

Customer: NTC Dated: 16th July, 2018
Specification No: NTNT31T11C Rev. 0 GA Drawing Ref: 31000/NT01/01/0
Enquiry Ref: NT18E2 Page 1 of 4 Job No.:TGSP17-184-00

Technical Specification for Steel Tank Container

Tank Type: Type UN T11 portable, 7150mm long x 2550mm wide x 2670mm high.
Insulated, steam heated, without top side rails.

Quantity: 5 units

Frame Dimensions: 7150mm X 2550mm X 2670mm (L X W X H)

Capacity: 31,000 Litres +/- 1%

M.G.W.: 36,000 kg

Tare (est.): 4,300 kg +/- 3%

Max Payload: 31,700 kg

Design Pressure: 4 Bar

Test Pressure: 6 Bar

External Pressure: 0.41 bar

Design Temp: -40°C to +130°C

Vessel Material: SANS 50028-7 WNr 1.4402/1.4404 (C<0.03%), equivalent to 316L
Shell: Cold Rolled 2B finish
Dished ends: Hot rolled or Cold rolled, and polished internally to 1.2 Micron
CLA

Shell Nominal Thickness: 4.4 mm

Ends Nominal Thickness: 5.4 mm after forming

Corrosion Allowance: 0.2 mm

Main Frame Material: GB/T 1591 - Q345D or SPA-H (or equivalent)

Side Lifting Pockets: Lifting holes for lifting in the empty condition are provided at top of corner posts.

Corner castings: To ISO 1161
Top: tank fitted with four ISO standard castings, width over casting: 2438mm.
Obstruction plates welded in side facing apertures to prevent use.
Bottom: 4 off bottom overland castings, width over casting: 2550mm.

Handling Damage Protection: Miss stacking stub tubes fitted, protection plates fitted to top and bottom faces of frame members adjacent to corner castings, stainless steel wear

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Enquiry Ref: NT18E2 Page 2 of 4 Job No.:TGSP17-184-00

plates fitted to side faces of corner posts at midpoints.

Tank End Protection Two removable stainless steel bumper bars will be fitted in front and rear of the tank. Tack welded against thief.

Vessel Design Code: ASME VIII Div.1 where applicable

Radiography: Shell: ASME Spot
Ends: ASME Full

Inspection Agency: LR or BV

Cargo carried: See dangerous cargo lists for UN Portable T11 tank

Stacking Each container approved for 3 high stacking

Design Approvals: IMDG T11, ADR/RID, CSC, TIR, UIC

Fittings and Accessories: Valve fittings from Item 1 to Item 7 to be supplied by agreed supplier.
All the flanges except for the neck ring will be supplied by NTtank.

1. Manlid Assembly 1 x 500mm - 8-point fastening manlid, low profile with TIR provision.
No dipstick guide or bracket fitted.
Gasket: PTFE encapsulated EPDM inner

2. Cleaning Hatches 1 x 300mm diameter 4 – points, low profile cleaning points
Gasket: PTFE encapsulated EPDM inner

3. Relief Valve Assembly 1 x 3" flanged pressure relief valve fitted with flameproof gauze.
Set pressure: 4.4 bar/-0.21bar
Gasket: PTFE/CNAF

4. Relief Valve Provision Weld in pad fitted tangentially off top centre line.
1 x 3" flanged pressure relief weld-in pad complete with bolted blank flange.
Gasket: PTFE/CNAF

5. Airline Connection Weld in pad fitted tangentially off top centre line.
1 x 1.5" flanged airline ball valve fitted with extended pipe terminating with a ball valve, 1.5"BSP connection and blind cap at the rear end of tank near the bottom.
An airline remote control system fitted at lower right hand side rear of tank.
Gasket: PTFE (integrated into ball valve)
Recessed weld in pad fitted horizontally off top centre line.

Customer: NTC Dated: 16th July, 2018
Specification No: NTNT31T11C Rev. 0 GA Drawing Ref: 31000/NT01/01/0
Enquiry Ref: NT18E2 Page 3 of 4 Job No.:TGSP17-184-00

- 6. Top Discharge Provision** 1 x 3" low profile weld in pad drilled/tapped with 6 x M12 PCD 168mm, completes with bolted blank flange.
A siphon tube guide plate will be welded on the bottom floor of the tank.
Gasket: PTFE/CNAF
Weld in pad fitted horizontally on top centre line.
- 7. Bottom Outlet Assembly** 1 x 45° 3" high-lift foot valve and 3" clamped butterfly valve terminating with 3" BSP spigot and blank cap.
Gasket: PTFE/CNAF
An emergency closure cable is connected to the foot valve handle
- 8. Spill Boxes** 2 top spill boxes provided with stainless steel covers opening at 130 degrees by chains, containing as follows:-
The centre spill box contains manway, PR valve and PRV provision;
The rear spill box contains one 4-points cleaning hatch, airline connection and top discharge provision.
Drainage pipes fitted to each side of each box above the outside of cladding downwards to rear bottom.
- 9. Bottom Outlet Housing** The outlet valve is contained within a protective housing with stainless steel lid and floor plate.
- 10. Walkway** Full Type walkway, 475mm (400/300mm acceptable) wide, aluminium 'Q' grating fitted.
Landing provided at top of ladder.
- 11. Handrail** One collapsible handrail is fitted along the rear right hand side longitudinal walkway.
- 12. Insulation** Tank insulated with 50mm rock wool with the density of 50kg/m³ where possible. Tank ends insulated with rock wool.
Aluminium foil will be fitted between mineral wool and tank shell.
External cladding: white GRP, RAL 9010.
- 13. Steam Heating** 10 longitudinal runs of heating coils, giving actual surface of heating 6.09 M² (effective heating area of 12.18 M²) will be fitted
The working pressure is 4 bar and the testing pressure is 6 bar
Inlet and outlet connections are 3/4" BSP
One 3/8" drainage ball valve fitted at the lowest position of the outlet.
Stainless steel dust caps and chain will be fitted.

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Specification No: NTNT31T11C Rev. 0 GA Drawing Ref: 31000/NT01/01/0
Enquiry Ref: NT18E2 Page 4 of 4 Job No.:TGSP17-184-00

- 14. Thermometer** 1 off, Dual scale thermometer, -40° C to 160° C, fitted on rear end.
- 15. Ladder** Rear right hand side, complete stainless steel with anti-slip rungs, handgrips provided at ladder top landing.
- 16. Earthing Plate** 1 off, welded to bottom frame rear end of tank
- 17. Document Holder** 1 off, in tubular PVC
- 18. Decal** Mandatory markings supplied and fitted.
- 19. Data Plate** 1 off, SS consolidated data plate as per code.
- 20. Calibration Plate** One stainless steel calibration plate marked in cm/litres is tack welded to the inside neck of the central spill box.
- 21. 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.
- 22. 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:-
- 23. Painting**
- | | | |
|---------------|------------------------|--------------------|
| First coat: | Epoxy zinc rich primer | 30 micron min DFT |
| Intermediate: | Epoxy primer | 40 micron min DFT |
| Final coat: | Acrylic | 50 micron min DFT |
| | TOTAL | 120 micron min DFT |
| | Colour Blue | RAL 5013 |