**4. Airline Connection**
1 x 1.5" BSP airline ball valve complete with blanking cap and chain.
Gasket: PTFE
Weld in pad fitted tangentially off top centre line.

**5. Top Discharge Provision**
1 x 3" low profile weld in pad (6 x M12 blind tapped holes on a 168.3mm PCD) complete with bolted blank flange.
Gasket: PTFE/CNAF
Recessed weld in pad fitted horizontally on top centre line.

**6. Bottom Outlet Assembly**
3" 45° footvalve and 3" clamped butterfly valve terminating with 3" BSP spigot and blank cap.
Gasket: PTFE/CNAF
An emergency closure cable is connected to the footvalve handle

**7. Spill Boxes**
2 top spill boxes provided, containing as follows:-
Centre box contains Manway, PR valve and PRV provision;
Rear box contains Airline valve and Top discharge provision.
Drainage pipes fitted to each side of each top box.

**8. Outlet housing**
The outlet valve is contained within a protective housing without lid.

**9. Walkway**
'F' Type walkway, 475mm wide aluminium 'Q' grating fitted as follows:-
1 full length walkway fitted with two transverse sections, one adjacent to the centre spill box, one across rear of tank

**10. Handrail**
Not fitted, no provision

**11. Steam Heating**
6 coils steam heating system, actual contact surface 3.24$m^2$, effective heating area 7.12$m^2$
The working pressure is 4 bar and the testing pressure is 6 bar
Inlet connection is 1" BSP, outlet connections is 3/4" BSP
Dust caps and chain will be fitted.

**12. Insulation**
Tank insulated with 50 mm rock wool with a density of 60kg/$m^3$ where possible.
Aluminium foil will be fitted between insulation and tank shell
External cladding: white GRP

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**13. Thermometer** 1 off, Dual scale thermometer, -40° C to 160° C, fitted on rear end to lower left side

**14. Ladder** Aluminium; anti-slip rungs, right-hand rear of tank

**15. Earthing Plate** 1 off, welded to bottom frame rear end of tank

**16. Document Holder** 1 off, in clear tubular PVC

**17. Decal** Mandatory markings supplied and fitted

**18. Data Plate** 1 off S/S consolidated data plate as per code

**19. Calibration Plate** One stainless steel calibration plate marked in cm/litres is tack welded to the inside neck of the central spill box.

**20. Internal Finish** Longitudinal welds: as-welded
Circumferential welds: as-welded but with 400 mm ground flush and polished to a maximum of 1.2 micron CLA on bottom centre line.
Entire internal surface chemically cleaned and passivated after completion of all welding and dressing.
Tank internal surface shall be free of scratches; however, if polishing is necessary, it shall not exceed 1% of the internal surface.

**21. External Finish** Tank Shell: External surface of tank cleaned after completion of all welding and testing.

Framework: All carbon steel frame parts will be shot blasted to Swedish standard SA2½ followed by the application of:-

**22. Painting**

| | | |
|---|---|---|
| First coat: | Hempadur Zinc (1536C) | 30 micron min DFT |
| Intermediate: | Hempatex Primer (1530C) | 40 micron min DFT |
| Final coat: | Hempatex Hibuild (5643C) | 50 micron min DFT |
| | TOTAL | 120 micron min DFT |
| | Colour Blue | RAL 5013 |