

Tank Design Calculations
3D Production Detailed Models
Layout and Fabrication Drawings
Production List and Bill of Material
Fabrication Details for Cost Reports

Default Assist Function

Port File Task Data

Model Tree

- 3D-Model
 - Roof
 - Bottom
 - Cone/Rafter Series
 - Bottom Annular Ring
 - Support
 - Connections
 - Bottom Beaming Plate Ring
 - Shell
 - Shell Rings
 - Nozzles
 - Manways
 - Special Re-Pad Plates
 - Clean-Outs
 - Wind Girders
 - Stiffener Rings
 - Shell To Roof Seal Plate
 - Shell To Roof Drip Ring/Plate
 - Compression Ring
 - Pipe Vestibule
 - Water Entry Chutes And Diffusers
 - Special Supports
 - Couplings
 - Bottom Trains
 - Pipe Support Clips
 - Overflow Slots
 - Cable-Trip Support
 - Davits
 - Foam Piping
 - Sample Systems-Bowes
 - Base-Columns
 - Anchor Churn Bolts
 - Grounding Lugz
 - Name Plate
 - Additional Name Plates
 - Stairway/And Platform
 - Additional Stairway
 - Roof/Stairway
 - Baffle
 - Gauge-Pole
 - Drawings

General Details Shell App Roof App Bottom App

Configuration Shell Roof Bottom Structure Stairway and Platform Anchors Name Plate

Design Parameter Materials and CA Coating and Testing Lines and Layers

Design Parameters

Governing Standard API STANDARD C Design Temperature 200 degf

Governing Standard Edition 11TH EDITION Maximum Operating Temperature 200 degf

Appendix (ICS) APP. F Internal Pressure (Design Pressure) 0 psi

API 650 Addendum Addendum 1 External Pressure 0 psi

Maximum Liquid Level 43 ft Roof Live Load 20 psf

High High Liquid Level 42.5 ft Roof Snow Load 0 psf

High Liquid Level 41.49 ft Roof Dead Load 0 psf

Normal Working Level 40.99 ft Product Stored

Low Design Liquid Level 4.5 ft Product Density (Water = 62.42786 lb/ft³) 62.42786 lb/ft³

Capacity Unit BBLs Specific Gravity 1.1

Maximum Capacity in BBLs 295.600 Joint Efficiency 1

Normal Capacity in BBLs 235.947 Partial Safety Factor 0

Working Capacity in BBLs 252.541 Anchorage NONE

Net Working Capacity in BBLs 224.906 Velocities NONE

Minimum Operating Capacity in BBLs 27.735 Design By

Tank W/T Empty 0 Design Date

Tank W/T Product 1021732 Checked By

Tank W/T W/Product 0 Checked Date

Minimum Design Temperature 30 degf

Design Wind Velocity 1.25 mph

Wind Load Exposure C

Wind Importance Factor 1

Seismic Design Factors

Seismic Use Group I

Seismic Site Classification D

T₁ (sec) 12

S₁ (g) 10 %

S₀ (g) 4 %

Av (g) 0 %

Q 0.6686

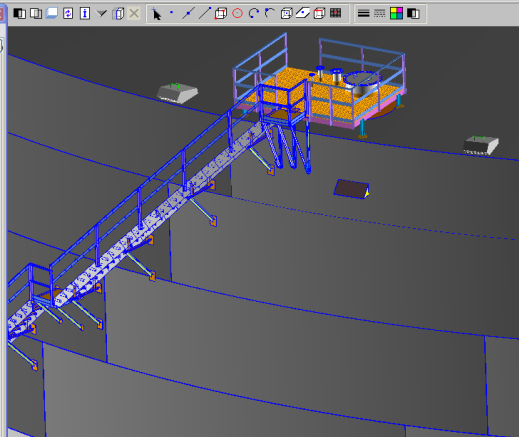
Importance Factor 1

Wind Design Factors

Shell Courses Data Table

Course (1 Bottom)	Width	Material	CA	JE	Min Yield Strength (ksi)	Tensile Strength (ksi)	Sd (ksi)	St (ksi)	t-min Erection (in)	t-Req (t-0) (in)	t-Calc (T1) (in)	t-min Seismic (in)	t-min External Pressure (in)	t-min (in)	t-Actual (T-ave) (in)	Shell Thk Check	
1	120	A36	0	1	36000	59000	22300	24900	0.375	1.007293	0.920964	0.630980	0.436617	1.007293	1.25	1.25	OK
2	120	A36	0	1	36000	59000	22300	24900	0.375	0.828414	0.701607	0.627851	0.436617	0.828414	1	1	OK
3	120	A36	0	1	36000	59000	22300	24900	0.375	0.595934	0.48241	0.440839	0.436617	0.595934	0.75	0.75	OK
4	120	A36	0	1	36000	59000	22300	24900	0.375	0.310695	0.263133	0.242713	0.436617	0.375	0.375	0.375	OK
5	96.0	A36	0	1	36000	59000	22300	24900	0.375	0.051776	0.043695	0.045114	0.436617	0.375	0.375	0.375	OK

Apply Close



Rapid Design and Detailing

AMETank enables the rapid configuration, design, and detailing of above-ground shop-built and field-erected storage tanks.

Design calculations conform to API 650, API 620, UL142 and AWWA will be supported in upcoming releases.

Design calculations for shell courses, floors, roofs, and structures for multi-bay configurations are supported.

Calculations include seismic, internal and external pressures, and wind loading.

Design reports include calculation formulation and details. Throughout the system minimum sizes are calculated for various conditions and used for defaults as well as validation of user inputs.

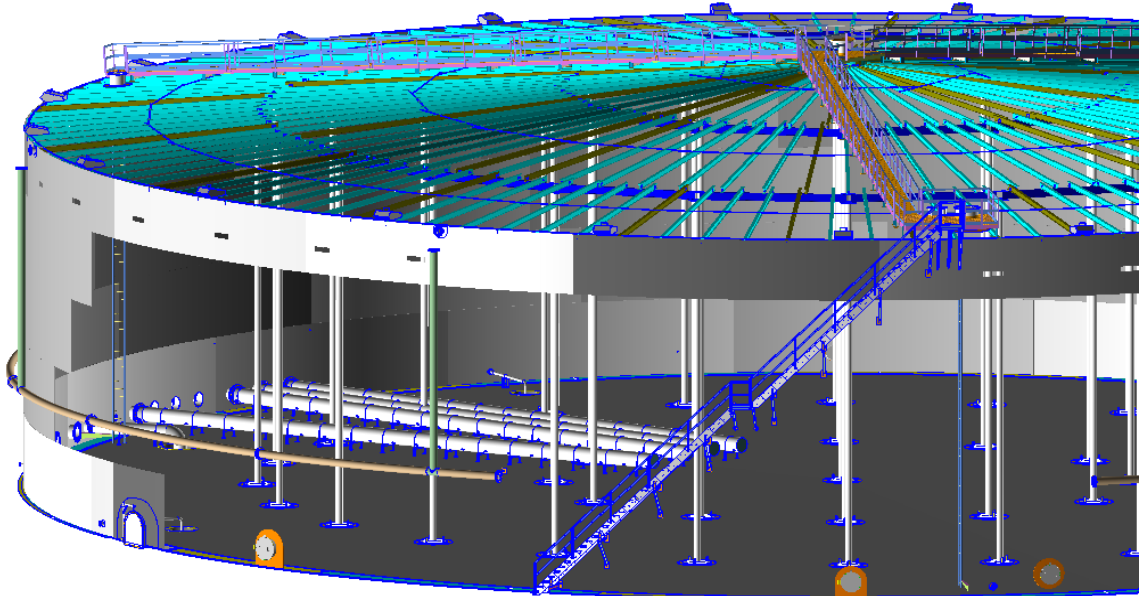
Easy to use Graphical User Interface

AMETank supports a fully interactive 3D graphical user interface.

The configuration and layout of the tank shell, floor, roof and structure, and subsystems is facilitated through intuitive menus with options customized specifically for tank design.

A complete design can be configured and detailed in less than two hours including the automatic generation of:

- Tank 3D geometry with production details.
- To-scale drawings including elevations, fabrication details, and assembly layout.
- Components fabrication list, bill of material, weight reports, and cost data.



Tank Design Layouts and Configurations

A wide range of storage tank designs and configurations are supported.

Roof layouts include self and structurally supported, single and multi-bay flat, cone, and umbrella with knuckle design. Roof structures include various configurations for columns, girders, rafters, and brackets. External and internal floating roofs are supported.

Shell courses, stiffening rings, and anchor chairs can be configured with various dimensions and types.

Bottom types include sloped or shoveled with staggered or ribbon layout with optional annular or bearing ring. Plates can be overlapped or butt welded with or without backing bars. Various foundation designs are supported.

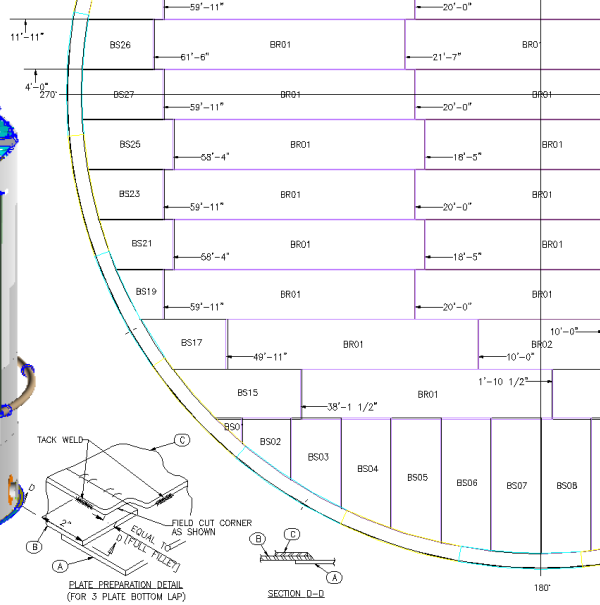
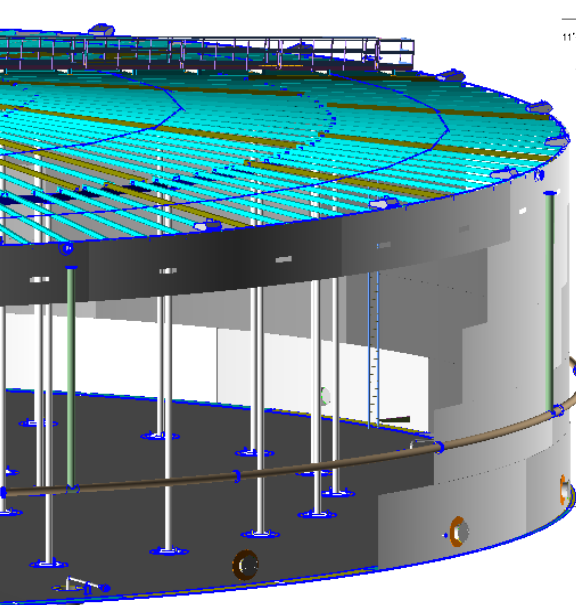
Stairs, Ladders, Platforms, and Wind Girders

AMETank supports configuration and detailing of radial and spiral stairways with intermediate platforms. Single and double stringers designs, and various types of hand railings and posts are included.

Ladders with cages, climbing devices, safety cables, gates, removable start ladders, and intermediate platforms, with bolted as well as welded clips are supported. Internal rolling and hinged ladders for floating roof access can be configured.

Wind girders with variable sections and different structural attachments are supported. Wind girder railings and integration with optional access from stairways are supported.

Roof walkways and platforms with different railing configurations and attachments are supported.



Internal and External Appurtenances

Piping subsystems for multi-level sampling, overflow, draw-off, diffusers, foaming, and pumping are supported. The subsystems include various configurations and options for weirbox, structural attachment, end flanges, among others.

Manways with optional davit arm, hinges, handles attached to shells and roofs are provided. Rectangular and circular hatches, cleanouts, vents, couplings, and nozzles with flanges, elbows and other attachments and configurations are supported.

Liquid level gages and gage poles can be integrated. Scaffolding cable supports, lifting lugs, grounding lugs, tray supports, baffles, and hundreds of other internal and external appurtenances are supported.

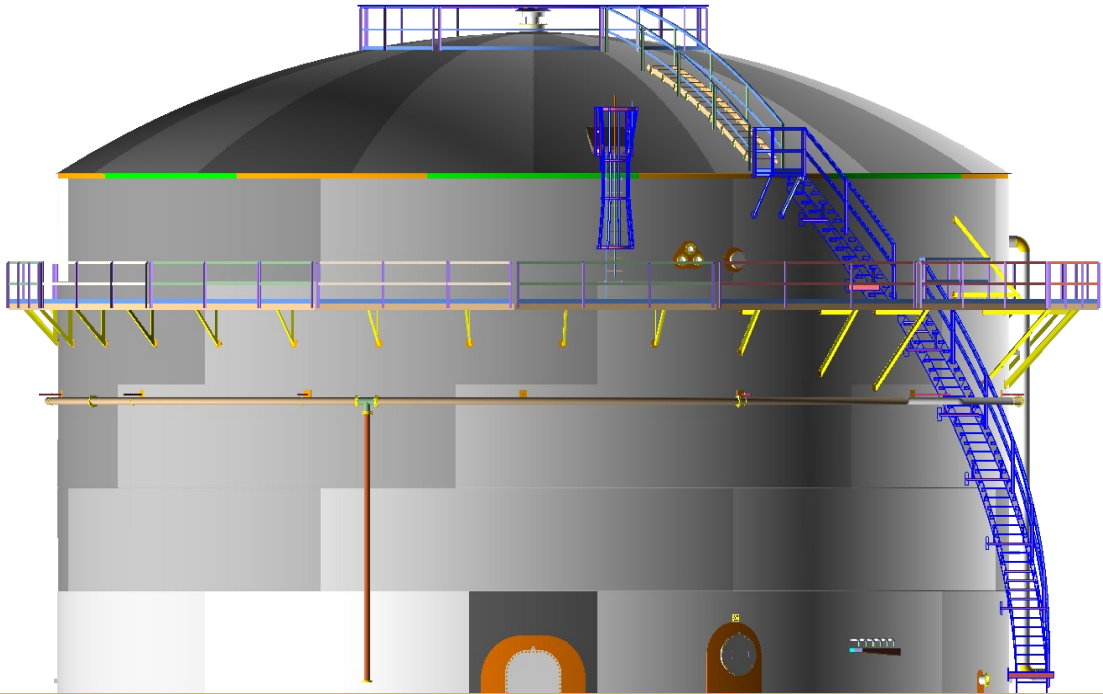
Layout Fabrication Drawings and Reports

The plates layout and fabrication details for shells, floors, and all roof types including designs with knuckle edge plates are provided. Details include plate dimensions, overlaps, and welds types. Output for NC machines is supported.

Shell weld maps, and shell roll out drawings, with details including appurtenances, stairs, ladders, and other systems are supported.

Detailed assembly and components fabrication drawings for all substructures, appurtenances, ladders, platforms, stairs, and any other subsystems are supported.

3D geometry, drawings, bill of material, weights, and cost data can be edited within **AMETank** or exported.



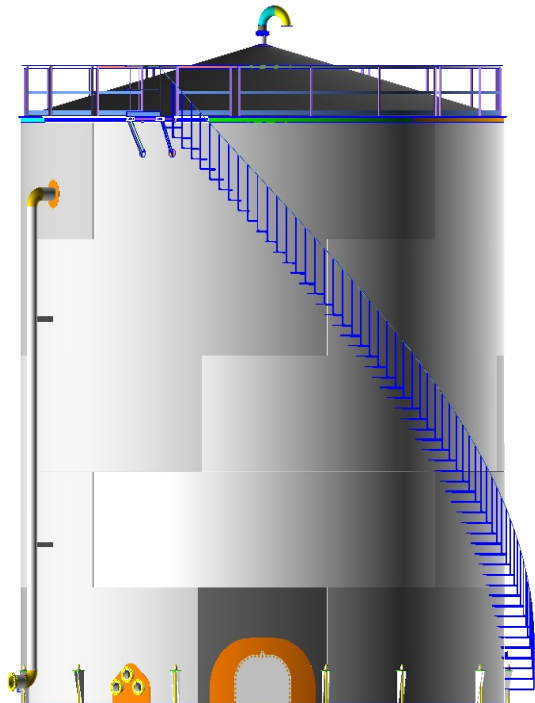
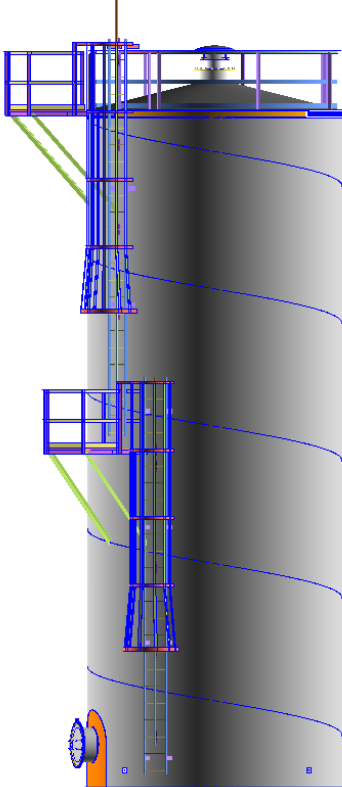
Tank Rapid Design and Detailing Environment

From configuration and design to 3D geometry, detailed bill of material, purchase list, cost data, and to-scale fabrication and layout drawings, in two hours.

Within minutes design changes can be made to modify, add, or delete features. The 3D geometry, drawings, bill of materials, plate cut data, and cost reports are automatically updated.

Custom and easy to use graphical interface. **AMETank** can be mastered in two days of training.





AMETank, AMTank, and ETank

AMETank is developed by TechnoSoft in technology partnership with EWare. **AMETank** integrates **AMTank** from TechnoSoft and **ETank** from EWare.

For Pressure Vessels configuration and detailing refer to **AMPReVA**, a TechnoSoft product.

For the past 20 years TechnoSoft has successfully deployed engineering software applications in various industries ranging from aerospace to automotive and capital equipment.

Sales and Contact Information

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